

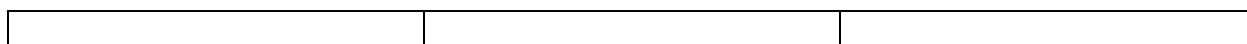


**SRI VENKATESWARA COLLEGE**  
**(University of Delhi)**



**POLICIES AND PROCEDURES FOR MAINTAINING AND  
UTILIZING PHYSICAL, ACADEMIC AND SUPPORT  
FACILITIES**

*IQAC*  
*Sri Venkateswara College*  
*University of Delhi*



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## **CONTENTS**

- 1. Maintenance of Physical and Academic facilities**
- 2. Maintenance of the Laboratories**
- 3. Maintenance of Library Facilities**
- 4. Maintenance of Sports Facility**
- 5. Maintenance of ICT Facility**
- 6. Maintenance of Classrooms and Seminar Rooms**
- 7. Maintenance of Other Physical Facilities**

## **ANNEXURES**

- 1. Purchase and Financial Rules GFR\_2017**
- 2. E-procurement notification from University of Delhi**
- 3. Standard Operating Procedures Manual**
- 4. Manual for Good Lab Practices and Waste disposal**
- 5. Hostel Prospectus**



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## 1. Maintenance of Physical and Academic facilities

Sri Venkateswara College has well defined policies and procedures to ensure optimal allocation and utilization of the available financial resources for the maintenance of different physical facilities existing in the college.

Foremost, the college constitutes various dedicated staff council committees such as Library Committee, Sports Committee, ICT committee, Garden Committee, Time table Committee, Purchase committee and Development Fund Cell Committee for a period of two years. These committees meet regularly and ensure that the respective facilities are maintained and the financial resources received for augmentation and maintenance of the facilities are optimally utilized for the benefit of the students and faculty of Sri Venkateswara College. Suitable budget is allocated every year for the maintenance of various facilities. In addition to this, there is dedicated staff that includes a Caretaker, Lab Assistants and Computer in-charges for the maintenance and upkeep of the classrooms, laboratories and ICT facility in the college.

The college adheres to the provisions and regulations provided in General Financial Rules (GFRs) issued by the Govt. of India for the expenditure and utilization of financial resources (**Annexure 1**). All purchases and procurement of goods in the college are done through Government E-Marketplace (GeM) laid down by the Govt. of India, as per notification issued by the University of Delhi (**Annexure 2**).

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## 2. Maintenance of Laboratories



- (i) Utilization of lab space for regular classes is proposed by Teacher in Charges in consultation with faculty members of the Department and the Time Table Committee.
- (ii) Instruments purchased at different times are recorded in a specified book, maintained by the lab staff under the supervision of TICs of the departments. New instruments are purchased from time to time as per the provisions provided in GFR.
- (iii) Guidelines for procedures and policies for purchase of instruments are provided to all the departments by the Purchase Committee.
- (iv) Some instruments are purchased in multiple numbers in order to provide hands on experience to the maximum number of students.
- (v) Instruction manuals and Standard Operating Procedures (SOPs) for proper use of laboratory equipment are provided to the students and are also displayed in the laboratories. The college also organizes and conducts workshops for the lab staff to provide them hands-on training related to the operation of instruments, preparation of chemicals, record maintenance and safety disposal methods. **(Annexure 3)**
- (vi) The lab staff and the teachers in the concerned departments ensure that the students follow the Good Lab Practices (GLP) and defined protocols to dispose of the different kinds of waste for their own safety and also maintenance of the lab. **(Annexure 4)**

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(vii) The instruments and equipment that require periodic calibration or regular servicing are maintained by the Lab staff. If the instrument is declared unserviceable, it is written off following due process and then disposed of with the due permissions.

(viii) Safety measures and important instructions pertaining to the use of equipment inside the laboratories are displayed. Fire extinguishers are placed outside laboratories for emergencies.

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### 3. Maintenance of Library Facilities



- (i) Procedures and policies for maintaining and utilizing the library resources are under the purview of the Library Committee. Meetings are held regularly to implement new rules and regulations and the same is notified to all the Departments and other users of the facility by notices/website.
- (ii) The books are issued to the students as well as the faculty members against their identity card and proper record is maintained by the Library Staff.
- (iii) To ensure the return of books, 'No Dues' from the library is mandatory for the students before appearing in exam.
- (iv) For the purchase of new books, journals etc. funds are annually allocated to the Library committee and all the departments of the college. The teacher in charge of the department approves the purchase of new books with the consultation of other faculty members. Weeding out of old books, titles etc. is done from time to time under the purview of the Library Committee.
- (v) The footfall of the students and faculty in the library is maintained on a daily basis through an entry register maintained by the Library Staff.
- (vi) Library at Sri Venkateswara College has access to over 40000 e-books, and 6000 E-journals through DULS and NLIST. The login details and password to access these e-resources have been provided to the faculty members of the college.
- (vii) The details and other information related to the library are accessible on the college website [http://svc.ac.in/SVC\\_MAIN/Library/library.php](http://svc.ac.in/SVC_MAIN/Library/library.php).



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#### 4. Maintenance of Sports Facilities



(i) Sri Venkateswara College has a well-developed sports facility for both outdoor as well as indoor game activities. For the maintenance of the same, there is a Sports Committee that looks into the purchase of sports kits and also augmentation and maintenance of the existing sports facilities.

(ii) Purchase and policies related to sports are taken up by the Sports committee of the College. Notices regarding the purchases related to sports, sports events are displayed on the noticeboard and college website.

(iii) Proper records/registers related to stocks of sports gears and kits, issue and return of the sports kits etc. are maintained and reviewed from time to time by the Committee.

(iv) Students are allowed to use the sports ground for training purposes and conduct of sports events with prior permission from the administration.

(v) Basic first aid facilities are available and accessible in the Medical room for the students and faculty in case of minor injuries caused during the conduct of sport events.

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## 5. Maintenance of ICT Facilities



(i) Sri Venkateswara College has an ICT Enablement Committee which is responsible for maintaining the ICT facility in the College. The ICT Committee recommends all purchases and policies for the augmentation and maintenance of ICT facilities.

(ii) The maintenance and servicing of the desktops, laptops, LCD Projectors, and other ICT facilities is regularly carried out. There is a dedicated staff to look after the ICT facilities.

(iii) The rules and regulations for maintaining discipline in ICT labs and the use of computers are displayed in the labs. All the computers are password-protected and are used only for academic purposes. Software outside the course curriculum is not allowed to be downloaded. Computers are shut down after use.

(iv) In the time of the pandemic to support online teaching, the ICT committee of the college provided individual login id's and passwords to all the faculty members and students for easy access to platforms like Microsoft teams.

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## 6. Maintenance of Classrooms and Seminar Rooms



(i) At the beginning of every semester the Time table committee ensures that the allocation and optimal utilization of all the classrooms are done. The classrooms are allocated based on the batch sizes of different courses.

(ii) The classrooms are furnished with LCD projectors that are maintained by the ICT facility of the college.

(iii) Proper instructions are displayed outside classrooms to maintain silence in the corridors and to avoid loitering. Electrical equipment like fans and lights are switched off after use and classrooms/labs are locked in the evening. Students are oriented to take care of the college property.

(iv) The DFC (Development Fund Cell) committee of the college plays an active role to maintain the infrastructure of the college including classrooms. At the departmental level, TICs submit their requirements regarding classroom furniture or any other facility to DFC which further recommends it to the Purchase Committee.

(v) Beyond the subcommittees the college has appointed a Caretaker for supervision and maintenance of essential facilities and assets in the college. The college has also appointed a full-time electrician for fixing electrical line and panel faults, maintenance of air conditioners, audio-visual systems for events/performances etc.

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(vi) Regular cleaning and sanitization of the classrooms are done by people hired on contractual basis through Sulabh International. The college has signed a MOU with the Sulabh International for maintaining cleanliness in the campus.



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## 7. Maintenance of Other Physical Facilities



**Garden:** The Garden Committee is responsible for maintenance of gardens and a Botanical Garden in the campus. Maintenance includes watering, manuring, weeding, grass cutting, pruning, landscaping, beautification, etc. The tree census and numbering of the trees in the campus is done from time to time. The botanical garden is also maintained by dedicated staff for academic purposes.


**Canteen:** The college canteen of SVC caters hygienic food to staff and students. The food menu, rates and maintenance of the canteen are looked after by the Canteen Committee. Adherence to norms for cleanliness, quality and hygiene of food is also monitored by the Canteen Committee. In addition, there is a kiosk-*Maggi Point* in the premises of the college.

**Washrooms:** Cleanliness/sanitation of the entire premises including washrooms is maintained by service providers, Sulabh International, hired by inviting tenders online. There are sanitary pads vending machines in the girls' common room and in the washroom. The dustbins for waste

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collection are placed at all strategic points. The waste collected from different areas of the campus like labs, canteen, hostels and washrooms are segregated and then accordingly disposed of. The biodegradable waste is collected and segregated for composting. During the time of the pandemic sanitizers have been installed at strategic locations in the premises and the labs are being regularly sanitized immediately after conduct of practical and students use.

**Hostel Facility:** The college has two hostels one each for boys and girls which offer housing options for outstation students. The Hostels are managed by a committee that comprises the principal as the Chairperson, wardens, few other faculty members and student representatives. The committee decides and makes recommendations on admission to Hostels, discipline of resident students and maintenance and development of Hostel facilities. In addition to the committee, the maintenance of accounts and routine activities are supervised by the Hostel Junior Assistants cum Caretakers. The Hostel committee also gets a prospectus made every year that contains details of the hostel facilities and also the rules and regulations that govern the hostel residents. **(Annexure 5)**

  
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सत्यमेव जयते

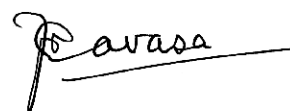
# **GENERAL FINANCIAL RULES 2017**



**Government of India  
Ministry of Finance  
Department of Expenditure**

# P R E F A C E

1. General Financial Rules (GFRs) are a compilation of rules and orders of Government of India to be followed by all while dealing with matters involving public finances. These rules and orders are treated as executive instructions to be observed by all Departments and Organisations under the Government and specified Bodies except otherwise provided for in these Rules.
2. General Financial Rules were issued for the first time in 1947 bringing together in one place all existing orders and instructions pertaining to financial matters. These have subsequently been modified and issued as GFRs 1963 and GFRs 2005.
3. In the last few years, Government has made many innovative changes in the way it conducts its business. Reforms in Government budgeting like removal of distinction in non-plan and plan expenditure, merger of Railway Budget with General Budget, focusing on outcomes through an improved Outcome Budget document, all needed to be reflected in the GFRs. Increased focus on Public Finance Management System(PFMS), reliance on the Direct Benefit Transfer (DBT) Scheme to ensure efficient delivery of entitlements, introduction of new e-sites like Central Public Procurement Portal, Government e-Marketing (GeM) Portal, Non-Tax Revenue Portal have also necessitated revision of the existing GFRs to keep them in tune with the changing business environment. The objective was to make the GFRs facilitate efficiency rather than create impediments in smooth and timely implementation while following principles of accountability and procedures of financial discipline and administrative due diligence. The Expenditure Management Commission set up in 2014 to recommend ways in which efficiency of public expenditure could be increased has also made several recommendations especially with respect to Autonomous Bodies. New rules on non-tax revenues, user charges, e-receipts portal have been added in addition to the manner in which Autonomous Bodies are run.
4. The PAC in April 2015, Group of Secretaries in February 2016 and EMC in March 2016 has recommended setting up a Task Force to review the GFRs so as to frame comprehensive rules to address the issues as highlighted in the above para.
5. GFRs, 2017 have evolved as a result of wide consultations with Central Government Ministries and Departments, some State Governments and other stakeholders at the Task Force stage and thereafter. The Discussion Draft was also uploaded on the MoF's website. Secretaries of each Department/ Ministry of Government of India were asked to give their views for additions/ modifications, keeping in view their specific requirements of their domain. Detailed deliberations were also carried out within the Ministry. C&AG's comments on the draft GFRs have also been taken into consideration.
6. The aim of any rule is to provide a framework within which an organization manages its business in a financially prudent manner without compromising its flexibility to deal with varied situations. The GFRs 2005 have been very comprehensively reviewed with the aim of promoting simplicity and transparency in the Government financial system and procedures. It is expected that the new GFRs 2017 will enable an improved, efficient and effective framework of fiscal management while providing the necessary flexibility to facilitate timely delivery of services.
7. Department of Expenditure would like to place on record the exceptional work done by the Task Force on Review of GFRs, the office of the C&AG, the office of the CGA, Budget Division of Department of Economic Affairs, the Ministries and Departments for their valuable inputs and its own officers for assiduously and meticulously completing this vital and challenging exercise in a time bound manner.



**(ASHOK LAVASA)**  
**Finance Secretary &**  
**Secretary(Expenditure)**  
**Department of Expenditure**  
**Ministry of Finance**







## TABLE OF CONTENTS

Chapter No.	Name of the Chapter	Page No.
1	<b>Introduction</b>	9
2	<b>General System of Financial Management</b>	11
	I. General Principles relating to expenditure and payment of money	12
	II. Defalcation and losses	15
	III. Submission of records & information	16
3	<b>Budget formulation and implementation.</b>	17
4	<b>Government Accounts</b>	25
5	<b>Works</b>	38
6	<b>Procurement of Goods and Services</b>	41
	I. Procurement of Goods	41
	II. Procurement of Services	54
7	<b>Inventory Management</b>	58
8	<b>Contract Management</b>	63
9	<b>Grants-in-aid and Loans</b>	67
10	<b>Budgeting and Accounting for Externally Aided Projects</b>	85
11	<b>Government Guarantees</b>	89
12	<b>Miscellaneous Subjects</b>	94
	I. Establishment	94
	II. Refund of revenue	96
	III. Debt and misc. obligations of Govt.	97
	IV. Security deposits	98
	V. Transfer of land and buildings	99
	VI. Charitable endowments and other trusts	99
	VII. Local bodies	99
	VIII. Maintenance of records	100
	IX. Contingent and Miscellaneous Expenditure.	100



## APPENDIX

Appendix No.	Subject	Page No.
1	Instructions for regulating the Enforcement of Responsibility for losses, etc.,	102
2	Procedure for the preparation of Detailed Estimates of Receipts	103
3	Instructions for the preparation of Detailed Estimates of expenditure from the Consolidated Fund	105
4	Procedure for compilation of Detailed Demands for Grants	112
5	Procedure to be followed in connection with the Demands for Supplementary Grants	115
6	The Contingency Fund of India Rules	117
7	Transfer of Land and Buildings between the Union and State Governments	120
8	Charitable Endowments and other Trusts	122
9	Destruction of Office Records connected with Accounts.	135
10	Check against provision of funds	144
11	Formula for Price Variation Clause	145
12	Rates of Guarantee Fee	146

## FORMS

Form Serial No.	Description	Page No.
GFR 1	Application for an Additional Appropriation	147
GFR 2	Revenue Receipts	148
GFR 2 - A	Estimates of foreign grants	149
GFR 2 - B	Estimates of interest receipts and loan repayments	150
GFR 3	Liability Register	151
GFR 3 - A	Liability Statement	153
GFR 4	Statement of proposals for pre-budget discussions	156
GFR 5	Register showing expenses by Heads of Account	158
GFR 6	Broadsheet for watching receipt of account from Disbursing Officers	159
GFR 7	Compilation Sheet	160



Form Serial No.	Description	Page No.
GFR 8	Consolidated Accounts	161
GFR 9	Broadsheet for watching Receipt of the Returns from the Heads of Departments under a Department of the Central Government	162
GFR 10	Report of Surplus, Obsolete and Unserviceable Stores for Disposal	163
GFR 11	Sale Account	164
GFR 12 - A	Form of Utilization Certificate (Autonomous Bodies)	165
GFR 12 - B	Form of Utilization Certificate (For Loans)	167
GFR 12 - C	Form of Utilization Certificate (State Governments))	168
GFR 13	Statement of aggregate balance of loan(s) outstanding as on 31st March and details of defaults	169
GFR 14	Form of Security Bond (Fidelity Bond Deposited as Security)	170
GFR 15	Form of Written Undertaking to be executed by an Undertaking/ Corporation wholly owned by the Central Government at the time of sanctioning of a loan.	172
GFR 16	Certificate of transfer of charge	173
GFR 16 - A	Joining Report	175
GFR 17	Fidelity Guarantee Policy	176
GFR 18	Accession Register	179
GFR 19	Notice to borrower about the due date for repayment of loan and interest thereon	180
GFR 20	Register of Policy Holder	181
GFR 21	Register of Grants to be maintained by the sanctioning Authority.	182
GFR 22	Register of Fixed Assets	183
GFR 23	Stock Register of consumables such as Stationery, Chemicals, Spare parts etc.	184
GFR 24	Register of Assets of Historical /Artistic value.	185
GFR 25	Government Guarantees.	186
GFR 26	Furnishing of data regarding Guarantees to Ministry of Finance.	187
	CONCORDANCE TABLE	188







## INTRODUCTION

**Rule 1 Short Title and Commencement:** These rules may be called General Financial Rules, 2017 and they shall come into force at once and shall be applicable to all Central Government Ministries/Departments, attached and subordinate bodies. The provisions contained in GFRs are deemed to be applicable to Autonomous Bodies except to the extent the bye-laws of an Autonomous Body provides for separate Financial Rules which have been approved by the Government.

**Rule 2 Definition :** In these rules, unless the context otherwise requires-

- (i) **"Accounts Officer"** means the Head of an Office of Accounts or the Head of a Pay and Accounts Office set up under the scheme of departmentalization of accounts;
- (ii) **"Administrator"** means Administrator of a Union Territory, by whatever name designated;
- (iii) **"Appropriation"** means the assignment, to meet specified expenditure, of funds included in a primary unit of appropriation;
- (iv) **"Audit Officer"** means the Head of an Office of Audit;
- (v) **"Competent Authority"** means, in respect of the power to be exercised under any of these Rules, the President or such other authority to which the power is delegated by or under these Rules, Delegation of Financial Power Rules or any other general or special orders issued by the Government of India;
- (vi) **"Comptroller and Auditor General"** means the Comptroller and Auditor General of India;
- (vii) **"Consolidated Fund"** means the Consolidated Fund of India referred to in Article 266 (1) of the Constitution;
- (viii) **"Constitution"** means the Constitution of India;
- (ix) **"Contingency Fund"** means the Contingency Fund of India established under the Contingency Fund of India Act, 1950, in terms of Article 267 (1) of the Constitution;
- (x) **"Controlling Officer"** means an officer entrusted by a Department of the Central Government with the

responsibility of controlling the incurring of expenditure and/or the collection of revenue. The term shall include a Head of Department and also an Administrator;

- (xi) **"Department of the Government of India"** means any of the Ministries, Departments, Secretariats and Offices as notified from time to time and listed in the First Schedule to the Government of India (Allocation of Business Rules);
- (xii) **"Drawing and Disbursing Officer"** means a Head of Office and also any other Gazetted Officer so designated by a Department of the Central Government, a Head of Department or an Administrator, to draw bills and make payments on behalf of the Central Government. The term shall also include a Head of Department or an Administrator where he himself discharges such function;
- (xiii) **"Ministry of Finance"** means the Ministry of Finance of the Central Government;
- (xiv) **"Financial Year"** means the year beginning on the 1st of April and ending on the 31st of March following;
- (xv) **"Government"** means the Central Government;
- (xvi) **"Government Account"** means the account relating to the Consolidated Fund, the Contingency Fund and the Public Account; as defined in these rules;
- (xvii) **"Head of the Department"** means an authority or person (not below the rank of a Deputy Secretary to the Government of India), declared by the concerned Department in the Government of India as a Head of Department in relation to an identifiable establishment or establishments to exercise the delegated financial powers under these Rules;
- (xviii) **"Head of Office"** means (a) a Gazetted Officer declared as such in the Delegation of Financial Powers Rules and (b) any other authority declared as such under any general or special orders of the competent



- authority;
- (xix) **“Local Body”** means an authority legally entitled or specially empowered by Government to administer a local fund;
- (xx) **“Local Fund”** means a local fund as defined in Rule 652 of the Treasury Rules;
- (xxi) **“Non-recurring expenditure”** means expenditure other than recurring expenditure;
- (xxii) **“President”** means the President of India;
- (xxiii) **“Primary unit of appropriation”** means a primary unit of appropriation referred to in Rule 8 of the Delegation of Financial Powers Rules;
- (xxiv) **“Public Account”** means the Public Account of India referred to in Article 266 (2) of the Constitution;
- (xxv) **“Public Works”** means civil/ electrical works including public buildings, public services, transport infrastructure etc., both original and repair works and any other project, including infrastructure which is for the use of general public;
- (xxvi) **“Re-appropriation”** means the transfer of funds from one primary unit of appropriation to another such unit;
- (xxvii) **“Recurring expenditure”** means the expenditure which is incurred at periodical intervals for the same purpose. Expenditures other than recurring expenditure are non-recurring expenditure;
- (xxviii) **“Reserve Bank”** means the Reserve Bank of India or any office or agency of the Reserve Bank of India and includes any Bank acting as the agent of the Reserve Bank of India in accordance with the provisions of the Reserve Bank of India Act, 1934 (Act II of 1934);
- (xxix) **“Subordinate authority”** means a Department of the Central Government or any authority subordinate to the President;
- (xxx) **“Treasury Rules”** means the Treasury Rules of the Central Government;

- (xxxii) **CAPEX model:** In the CAPEX Model, Capital expenditures is used by the buyer to straightway purchase goods followed by procurement of consumables, arranging comprehensive maintenance contract after warranty period and finally disposing the product after useful life;
- (xxxiii) **OPEX model:** In the OPEX model, the Seller provides the goods, maintains it and also provides the consumables as required and finally takes back the goods after useful / contracted life. The expenditure is made by the Buyer in a staggered manner as per the terms and conditions of the contract.

**Rule 3 Interdepartmental consultations:** When the subject of a case concerns more than one Department, no order shall be issued until all such Departments have concurred, or, failing such concurrence, a decision has been taken by or under the authority of the Cabinet. In this regard it is clarified that every case in which a decision, if taken in one Department, is likely to affect the transaction of business allotted to another Department, shall also be deemed to be a case which concerns more than one Department.

**Rule 4 Departmental Regulations of financial character:** All Departmental regulations, in so far as they embody orders or instructions of a financial character or have important financial bearing, must invariably be made by, or with the approval of the Ministry of Finance.

**Rule 5 Removal of Doubts:** Where a doubt arises as to the interpretation of any of the provisions of these Rules, the matter shall be referred to the Ministry of Finance for decision.

**Rule 6 Modifications:**

- (1) The systems and procedures established by these Rules are subject to general or special instructions/orders, which the Ministry of Finance may issue from time to time.
- (2) The systems and procedures established by these Rules may be modified by any other authority only with the express approval of the Ministry of Finance.



## GENERAL SYSTEM OF FINANCIAL MANAGEMENT

- Rule 7** All moneys received by or on behalf of the Government either as dues of Government or for deposit, remittance or otherwise, shall be brought into Government Account without delay, in accordance with such general or special rules as may be issued under Articles 150 and 283 (1) of the Constitution.
- Rule 8 (1)**
- (i) Under Article 284 of the Constitution all moneys received by or deposited with any officer employed in connection with the affairs of the Union in his capacity as such, other than revenues or public moneys raised or received by Government, shall be paid into the Public Account.
  - (ii) All moneys received by or deposited with the Supreme Court of India or with any other Court, other than a High Court, within a Union Territory, shall also be dealt with in accordance with Clause (i) of sub-rule (1).
- Rule 8 (2)** The Head of Account to which such moneys shall be credited and the withdrawal of moneys therefrom shall be governed by the relevant provisions of Government Accounting Rules 1990 and the Central Government Account (Receipts and Payments) Rules, 1983 or such other general or special orders as may be issued in this behalf.
- Rule 9** It is the duty of the Department of the Central Government concerned to ensure that the receipts and dues of the Government are correctly and promptly assessed, collected and duly credited to the Consolidated Fund or Public Account as the case may be.
- Rule 10** The Controlling Officer shall arrange to obtain from his subordinate officers monthly accounts and returns in suitable form claiming credit for the amounts paid into the treasury or bank as the case may be, or otherwise accounted for, and compare them with the statements of credits furnished by the Accounts Officer to see that the amounts reported as collected have been duly credited. Accordingly, each Accounts Officer will send an extract from his accounts showing the amounts brought to credit in the accounts in each month to the Controlling Officer concerned.
- Rule 11 (1)** Detailed rules and procedure regarding assessment, collection, allocation, remission and abandonment of revenue and other receipts shall be laid down in the regulations of the Department responsible for the same
- Rule 11 (2)** In Departments in which officers are required to receive moneys on behalf of Government and issue receipts therefor in Form GAR-6 the departmental regulations should provide for the maintenance of a proper account of the receipt and issue of the receipt books, the number of receipt books to be issued at a time to each officer and a check with the officer's accounts of the used books when returned.
- Rule 12** Amounts due to Government shall not be left outstanding without sufficient reasons. Where such amounts appear to be irrecoverable, the orders of the competent authority shall be obtained for their adjustment.
- Rule 13** Unless specially authorized by any rule or order made by competent authority, no sums shall be credited as revenue by debit to a suspense head. The credit must follow and not precede actual realization.
- Rule 14** Subject to any general or special orders issued by a Department of the Central Government, an Administrator or a Head of a Department responsible for the collection of revenue shall keep the Finance Ministry fully informed of the progress of collection of revenue under his control and of all important variations in such collections as compared with the Budget Estimates.
- Rule 15 (1) Rents of buildings and lands.** When the maintenance of any rentable building is entrusted to a civil department, other than the Central Public Works Department, the Administrator or the Head of the Department concerned shall be responsible for the due recovery of the rent thereof.
- Rule 15 (2)** The procedure for the assessment and recovery of rent of any building hired out will be regulated generally by the rules applicable to buildings under the direct charge of the Central Public Works Department.
- Rule 15 (3)** The detailed rules and procedure, regarding the demand and recovery of rent of Government buildings and lands, are contained in the departmental regulations of the departments in charge of those buildings.
- Rule 16 (1) Fines .** Every authority having the power to impose and/ or realize a fine shall ensure that the money is realized, duly checked and deposited into a treasury or bank as the case may be.



**Rule 16 (2)** Every authority having the power to refund fines shall ensure that the refunds are checked and no double refunds of amounts of fines collected or refunds of fines not actually paid into a treasury or bank as the case may be, are made

**Rule 17 Miscellaneous Demands.** Accounts Officers shall watch the realization of miscellaneous demands of Government, not falling under the ordinary revenue administration, such as contributions from State Governments, Local Funds, contractors and others towards establishment charges.

**Rule 18 Remission of Revenue.** A claim to revenue shall not be remitted or abandoned save with the sanction of the competent authority.

**Rule 19 (1)** Subject to any general or special orders issued by the Government Departments of the Central Government, Administrators and Heads of Departments, other than those in the Department of Posts, shall submit annually on the 1st of June to the Audit Officer and the Accounts Officer concerned, statements showing the remissions of revenue and abandonment of claims to revenue sanctioned during the preceding year by competent authorities in exercise of the discretionary powers vested in them otherwise than by law or rule having the force of law, provided that individual remissions below Rupees one thousand need not be included in the statements.

**Rule 19 (2)** For inclusion in the statements referred to in Rule 19 (1) above, remissions and abandonments should be classified broadly with reference to the grounds on which they were sanctioned and a total figure should be given for each class. A brief explanation of the circumstances leading to the remission should be added in the case of each class.

**Rule 20** Departments of the Central Government and Administrators may make rules defining remissions and abandonments of revenue for the purpose of Rule 19 above.

#### **I. GENERAL PRINCIPLES RELATING TO EXPENDITURE AND PAYMENT OF MONEY**

**Rule 21 Standards of financial propriety.** Every officer incurring or authorizing expenditure from public moneys should be guided by high standards of financial propriety. Every

officer should also enforce financial order and strict economy and see that all relevant financial rules and regulations are observed, by his own office and by subordinate disbursing officers. Among the principles on which emphasis is generally laid are the following :-

- (i) Every officer is expected to exercise the same vigilance in respect of expenditure incurred from public moneys as a person of ordinary prudence would exercise in respect of expenditure of his own money.
- (ii) The expenditure should not be prima facie more than the occasion demands.
- (iii) No authority should exercise its powers of sanctioning expenditure to pass an order which will be directly or indirectly to its own advantage.
- (iv) Expenditure from public moneys should not be incurred for the benefit of a particular person or a section of the people, unless –
  - (a) a claim for the amount could be enforced in a Court of Law, or
  - (b) the expenditure is in pursuance of a recognized policy or custom.

**Rule 22 Expenditure from Public Funds.** No authority may incur any expenditure or enter into any liability involving expenditure or transfer of moneys for investment or deposit from public funds (Consolidated Fund / Contingency Fund and the Public Accounts) unless the same has been sanctioned by a competent authority

**Rule 23 Delegation of Financial Powers.** The financial powers of the Government have been delegated to various subordinate authorities vide Delegation of Financial Powers Rules as amended from time to time. The financial powers of the Government, which have not been delegated to a subordinate authority, shall vest in the Finance Ministry.

**Rule 24 Consultation with Financial Advisers.** All draft memoranda for Expenditure Finance Committee or Public Investment Bureau or Committee on Establishment Expenditure and Cabinet Committee for Economic Affairs or Cabinet shall be circulated by the Ministry or Department concerned after consultation with the concerned Financial Adviser of the



Ministry or Department. A confirmation to this effect shall be included in the draft memorandum at the circulation stage.

**Rule 25 (1) Provision of funds for sanction.** All sanctions to the expenditure shall indicate the details of the provisions in the relevant grant or appropriation wherefrom such expenditure is to be met.

**Rule 25 (2)** All proposals for sanction to expenditure, shall indicate whether such expenditure can be met by valid appropriation or re-appropriation.

**Rule 25 (3)** In cases where it becomes necessary to issue a sanction to expenditure before funds are communicated, the sanction should specify that such expenditure is subjected to funds being communicated in the budget of the year.

**Rule 26 Responsibility of Controlling Officer in respect of Budget allocation.** The duties and responsibilities of a controlling officer in respect of funds placed at his disposal are to ensure :

- (i) that the expenditure does not exceed the budget allocation.
- (ii) that the expenditure is incurred for the purpose for which funds have been provided.
- (iii) that the expenditure is incurred in public interest.
- (iv) that adequate control mechanism is functioning in his Department for prevention, detection of errors and irregularities in the financial proceedings of his subordinate offices and to guard against waste and loss of public money,

**Rule 27 (1) Date of effect of sanction.** Subject to fulfilment of the provisions as contained in the Delegation of Financial Powers Rules, all rules, sanctions or orders shall come into force from the date of issue unless any other date from which they shall come into force is specified therein.

**Rule 27 (2) Date of creation to be indicated in sanctions for temporary posts.** Orders sanctioning the creation of a temporary post should, in addition to the sanctioned duration, invariably specify the date from which it is to be created

**Rule 28** Powers in regard to certain special matters.— Except in pursuance of the general delegation made by, or with the approval of

the President, a subordinate authority shall not, without the previous consent of the Finance Ministry, issue an order which -

- (i) involves any grant of land, or assignment of revenue, or concession, grant, lease or licence of mineral or forest rights, or rights to water, power or any easement or privilege of such concessions, or
- (ii) involves relinquishment of revenue in any way

**Rule 29 Procedure for communication of sanctions.** All financial sanctions and orders issued by a competent authority shall be communicated to the Audit Officer and the Accounts Officer. The procedure to be followed for communication of financial sanctions and orders will be as under :-

- (i) All financial sanctions issued by a Department of the Central Government which relate to a matter concerning the Department proper and on the basis of which payment is to be made or authorized by the Accounts Officer, should be addressed to him.
- (ii) All other sanctions should be accorded in the form of an Order, which need not be addressed to any authority, but a copy thereof should be endorsed to the Accounts Officer concerned.
- (iii) In the case of non-recurring contingent and miscellaneous expenditure, the sanctioning authority may, where required, accord sanction by signing or countersigning the bill or voucher, whether before or after the money is drawn, instead of by a separate sanction.
- (iv) All financial sanctions and orders issued by a Department of the Central Government with the concurrence of the Internal Finance Wing or Finance Ministry, as applicable, should be communicated to the Accounts Officer in accordance with the procedure laid down in the Delegation of Financial Powers Rules, and orders issued thereunder from time to time.
- (v) All financial sanctions and orders issued by a Department with the concurrence of the Ministry of Home Affairs or Comptroller and Auditor General of India or Department of





Personnel should specify that the sanction or orders are issued with the concurrence of that Department along with the number and date of relevant communication of that Department wherein the concurrence was conveyed.

- (vi) All orders conveying sanctions to expenditure of a definite amount or upto a specific limit should express both in words and figures the amount of expenditure sanctioned.
- (vii) Sanctions accorded by a Head of Department may be communicated to the Accounts Officer by an authorized Gazetted Officer of his Office duly signed by him for the Head of Department or conveyed in the name of the Head of the Department.
- (viii) All orders conveying sanctions to the grant of additions to pay such as Special Allowance, Personal Pay, etc., should contain a brief summary of the reasons for the grant of such additions to pay so as to enable the Accounts Officer to see that it is correctly termed as Special Allowance, Personal Pay, etc., as the case may be.
- (ix) Orders issued by a Department of a Union Territory Government where Audit and Accounts (a) have not been separated shall be communicated direct to the Audit authority; (b) have been separated, copies shall be endorsed to the Audit authorities.

In case of sanctions in respect of matters, where reference was made to the Central Government under the Rules of Business framed under Section 46 of the Government of Union Territory Act, 1963, the following clause shall be added in the sanction endorsed to Audit:-

"A reference had been made in this case to the Central Government and the above order/letter conforms to the decision of the Central Government vide Government of India, Ministry/Department of.....Letter No.....dated.....".

- (x) Copies of all General Financial Orders issued by a Department of the Central Government with the

concurrence of the Comptroller and Auditor General of India shall be supplied to the Comptroller and Auditor General of India.

- (xi) Copies of all sanctions or orders other than the following types should be endorsed to the Audit Officers:-
  - (a) Sanctions relating to grant to advances to Central Government employees.
  - (b) Sanctions relating to appointment or promotion or transfer of Gazetted and non-Gazetted Officers.
  - (c) All sanctions relating to creation or continuation or abolition of posts.
  - (d) Sanctions for handing over charge and taking over charge, etc.
  - (e) Sanctions relating to payment or withdrawal of General Provident Fund advances to Government servants.
  - (f) Sanctions of contingent expenditure incurred under the powers of Head of Offices.
  - (g) Other sanctions of routine nature issued by Heads of Subordinate Officers (other than those issued by Ministries or Departments proper and under powers of a Head of Department).
- (xii) Sanctions accorded by competent authority to grants of land and alienation of land revenue, other than those in which assignments of land revenue are treated as cash payment, shall be communicated to the Audit and/ or the Accounts Officer, as the case may be, in a consolidated monthly return giving the necessary details.

**Rule 30 Lapse of Sanctions.** A sanction for any fresh charge shall, unless it is specifically renewed, lapse if no payment in whole or in part has been made during a period of twelve months from the date of issue of such sanction. Provided that -

- (i) when the period of currency of the sanction is prescribed in the departmental regulations or is specified in the sanction itself, it shall lapse on the expiry of such periods; or
- (ii) when there is a specific provision in a



sanction that the expenditure would be met from the Budget provision of a specified financial year, it shall lapse at the close of that financial year; or

- (iii) in the case of purchase of stores, a sanction shall not lapse, if tenders have been accepted (in the case of local or direct purchase of stores) or the indent has been placed (in the case of Central Purchases) on the Central Purchase Organization within the period of one year of the date of issue of that sanction, even if the actual payment in whole or in part has not been made during the said period.

**Rule 31** Notwithstanding anything contained in Rule 30, a sanction in respect of an addition to a permanent establishment, made from year to year under a general scheme by a competent authority, or in respect of an allowance sanctioned for a post or for a class of Government servants, but not drawn by the officer(s) concerned, shall not lapse.

**Rule 32 Remission of disallowances by Audit and writing off of overpayment made to Government servants.** The remission of disallowances by Audit and writing off of overpayments made to Government servants by competent authorities shall be in accordance with the provisions of the Delegation of Financial Powers Rules, and instructions issued thereunder.

## II. DEFALCATION AND LOSSES

**Rule 33 (1) Report of Losses.** Any loss or shortage of public moneys, departmental revenue or receipts, stamps, opium, stores or other property held by, or on behalf of, Government irrespective of the cause of loss and manner of detection, shall be immediately reported by the subordinate authority concerned to the next higher authority as well as to the Statutory Audit Officer and to the concerned Principal Accounts Officer, even when such loss has been made good by the party responsible for it. However the following losses need not be reported:

- (i) Cases involving losses of revenue due to
  - (a) mistakes in assessments which are discovered too late to permit a supplementary claim being made,

- (b) under assessments which are due to interpretation of the law by the local authority being overruled by higher authority after the expiry of the time-limit prescribed under the law, and

- (c) refunds allowed on the ground that the claims were time-barred:

- (ii) Petty losses of value not exceeding Rupees ten thousand.

**Rule 33 (2)** Cases involving serious irregularities shall be brought to the notice of Financial Adviser or Chief Accounting Authority of the Ministry or Department concerned and the Controller General of Accounts, Ministry of Finance.

**Rule 33 (3)** Report of loss contemplated in sub-rule (1) & (2) shall be made at two stages.—

- (i) An initial report should be made as soon as a suspicion arises that a loss has taken place.
- (ii) The final report should be sent to authorities indicated in sub rule (1) & (2) after investigation indicating nature and extent of loss, errors or neglect of rules by which the loss has been caused and the prospects of recovery.

**Rule 33 (4)** The complete report contemplated in sub-rule 3, shall reach through proper channels to the Head of the Department, who shall finally dispose of the same under the powers delegated to him under the Delegation of Financial Power Rules. The reports, which he cannot finally dispose of under the delegated powers, shall be submitted to the Finance Ministry.

**Rule 33 (5)** An amount lost through misappropriation, defalcation, embezzlement, etc., may be redrawn on a simple receipt pending investigation, recovery or write-off with the approval of the authority competent to write-off the loss in question.

**Rule 33 (6)** In cases of loss to Government on account of culpability of Government servants, the loss should be borne by the Central Government Department or State Government concerned with the transaction. Similarly, if any recoveries are made from the erring Government officials in cash, the receipt will be credited to the Central Government Department or the State Government who sustained the loss.

**Rule 33 (7)** All cases involving loss of Government



money arising from erroneous or irregular issue of cheques or irregular accounting of receipts will be reported to the Controller General of Accounts along with the circumstances leading to the loss, so that he can take steps to remedy defects in rules or procedures, if any, connected therewith.

**Rule 34 Loss of Government Property due to fire, theft, fraud.** Departmental Officers shall, in addition to taking action as prescribed in Rule 33, follow the provisions indicated below in cases involving material loss or destruction of Government property as a result of fire, theft, fraud, etc.

All losses above the value of Rupees Fifty thousand due to suspected fire, theft, fraud, etc., shall be invariably reported to the Police for investigation as early as possible.

Once the matter is reported to the Police Authorities, all concerned should assist the Police in their investigation. A formal investigation report should be obtained from the Police Authorities in all cases, which are referred to them.

**Rule 35 Loss of immovable property by fire, flood etc.** All loss of immovable property exceeding Rupees fifty thousand, such as buildings, communications, or other works, caused by fire, flood, cyclone, earthquake or any other natural cause, shall be reported at once by the subordinate authority concerned to Government through the usual channel. All other losses should be immediately brought to the notice of the next higher authority.

**Rule 36 Report to Audit and Accounts Officers.** After a full enquiry as to the cause and the extent of the loss has been made, the detailed report should be sent by the subordinate authority concerned to Government through the proper channel; a copy of the report or an abstract thereof being simultaneously forwarded to the Audit officer and Pay and Accounts Officer

**Rule 37 Responsibility of losses.** An officer shall be held personally responsible for any loss sustained by the Government through fraud or negligence on his part. He will also be held personally responsible for any loss arising from fraud or negligence of any other officer to the extent to which it may be shown that he contributed to the loss by his own action or negligence.

The departmental proceedings for

assessment of responsibility for the loss shall be conducted according to the instructions contained in Appendix 1 and those issued by the Ministry of Personnel from time to time.

**Rule 38 Prompt disposal of cases of loss.** Action at each stage of detection, reporting, write off, final disposal, in cases of losses including action against delinquents and remedial measures should be completed promptly with special attention to action against delinquents and remedial measures, taken to strengthen the control system

### III. SUBMISSION OF RECORDS AND INFORMATION

**Rule 39 Demand for information by Audit or Accounts Officer.** A subordinate authority shall afford all reasonable facilities to the Audit Officer and Pay and Accounts Officer for the discharge of his functions, and furnish fullest possible information required by him for the preparation of any official account or report, payments and internal audit.

**Rule 40** A subordinate authority shall not withhold any information, books or other documents required by the Audit Officer or Accounts Officer.

**Rule 41** If the contents of any file are categorized as 'Secret' or 'Top Secret' the file maybe sent personally to the Head of the Audit Office specifying this fact, who will then deal with it in accordance with the standing instructions for handling and custody of such classified documents.



## BUDGET FORMULATION AND IMPLEMENTATION

**Rule 42 Financial Year.** Financial year of the Government shall commence on the 1st day of April of each year and end on the 31st day of March of the following year.

**Rule 43 (1) Presentation of Budget to Parliament.** In accordance with the provisions of Article 112 (1) of the Constitution, the Finance Minister shall arrange to lay before both the Houses of Parliament, an Annual Financial Statement also known as the 'Budget' showing the estimated receipts and expenditure of the Central Government in respect of a financial year, before the commencement of that year.

**Rule 43 (2)** The receipts and expenditure of the Railways being a departmental commercial organization form part of the Government's receipts and expenditure and are included in the Annual Financial Statement. With the merger of Railway Budget with the General Budget, the Demands for Grants and the Statement of Budget Estimates of Railways shall also be part of the General Budget with effect from 2017-18.

**Rule 43 (3)** The provisions for preparation, formulation and submission of budget to the Parliament are contained in Articles 112 to 116 of the Constitution of India.

**Rule 43 (4)** The Ministry of Finance, Budget Division, shall issue guidelines for preparation of budget estimates from time to time. All the Ministries/Departments shall comply in full with these guidelines.

**Rule 44** The budget shall contain the following :-

- (i) Estimates of all revenues expected to be raised during the financial year to which the budget relates ;
- (ii) Estimates of all expenditure for each programme, scheme and project in that financial year;
- (iii) Estimates of all interest and debt servicing charges and any repayments on loans in that financial year;
- (iv) Any other information as may be prescribed.

**Rule 45 Receipt Estimates.** The detailed estimates of receipts shall be prepared by the estimating authorities separately for each Major Head of Account in the prescribed form. For each Major Head, the estimating authority shall give the break-up of the Minor/Subhead/ Detailed wise estimate along with actuals of the past three years. While doing the head

wise classification, it may be ensured that item wise break-up of all major items of tax and non-tax revenues are clearly identified and depicted in the receipt estimates. This is required to highlight all individual items of significance. Any major variation in estimates with reference to past actuals or/and Budget Estimates shall be supported by cogent reasons. The accounting heads under which major tax and non-tax revenues are collected shall be prescribed by the administrative Ministry in consultation with the Budget Division in the Finance Ministry.

**Rule 46 Non-Tax Revenues.** While the tax revenues, non-debt capital receipts including disinvestments and borrowings are managed by the various Departments of the Ministry of Finance, the non-tax revenues are collected through all Ministries/Departments and other autonomous bodies and implementing agencies and comprise an important source of revenue for the Government.

**Rule 47 User Charges.** 'User Charges' is an important component of the non-tax revenues. Each Ministry/Department may undertake an exercise to identify the 'user charges' levied by it and publish the same on its website.

- (i) While fixing the rates of user charges, the Ministries/Departments must ensure that the user charges recover the current cost of providing services with reasonable return on capital investment.
- (ii) Any deviation from these principles shall be specifically recorded with reasons justifying the setting of user charges lower than the cost recovery norms, if any.
- (iii) The rates of user charges should be linked with appropriate price indices and reviewed at least every three years.
- (iv) In order to enable ease of revision of user charges, the rate of user charges shall be fixed, wherever possible through Rules or executive orders and not through a statute.

**Rule 48 Dividends and Profits.** Dividends and profits including the transfer of surplus from Reserve Bank of India is a major component of the non-tax revenues. The payment of dividends/profits etc. by the Central Public Sector Enterprises shall not be delayed and



must be paid within an appropriate time frame immediately after the decision on dividend is taken in the AGM. Ministries or Departments shall monitor timely payments of dividends and profits. The dividend shall be payable as per the guidelines issued by DIPAM in this regards.

**Rule 49 Receipts Portal.** The Government has provided a public portal for online collection of various non-tax revenues including various fees and user charges through e-Receipts. All Ministries/Departments, shall take prompt measures for migration to e-Receipts, to ensure customer convenience and immediate credit of receipts to the Government account.

**Rule 50 (1) Expenditure estimates.** The expenditure estimates shall show separately the sums required to meet the expenditure Charged on the Consolidated Fund under Article 112 (3) of the Constitution and sums required to meet other expenditure for which a vote of the Lok Sabha is required under Article 113(2) of the Constitution.

**Rule 50 (2)** The estimates shall also distinguish provisions for expenditure on revenue account from capital account, including on loans by the Government and for repayment of loans, treasury bills, cash management bills and ways and means advances.

**Rule 50 (3)** The detailed estimates of expenditure shall be prepared by the estimating authorities up to the final unit of appropriation (Object head) under the prescribed Major and Minor Heads of Accounts for both Revenue and Capital expenditure. Estimates shall include suitable provision for liabilities of the previous years that is to be discharged during the year.

**Rule 50 (4)** The estimates of scheme related and other expenditures shall be processed in consultation with the Budget Division, Ministry of Finance in accordance with the instructions issued by it.

**Rule 50 (5)** The Revised and Budget Estimates of both Revenue and Capital expenditure after being scrutinized by the Financial Advisers and approved by the Secretary of the Administrative Ministry or Department concerned shall be forwarded to the Budget Division in the Ministry of Finance in such manner and forms as may be prescribed by it from time to time.

**Rule 51 (1) Demands for Grants.** The estimates for

expenditure for which vote of Lok Sabha is required shall be in the form of Demand for Grants.

**Rule 51 (2)** Generally, one Demand for Grant is presented in respect of each Ministry or Department. However, in respect of large Ministries or Departments, more than one Demand may be presented. Each Demand normally includes provisions required for a service, i.e. provisions on account of revenue expenditure, capital expenditure, grants to the State and Union Territory Governments and also Loans and Advances relating to the service.

**Rule 51 (3)** The Demand for Grants shall be presented to Parliament at two levels. The main Demand for Grants shall be presented to Parliament by the Ministry of Finance, Budget Division along with the Annual Financial Statement while the Detailed Demands for Grants, for consideration by the "Departmentally Related Standing Committee" (DRSC) of the Parliament, are laid on the Table of the Lok Sabha by the concerned Ministries/ Departments, as per dates approved from time to time.

**Rule 52 (1) Form of Annual Financial Statement and Demands for Grant.** The form of the Annual Financial Statement and Demands for Grants shall be laid down by the Finance Ministry and no alteration of arrangement or classification shall be made without the approval of that Ministry.

**Rule 52 (2)** The heads under which provision for expenditure shall be made in the Demands for Grants or Appropriation shall be prescribed by the Finance Ministry in consultation with the Administrative Ministry or Department. The authorized heads for expenditure in a year shall be as shown in the Detailed Demands for Grants passed by Parliament and no change shall be made therein without the formal approval of the Finance Ministry.

**Rule 52 (3)** The major head wise provisions in the Detailed Demands for Grants shall match with the provision made in the Demands for Grants presented by Budget Division, as the appropriations are sought on the basis of Demands for Grants.

**NOTE:** Detailed instructions for preparation of the budget are available in Appendix 2, 3 and 4.

**Rule 53 (1) Acceptance and inclusion of**





**estimates.** The estimates of receipts and expenditure of each Ministry/Department shall be scrutinized in the Budget Division of the Ministry of Finance. Secretary (Expenditure) may hold meetings with Secretaries or Financial Advisers of Administrative Ministries or Departments to discuss the totality of the requirements of funds for various programmes and schemes, along with receipts of the Ministries or Departments.

**Rule 53 (2)** The estimates initially submitted by the Departments may undergo some changes as a result of scrutiny in the Budget Division, Ministry of Finance and deliberations in the pre-budget meetings between the Secretary (Expenditure) and the Secretary or Financial Adviser of the Department concerned. The final estimates arrived at on the basis of scrutiny and pre-budget meetings shall be incorporated in the Budget documents.

**Rule 54 Outcome Budget.** After finalization of the estimates for budgetary allocations, the Department of Expenditure in consultation with NITI Aayog and the concerned Ministries shall prepare an Outcome Budget statement linking outlays against each scheme/project with the outputs/deliverables and medium term outcomes. The outputs/deliverables shall be mandatorily given in measurable/quantitative terms on the basis of parameters and deliverables decided in advance, on the basis of projections made in the Medium Term Expenditure Framework (MTEF) Statement. Allocations for each scheme/project shall be against a firm set of deliverables which shall be adhered to. The performance against specified outcomes would form the basis of deciding on the continuation of the scheme and the quantum of budget allocation.

**Rule 55 Vote on Account.** If the Appropriation Bill seeking authorization of the Parliament to make expenditure in consonance with the Budget proposal is likely to be passed after the start of the financial year to which it corresponds then pending the completion of the procedure prescribed in Article 113 of the Constitution for the passing of the Budget, the Finance Ministry may need to obtain a 'Vote on Account' to cover expenditure for a brief period in accordance with the provisions of Article 116 of the Constitution. Funds made available under Vote on Account are not to be utilized for expenditure on a 'New Service'.

**Rule 56 Communication and distribution of grants and appropriations.** After the Appropriation Bill relating to Budget is passed, the Ministry of Finance shall communicate the same to the Ministries / Departments which, in turn, shall distribute the same to their subordinate formations. The distribution so made shall also be communicated to the respective Pay and Accounts Officers who shall exercise check against the allocation to each subordinate authority.

## II. CONTROL OF EXPENDITURE AGAINST BUDGET

**Rule 57 (1) Responsibility for control of Expenditure.** The Departments of the Central Government shall be responsible for the control of expenditure against the sanctioned grants and appropriations placed at their disposal. The control shall be exercised through the Heads of Departments and other Controlling Officers, if any, and Disbursing Officers subordinate to them.

**Rule 57 (2)** A Grant or Appropriation can be utilised only to cover the charges (including liabilities, if any, of the past year) which are to be paid during the financial year of the Grant or Appropriation and adjusted in the account of the year. No charges against a Grant or Appropriation can be authorized after the expiry of the financial year.

**Rule 57 (3)** No expenditure shall be incurred which may have the effect of exceeding the total grant or appropriation authorized by Parliament by law for a financial year, except after obtaining a supplementary grant or appropriation or an advance from the Contingency Fund. Since voted and charged portions as also the revenue and capital sections of a Grant/Appropriation are distinct and re-appropriation inter se is not permissible, an excess in any one portion or section is treated as an excess in the Grant/Appropriation.

**Rule 57 (4)** To have effective control over expenditure by the Departments, Controlling and Disbursing Officers subordinate to them shall follow the procedure as given below :-

- (i) For drawal of money the Drawing and Disbursing Officer shall (a) Prepare and present bills for "charged" and "voted" expenditure





- separately. (b) Enter on each bill the complete accounts classifications from major head down to the object head of account. When a single bill includes charges falling under two or more object heads, the charges shall be distributed accurately over the respective heads. (c) Enter on each bill the progressive total of expenditure up-to-date under the primary unit of appropriation to which the bill relates, including the amount of the bill on which the entry is made.
- (ii) All drawing and disbursing officers shall maintain separate registers in Form GFR 5, physically or electronically for allocation under each minor or sub-head of account with which they are concerned.
- (iii) On the third day of each month, a copy of the entries made in this register during the preceding month shall be sent by the officer maintaining it, to the Head of the Department or other designated Controlling Officer. This statement shall also include adjustment of an inward claim, etc., communicated by Pay and Accounts Officer directly to the DDO (and not to his Grant Controlling Officer). If there are no entries in the register in any month, a 'nil' statement shall be sent.
- (iv) The Controlling Officer will maintain a broadsheet in Form GFR 6 to monitor the receipt of the return prescribed in the foregoing sub-clause
- (v). On receipt of the returns from Disbursing Officers, the Controlling Officer shall examine them and satisfy himself :-
- that the accounts classification has been properly given;
  - that progressive expenditure has been properly noted and the available balances worked out correctly;
  - that expenditure up-to-date is within the grant or appropriation; and
  - that the returns have been signed by Disbursing Officers. Where the
- Controlling Officer finds defects in any of these respects, he shall take steps to rectify the defect.
- (vi) When all the returns from the Disbursing Officers for a particular month have been received and found to be in order, the Controlling Officer shall compile a statement in Form GFR 7, in which he shall incorporate -
- the totals of the figures supplied by Disbursing Officers;
  - the totals taken from his own registers in Form GFR 5;
  - the totals of such adjustments under the various detailed heads as communicated to him by the Accounts Officer on account of transfer entries and expenditure debited to the grant as a result of settlement of inward account claims and not reckoned by his DDOs.
- (vii). If any adjustment communicated by the Accounts Officer affects the appropriation at the disposal of a subordinate Disbursing Officer, the fact that the adjustment has been made shall be communicated by the Controlling Officer to the Disbursing Officer concerned.
- (viii). On receipt of all the necessary returns, the Head of the Department shall prepare a consolidated account in Form GFR 8, showing the complete expenditure from the grant or appropriation at his disposal upto the end of the preceding month.

**Rule 57 (5)** The Head of the Department and the Accounts Officer shall be jointly responsible for the monthly reconciliation of the figures given in the accounts maintained by the Head of the Department with those appearing in the Accounts Officer's books. The procedure for reconciliation shall be as follows :-

- DDOs shall maintain a Bill Register in Form TR 28-A, and note all bills presented for payment to the PAO in the register. As soon as cheques for the bills presented for payment are received, and/or status of e-payments are verified from the reports available with DDO on PFMS portal these shall be noted in the appropriate column of the Bill Register and the DDOs shall



ensure that the amounts of cheques tally with the net amount of the bills presented. In case any retrenchment is made by the PAO, a note of such retrenchments shall be kept against the bill in the remarks column in TR 28-A.

- (ii) The PAOs shall furnish to each of the DDOs including Cheque –drawing DDOs, an extract from the expenditure control register or from the Compilation Sheet every month indicating the expenditure relating to grants controlled by him classified under the various major-minor detailed head of accounts. The statements for May to March shall also contain Progressive Figures.
- (iii). On receipt of these extracts from the PAOs, the DDOs shall tally the figures received, excluding book adjustments, with the expenditure worked out for the month in the GFR 5 register. Discrepancies, if any, between the two sets of figures shall be promptly investigated by the DDO in consultation with the PAO. He shall also note in the GFR 5 register particulars of book adjustments advised by the PAO through the monthly statement. Thereafter, the DDO shall furnish to the PAO a certificate of agreement of the figures as per his books with those indicated by the PAOs by the last day of the month following the month of accounts.
- (iv). The Principal Accounts Officer (or PAO wherever payments, relating to a grant are handled wholly by a PAO) of each Ministry, shall send a monthly statement showing the expenditure vis-à-vis the Budget provision under the various heads of accounts, in the prescribed pro forma, to the Heads of Departments responsible for overall control of expenditure against grant of the Ministry as a whole. The figures so communicated by the Principal Accounts Officer (or the PAO concerned) shall be compared by the Heads of Departments with those consolidated in Form GFR 8 and differences, if any, shall be taken up by the Heads of Departments with the

Principal Accounts Officers (or the PAO concerned) for reconciliation. The Head of the Department shall furnish a quarterly certificate to the Principal Accounts Officer certifying the correctness of the figures for the quarter by the 15th of the second following month after the end of quarters April-June, July-September, October-December and January-March.

**Rule 57 (6)** The Departments of the Central Government shall obtain from their Heads of Departments and other offices under them the departmental figures of expenditure in Form GFR 8 by the 15th of the month following the month to which the returns relate. The figures relating to Revenue and Capital expenditure shall be separately shown in these returns. The information so obtained shall be posted in register(s) kept for watching the flow of expenditure against the sanctioned grant or appropriation. Progressive totals of expenditure shall be worked out for the purpose. If the departmental figures obtained in Form GFR 8 and posted in the register(s), require correction in a subsequent month, Heads of Departments or other offices shall make such corrections by making plus or minus entries in the progressive totals. In case the Accounts Office figures which subsequently become available are found to be higher than departmental figures, the former shall be assumed to be the correct figures, as appropriation accounts are prepared on the basis of the figures booked in the accounts.

**Rule 57 (7)** The Departments of Central Government shall also obtain from the Heads of Departments and other authorities under them, statements showing the details of the physical progress of the schemes for which they are responsible. This statement shall show the name of the scheme, the Budget provision for each scheme, the progressive expenditure on each scheme, the progress of the scheme in physical terms and the detailed reasons for any shortfalls or excess, both against physical and financial targets.

**Rule 57 (8)** A Broadsheet in Form GFR 9 shall be maintained by the Departments of Central Government or each Head of Department and other authorities directly under them, to watch the prompt receipt of the various returns mentioned above from month to



month and to take necessary measures for rectifying any defaults noticed.

**Rule 58 Maintenance of Liability Register for effecting proper control over expenditure.** In order to maintain proper control over expenditure, a Controlling Officer shall obtain from the spending authorities liability statements in Form GFR 3-A every month, starting from the month of October in each financial year. The Controlling Officer shall also maintain a Liability Register in Form GFR 3.

**Rule 59 Personal attention of the Head of Department /Controlling Officer required to estimate savings or excesses.** A Head of Department or Controlling Officer shall be in a position to estimate the likelihood of savings or excesses every month and to regularize them in accordance with the instructions laid down in Rule 62.

**Rule 60 Control of expenditure against grant/appropriation and ultimate responsibility of the authority administering it.** The Accounts Officer shall report to the Head of the Department concerned immediately on the first appearance of any disproportionate expenditure, particularly in respect of recurring items of expenditure under any grant or appropriation or a primary unit of appropriation thereof. However, the authority administering a grant/appropriation is ultimately responsible for the control of expenditure against the grant/appropriation and not the Accounts Officer.

**Rule 61 Excess Expenditure.**

1. The Accounts Officer shall not allow any payment against sanctions in excess of the Budget provisions unless there is specific approval of the Chief Accounting Authority.
2. The Financial Advisers and Chief Accounting Authority, before according concurrence for excess under any Head, shall ensure availability of funds through Reappropriation/ Supplementary Demands for Grants. (Refer Appendix 10)

**Rule 62 (1) Surrender of savings.** Departments of the Central Government shall surrender to the Finance Ministry, by the dates prescribed by that Ministry before the close of the

financial year, all the anticipated savings noticed in the Grants or Appropriations controlled by them. The Finance Ministry shall communicate the acceptance of such surrenders as are accepted by it to the Accounts Officer, before the close of the year. The funds provided during the financial year and not utilized before the close of that financial year shall stand lapsed at the close of the financial year.

**Rule 62 (2)** The savings as well as provisions that cannot be profitably utilised shall be surrendered to Government immediately they are foreseen without waiting till the end of the year. No savings shall be held in reserve for possible future excesses.

**Rule 62 (3)** Rush of expenditure, particularly in the closing months of the Financial year, shall be regarded as a breach of financial propriety and shall be avoided. The Financial Advisers of the Ministries/Departments shall ensure adherence to the stipulated Monthly Expenditure Plan and the guidelines issued in this regard by the Budget Division, Department of Economic Affairs, from time to time.

**Rule 62 (4)** The Financial Advisers of the Ministries/ Departments shall ensure adherence to the stipulated Quarterly Expenditure Plan and the guidelines issued in this regard by Ministry of Finance from time to time.

**Rule 63 Expenditure on New Service.** No expenditure shall be incurred during a financial year on a "New Service" not contemplated in the Annual Budget for the year except after obtaining a supplementary grant or appropriation or an advance from the Contingency Fund during that year. The guidelines to determine cases of "New Service"/"New Instrument of Service" are contained in Annexure-1 to Appendix -3.

**Rule 64 (1) Additional Allotment for excess expenditure.** A subordinate authority incurring the expenditure shall be responsible for seeing that the allotment placed at its disposal is not exceeded. Where any excess over the allotment is apprehended, the subordinate authority shall obtain additional allotment before incurring the excess expenditure. For this purpose, the authorities incurring expenditure shall maintain a 'Liability Register' in Form GFR 3.

**Rule 64 (2)** A Disbursing Officer may not, on his own authority, authorize any payment in excess of



the funds placed at his disposal. If the Disbursing Officer is called upon to honour a claim, which is certain to produce an excess over the allotment or appropriation at his disposal, he shall take the orders of the administrative authority to which he is subordinate before authorizing payment of the claim in question. The administrative authority shall then arrange to provide funds either by reappropriation or by obtaining a Supplementary Grant or Appropriation or an advance from the Contingency Fund. Instructions contained in Note below Appendix 10 may also be kept in view.

- Rule 65 (1) Re-appropriation of Funds.** Subject to the provisions of Rule 10 of the Delegation of Financial Powers Rules, and also subject to such other general or specific restrictions as may be imposed by the Finance Ministry in this behalf, re-appropriation of funds from one primary unit of appropriation to another such unit within a grant or appropriation, may be sanctioned by a competent authority at any time before the close of the financial year to which such grant or appropriation relates. The Primary unit in this regard shall be the final unit of appropriation i.e. the Object head of account.
- Rule 65 (2)** Re-appropriation of funds shall be made only when it is known or anticipated that the appropriation for the unit from which funds are to be transferred shall not be utilized in full or that savings can be effected in the appropriation for the said unit.
- Rule 65 (3)** Funds shall not be re-appropriated from a unit with the intention of restoring the diverted appropriation to that unit when savings become available under other units later in the year.
- Rule 65 (4)** An application for re-appropriation of funds shall ordinarily be supported by a statement in Form GFR 1 or any other special form authorized by departmental regulations showing how the excess is proposed to be met. In all orders, sanctioning reappropriation, the reasons for saving and excess of Rupees 1 lakh or over and the primary units (secondary units, wherever necessary), affected shall be invariably stated. The authority sanctioning the reappropriation shall endorse a copy of the order to the Accounts Officer.
- Rule 66 Supplementary Grants.** If savings are not available within the Grant to which the payment is required to be debited, or if the expenditure is on "New Service" or "New

Instrument of Service" not provided in the budget, necessary Supplementary Grant or Appropriation in accordance with Article 115 (1) of the Constitution shall be obtained before payment is authorized (Refer to Appendix 5).

- Rule 67 (1) Advance from Contingency Fund.** When a need arises to incur unforeseen expenditure in excess of the sanctioned grant or appropriation or on a new service not provided in Budget and there is not sufficient time for the voting of the Supplementary Demand and the passing of the connected appropriation bill before close of the financial year, an advance from the Contingency Fund set up under Article 267 (1) of the Constitution shall be obtained before incurring the expenditure.
- Rule 67 (2)** An advance from the Contingency Fund shall also be obtained to meet expenditure in excess of the provisions for the service included in an Appropriation (Vote on Account) Act.
- Rule 67 (3)** The application for an advance from the Contingency Fund shall indicate inter alia the particulars of the additional expenditure involved and the sanction to the advance has also to indicate the sub-head and the primary unit of the Grant to which the expenditure appropriately relates. In case, however, any difficulty is felt, the matter shall be referred to the Finance Ministry for clarification.
- Rule 67 (4)** The procedure for obtaining an advance from the Contingency Fund and recoupment of the Fund shall be as laid down in the Contingency Fund of India Rules, 1952, as amended from time to time. For ready reference, rules have been placed at Appendix - 6 to this volume.
- Rule 68 Inevitable Payments.**
- Subject to the provisions of Article 114 (3) of the Constitution, money indisputably payable by Government shall not ordinarily be left unpaid.
  - Suitable provision for anticipated liabilities shall invariably be made in Demands for Grants to be placed before Parliament.
- Rule 69** For easy reference an extract relating to procedures followed in the Accounts Office for check against provision of funds as a part of pre-check of bills has been placed at Appendix 10.
- Rule 70 Duties and Responsibilities of the Chief**



**Accounting Authority.** The Secretary of a Ministry/Department who is the Chief Accounting Authority of the Ministry/Department shall: —

- (i) be responsible and accountable for financial management of his Ministry or Department.
- (ii) ensure that the public funds appropriated to the Ministry or Department are used for the purpose for which they were meant.
- (iii) be responsible for the effective, efficient, economical and transparent use of the resources of the Ministry or Department in achieving the stated project objectives of that Ministry or Department, whilst complying with performance standards.
- (iv) appear before the Committee on Public Accounts and any other Parliamentary Committee for examination.
- (v) review and monitor regularly the performance of the programmes and projects assigned to his Ministry to determine whether stated objectives are achieved.
- (vi) be responsible for preparation of expenditure and other statements relating to his Ministry or Department as required by regulations, guidelines or directives issued by Ministry of Finance.
- (vii) shall ensure that his Ministry or Department maintains full and proper records of financial transactions and adopts systems and procedures that shall at all times afford internal controls.
- (viii) shall ensure that his Ministry or Department follows the Government procurement procedure for execution of works, as well as for procurement of services and supplies, and implements it in a fair, equitable, transparent, competitive and cost-effective manner;
- (ix) shall take effective and appropriate steps to ensure his Ministry or Department : -
  - (a) collects all moneys due to the Government and
  - (b) avoids unauthorized, irregular and wasteful expenditure.





## GOVERNMENT ACCOUNTS

**Rule 71 Preparation and presentation of Accounts.** Accounts of the Union Government shall be prepared every year showing the receipts and disbursements for the year, surplus or deficit generated during the year and changes in Government liabilities and assets. The accounts shall be prepared by Controller General of Accounts, certified by the Comptroller and Auditor General of India and along with the report of the Comptroller and Auditor General of India on these accounts, shall be submitted to the President of India, preferably within six months of close of the Financial Year, who shall cause them to be laid before each House of Parliament.

**Rule 72 Form of Accounts.** By virtue of the provisions of Article 150 of the Constitution, the Accounts of the Union Government shall be kept in such form as the President may, on the advice of the Comptroller and Auditor General of India, prescribe.

The Controller General of Accounts in the Ministry of Finance (Department of Expenditure) is responsible for prescribing the form of accounts of the Union and States, and to frame, or revise, rules and manuals relating thereto on behalf of the President of India in terms of Article 150 of the Constitution of India, on the advice of the Comptroller and Auditor General of India.

**Rule 73 Principles of Accounting.** The main principles according to which the accounts of the Government of India shall be maintained are contained in Government Accounting Rules, 1990; Accounting Rules for Treasuries; and Account Code Volume-III. Detailed rules and instructions relating to the forms of the initial and subsidiary accounts to be kept and rendered by officers of the Department of Posts and other technical departments are laid down in the respective Accounts Manuals or in the departmental regulations relating to the Departments concerned.

**Rule 74 Cash based Accounting.** Government accounts shall be prepared on cash basis. With the exception of such book adjustments as may be authorised by Government Accounting Rules, 1990 or by any general or special order issued by the Central Government on the advice of the

Comptroller and Auditor General of India, the transactions in Government accounts shall represent the actual cash receipts and disbursements during a financial year as distinguished from amounts due to or by Government during the same period.

**Rule 75 Period of Accounts.** The annual accounts of the Central Government shall record transactions which take place during a financial year running from the 1st April to the 31st March thereof.

**Rule 76 Currency in which Accounts are kept.** The accounts of Government shall be maintained in Indian Rupees. All foreign currency transactions and foreign aid shall be brought into account after conversion into Indian Rupees.

**Rule 77 Main Divisions and structure of Accounts.** The accounts of Government shall be kept in three parts, Consolidated Fund (Part-I), Contingency Fund (Part-II) and Public Account (Part-III).

Part-I – Consolidated Fund is divided into two Divisions, namely, 'Revenue' and 'Capital' divisions. The Revenue Division comprises the following sections:

'Receipt Heads (Revenue Account)' dealing with the proceeds of taxation and other receipts classified as revenue and the section 'Expenditure Heads (Revenue Account)' dealing with the revenue expenditure met therefrom. The Capital Division comprises three sections, viz., 'Receipt Heads (Capital Account)', 'Expenditure Heads (Capital Account)' and 'Public Debt, Loans and Advances, etc.'. These sections are in turn divided into sectors such as 'General Services', 'Social and Community Services', 'Economic Services', etc., under which specific functions or services are grouped corresponding to the sectors of classification and which are represented by Major Heads (comprising Sub-Major Heads wherever necessary).

In Part-II – Contingency Fund- are recorded transactions connected with the Contingency Fund set up by the Government of India under Article 267 of the Constitution or Section 48 of Government of Union Territories Act, 1963. There shall be a single Major Head to record the transactions thereunder, which will be followed by Minor, Sub and/or Detailed Heads.



In Part-III – Public Account- transactions relating to debt (other than those included in Part-I), reserve funds, deposits, advances, suspense, remittances and cash balances shall be recorded.

**Rule 78 Classification of transactions in Government Accounts.** As a general rule, classification of transactions in Government Accounts, shall have closer reference to functions, programmes and activities of the Government and the object of revenue or expenditure, rather than the department in which the revenue or expenditure occurs.

Major Heads (comprising Sub-Major Heads wherever necessary) are divided into Minor Heads. Minor Heads may have a number of subordinate heads, generally known as Sub Heads. The Sub Heads are further divided into Detailed Heads followed by Object Heads.

The Major Heads of account, falling within the sectors for expenditure heads, generally correspond to functions of Government, while the Minor Heads identify the programmes undertaken to achieve the objectives of the functions represented by the Major Head. The Sub Head represents schemes, the Detailed Head denotes sub scheme and Object Head represent the primary unit of appropriation showing the economic nature of expenditure such as salaries and wages, office expenses, travel expenses, professional services, grants-in-aid, etc. The above six tiers are represented by a unique 15 digit numeric code.

**Rule 79 Authority to open a new Head of Account.** The List of Major and Minor Heads of Accounts of Union and States is maintained by the Ministry of Finance (Department of Expenditure – Controller General of Accounts) which is authorised to open a new head of account on the advice of the Comptroller and Auditor General of India under the powers flowing from Article 150 of the Constitution. It contains General Directions for opening Heads of Accounts and a complete list of the Sectors, Major, Sub-Major and Minor Heads of Accounts and also some Sub/detailed heads, authorised to be so opened.

Ministries/Departments may open Sub-Heads and Detailed Heads as required by

them in consultation with the Budget Division of the Ministry of Finance. Their Principal Accounts Offices may open Sub/Detailed Heads required under the Minor Heads falling within the Public Account of India subject to the above stipulations.

The Object Heads have been prescribed under Government of India's Orders below Rule 8 of Delegation of Financial Power Rules. The power to amend or modify these Object heads and to open new Object Heads rest with Department of Expenditure of Ministry of Finance on the advice of the Comptroller and Auditor General of India.

**Rule 80 Conformity of budget heads with rules of classification.** Budget Heads exhibited in estimates of receipts and expenditure framed by the Government or in any appropriation order shall conform to the prescribed rules of classification.

**Rule 81 Responsibility of Departmental officers.** Every officer responsible for the collection of Government dues or expenditure of Government money shall see that proper accounts of the receipts and expenditure, as the case may be, are maintained in such form as may have been prescribed for the financial transactions of Government with which he is concerned and tender accurately and promptly all such accounts and returns relating to them as may be required by Government, Controlling Officer or Accounts Officer, as the case may be.

**Rule 82 Classification should be recorded in all the bills and challans by Drawing Officers.** Suitable classification shall be recorded by Drawing Officers on all bills drawn by them. Similarly, classification on challans crediting Government money into the Bank shall be indicated or recorded by Departmental Officers responsible for the collection of Government dues, etc. In cases of doubt regarding the Head under which a transaction should be accounted, the matter shall be referred to the Principal Accounts Officer of the Ministry/ Department concerned for clarification of the Ministry of Finance and the Controller General of Accounts, wherever necessary.

**Rule 83 Charged or Voted Expenditure.** The expenditure covered under Article 112 (3) of the Constitution of India is charged on





the Consolidated Fund of India and is not subject to vote by the legislature. All other expenditure met out of the Consolidated Fund of India is treated as Voted expenditure. Charged or Voted Expenditure shall be shown separately in the accounts as well as in the Budget documents.

**Rule 84 Capital or Revenue Expenditure.**

Significant expenditure incurred with the object of acquiring tangible assets of a permanent nature (for use in the organisation and not for sale in the ordinary course of business) or enhancing the utility of existing assets, shall broadly be defined as Capital expenditure.

Subsequent charges on maintenance, repair, upkeep and working expenses, which are required to maintain the assets in a running order as also all other expenses incurred for the day to day running of the organisation, including establishment and administrative expenses shall be classified as Revenue expenditure. Capital and Revenue expenditure shall be shown separately in the Accounts.

**Rule 85 Banking Arrangements.** The Reserve Bank of India (RBI) shall be the banker to the Government. It shall maintain cash balance of the Government and provide banking facilities to the Ministries and subordinate or attached offices either directly through its own offices or through its agent banks. For this purpose, RBI shall, in consultation with the Controller General of Accounts, nominate a bank to function as Accredited Bank of a Ministry or Department. Pay & Accounts offices and Cheque Drawing and Disbursing Officer shall have assignment accounts with the identified branches of the Accredited Bank of the Ministry. All payments shall be made through these identified bank branches. These branches shall also collect departmental and other receipts. Tax revenues of the Government shall be collected by the RBI through its own offices or through the nominated branches of its agent banks.

Note: Detailed procedure to be followed for remittance of Government receipts into Government cash balance and reimbursement of payments made on behalf of Government by the banks are

laid down in the Memoranda of Instructions issued by the Reserve Bank of India.

**Rule 86 Public Financial Management System (PFMS).—**

- (1) Public Financial Management System (PFMS), an integrated Financial Management System of Controller General of Accounts, Government of India, shall be used for sanction preparation, bill processing, payment, receipt management, Direct Benefit Transfer, fund flow management and financial reporting.
- (2) All the ministries sanctioning grant-in-aid shall register all implementing agencies till last level of implementation on PFMS to track fund flow and unspent balances.
- (3) All the payment, to the extent possible, shall be released 'just-in-time' by the Ministries through PFMS.
- (4) Detailed Demand for Grants (DDG), as approved, must be uploaded on PFMS at the start of each Financial Year.
- (5) All the re-appropriation orders, surrender order shall be generated through PFMS system.
- (6) All grantee institutions shall submit Utilisation Certificates on PFMS.

**Rule 87 Direct Benefit Transfer.**

- (1) Transfer of benefits should be done directly to beneficiaries under various Government Schemes and Programmes using Information and Communication Technology (ICT). Necessary process reengineering to minimise intermediary levels and to reduce delay in payments to intended beneficiaries with the objective of minimising pilferage and duplication should be done for all Government Schemes and Programmes. The process for implementation of DBT as prescribed should be adopted.
- (2) DBT should include in-kind and cash transfers to beneficiaries as well as transfers/honorariums given to various enablers of government schemes like community workers, etc. for successful implementation of the schemes.



- (3) Transfer of cash benefits from Ministries/Departments should be done (a) directly to beneficiaries from Ministries/Departments; (b) through State Treasury Account; or (c) through any Implementing Agency as appointed by Centre/State Governments.
- (4) In-kind Transfer to Individual Beneficiary/ Household/Service provider includes schemes or components of schemes where in-kind benefits are given by the Government or through any Implementing Agency as appointed by Centre/State Governments to Individual Beneficiary/Household/Service providers.
- (5) Ministries/Departments will use PFMS platform for processing of payments for cash / in kind transfers to individual beneficiaries as per framework laid down by Department of Expenditure, Ministry of Finance.
- (6) Implementing Agencies shall generate Electronic Utilisation Certificate (E-UCs) on PFMS portal and submit them online. E-UCs shall be used to certify that money was actually utilized for the purpose for which it was sanctioned to eliminate the need for physical generation of UCs.
- (7) Transaction charges for the financial intermediaries facilitating DBT payments shall be paid as stipulated by Ministry of Finance.

## II. ANNUAL ACCOUNTS

**Rule 88 Appropriation Accounts.** Appropriation Accounts of Central Ministries (other than Ministry of Railways) and of Central Civil Departments (excluding Department of Posts and Defence Services) shall be prepared by the Principal Accounts Officers of the respective Ministries and Departments (under the guidance and supervision of the Controller General of Accounts) and signed by their respective Chief Accounting Authorities i.e., the Secretaries in the concerned Ministries or Departments. Union Government Appropriation Accounts (Civil) required to

be submitted to Parliament, shall be prepared annually by the Controller General of Accounts by consolidating the aforesaid Appropriation Accounts.

Appropriation Accounts pertaining to Departments of Posts and Defence Services shall be prepared and signed by the Secretaries to the Government of India in the Department of Posts and Ministry of Defence respectively and that of Ministry of Railways by the Chairman, Railway Board.

**Rule 89 Finance Accounts.** Annual accounts of the Government of India (including transactions of Department of Posts and Ministries of Defence and Railways and transactions under Public Account of India of Union Territory Governments), showing under the respective Heads the annual receipts and disbursements and statement of balances for the purpose of the Union, called Finance Accounts, shall be prepared and signed by the Controller General of Accounts countersigned by the Secretary (Expenditure), Ministry of Finance.

**Rule 90 Presentation of Annual accounts.** The Appropriation and Finance accounts mentioned above, shall be prepared by the respective authorities on the dates mutually agreed upon with the Comptroller and Auditor General of India, in the forms prescribed by the President on the advice of the Comptroller and Auditor General of India and sent to the latter for recording his/her certificate. The certified Annual Accounts and the Reports relating to the accounts shall be submitted by the Comptroller and Auditor General of India to the President in accordance with the provisions of Section 11 of the Comptroller and Auditor General's (Duties, Powers and Conditions of Service) Act, 1971 and Clause (1) of Article 151 of the Constitution of India.

**Rule 91** Administrative Ministries / PSUs / Subordinate / Statutory / Autonomous Bodies may have financial stakes in Public Private Partnerships (PPP)/ Production Sharing Contracts (PSCs)/ Joint Ventures (JV's)/ Subsidiary companies etc. In such case details of the financial stakes of the Government or other entities mentioned above, should be disclosed in the Annual Report of the Administrative Ministry.



## III. PROFORMA ACCOUNTS

**Rule 92** **Subsidiary Accounts of Government Departments undertaking commercial activities.** Where the operations of certain Government Departments working on a commercial or quasi-commercial basis e.g., an industrial factory or a store cannot be suitably brought within the cash based Government accounting system, the Head of the units shall be required to maintain such subsidiary proforma accounts in commercial form as may be agreed between Government and Comptroller and Auditor General of India. This includes the maintenance of suitable Manufacturing, Trading, Profit & Loss Accounts and Balance Sheet.

**Rule 93** **Methods and principles on which subsidiary accounts in commercial form are to be kept.** The methods and principles in accordance with which subsidiary and proforma accounts in commercial form are to be kept shall be regulated by orders and instructions issued by Government in each case.

Note 1. Proforma accounts of regular Government Workshops and Factories shall be kept in accordance with the detailed rules and procedure prescribed in the departmental regulations. Proforma accounts relating to Public Works shall be prepared by the Accounts Officers in accordance with the instructions contained in Account Code for Accountants General.

Note 2. The Heads of Account (which should, as far as possible, be common to the Government accounts and the General Ledger maintained by a Commercial Undertaking) shall be selected with due regard to the principles of Governmental and Commercial accounting so that the monthly classified account of income and expenditure of the undertaking may be prepared readily from the General Ledger maintained by it.

**Rule 94** **Adequate regulations to be framed to ensure cost deduced is accurate and true.** Where commercial accounts are maintained for the purpose of assessment of the cost of an article or service, the Head of the unit shall ensure that adequate regulations are framed with the approval of Government in order to ensure that the cost deduced from the accounts is accurate and true.

**Rule 95** **Maintenance and submission of subsidiary accounts and statements by department units.** The Head of the unit shall arrange to obtain the orders of Government regarding the nature and form of subsidiary accounts and statements, if any. Such accounts and statements shall be submitted to the Accounts Officer on such date as may be required by him. The same shall be appended to the Appropriation Accounts of each year.

## IV. PERSONAL DEPOSIT ACCOUNTS

**Rule 96** **Personal Deposit Account.** Personal Deposit Account is a device intended to facilitate the Designated Officer thereof to credit receipts into and effect withdrawals directly from the account, subject to an overall check being exercised by the bank in which the account is authorised to be opened. The Designated Officer shall ensure (with the help of a personal ledger account to be maintained by the bank for the purpose) that no withdrawal will result in a minus balance therein. Only Government officers acting in their official or any other capacity shall be the Designated Officer thereof.

**Rule 97** **(1) Authority to open Personal Deposit Account.** The Personal Deposit Account shall be authorised to be opened by a special order by the concerned Ministry or Department in consultation with the Controller General of Accounts. Such special order or permission shall be issued or granted by the Ministry or Department concerned after it is satisfied that the initial accounts of the moneys to be held in a personal deposit account and disbursed, shall be arranged to be maintained properly and shall be subject to audit. Every personal deposit account so authorised to be opened, shall form part of the Government Account and be located in the Public Account thereof. The provisions relating to "Personal Deposit Account" are contained in para 16.7 of Civil Accounts Manual and Rule 191 to 194 of Central Government Account (Receipts and Payments) Rules.

**Rule 97** **(2)** Personal Deposit accounts shall generally be authorised to be opened in the following types of cases:



- (a) in favour of a Designated Officer appointed for the purpose of administering monies tendered by or on behalf of wards and attached estates under Government management. It shall also be ensured that proper arrangements are made for the maintenance and audit of connected initial accounts;
- (b) in relation to Civil and Criminal Courts' deposits, in favour of the Chief Judicial Authority concerned;
- (c) where, under certain regulatory activities of the Government, receipts are realised and credited to a Fund or Account under the provisions of an Act to be utilised towards expenditure thereunder and no outgo from the Consolidated Fund is involved.
- (d) where a personal deposit account is required to be created by a law or rules having the force of law and certain liabilities devolve on the Government out of the special enactments;
- (e) officers commanding units and others concerned in the administration of public funds in the Defence Departments can be authorised to open personal deposit accounts for such funds.

## **V. CAPITAL AND REVENUE ACCOUNTS**

**Rule 98 Capital Expenditure.** Significant expenditure incurred with the object of acquiring tangible assets of a permanent nature (for use in the organisation and not for sale in the ordinary course of business) or enhancing the utility of existing assets, shall broadly be defined as Capital expenditure. Subsequent, charges on maintenance, repair, upkeep and working expenses, which are required to maintain the assets in a running order as also all other expenses incurred for the day to day running of the organisation, including establishment and administrative expenses, shall be classified as Revenue expenditure. Capital and Revenue expenditure shall be shown separately in the Accounts.

Expenditure on a temporary asset or on grants-in-aid cannot ordinarily be

considered as a capital expenditure and shall not, except in cases specifically authorised by the President on the advice of the Comptroller and Auditor General of India, be debited to a Capital Head.

Capital expenditure is generally met from receipts of capital nature, as distinguished from ordinary revenues derived from taxes, duties, fees, fines and similar items of current income including extraordinary receipts. It is open to the Government to meet capital expenditure from ordinary revenues, provided there are sufficient revenue resources to cover this liability.

Expenditure of a Capital nature as defined above, shall not be classed as Capital expenditure in the Government Accounts unless the classification has been expressly authorised by general or special orders of Government.

Expenditure of a Capital nature shall be distinguished from the Revenue Expenditure both in the Budget Estimates and in Government Accounts.

**Rule 99 Principles for allocation of expenditure between Capital and Revenue.** The following are the main principles governing the allocation of expenditure between Revenue and Capital:

- (a) Capital shall bear all charges for the first construction and equipment of a project as well as charges for intermediate maintenance of the work while not yet opened for service. It shall also bear charges for such further additions and improvements, which enhance the useful life of the asset, as may be sanctioned under rules made by competent authority.
- (b) Subject to Clause (c) below, revenue shall bear subsequent charges for maintenance and all working expenses. These embrace all expenditure on the working and upkeep of the project and also on renewals and replacements and additions, improvements or extensions that are revenue in nature as per rules made by Government.
- (c) In the case of works of renewal and replacement, which partake expenditure both of a capital and revenue nature, the allocation of expenditure shall be regulated by the



broad principle that Revenue should pay or provide a fund for the adequate re- placement of all wastage or depreciation of property originally provided out of capital grants. Only the cost of genuine improvements, which enhance the useful life of the asset whether determined by prescribed rules or formulae, or under special orders of Government, may be debited to Capital. Where under special orders of Government, a Depreciation or Renewals Reserve Fund is established for renewing assets of any commercial department or undertaking, the distribution of expenditure on renewals and replacements between Capital and the Fund shall be so regulated as to guard against overcapitalisation on the one hand and excessive withdrawals from the Fund on the other.

- (d) Expenditure on account of reparation of damage caused by extraordinary calamities such as flood, fire, earthquake, enemy action, etc., shall be charged to Capital, or to Revenue, or divided between them, depending upon whether such expenditure results in creation/acquisition of new assets or whether it is only for restoring the condition of the existing assets, as may be determined by Government according to the circumstance of each case.
- (e) Expenditure on a temporary asset cannot ordinarily be considered as a capital expenditure and shall not, except in cases specifically authorised by the President on the advice of the Comptroller and Auditor General of India, be debited to a Capital Head.

**Rule 100 Allocation between capital and revenue expenditure :** The allocation between capital and revenue expenditure on a Capital Scheme for which separate Capital and Revenue Accounts are to be kept, shall be determined in accordance with such general or special orders as may be prescribed by the Government after consultation with the Comptroller and Auditor General of India.

**Rule 101 Capital receipts during construction mainly to be utilised in reduction of capital expenditure :**

Capital receipts in so far they relate to expenditure previously debited to Capital accruing during the process of construction of a project, shall be utilised in reduction of capital expenditure. Thereafter their treatment in the accounts will depend on circumstances, but except under special rule or order of Government, they shall not be credited to the revenue account of the department or undertaking.

**Rule 102 Receipts and recoveries representing recoveries of expenditure previously debited to Capital Major Head:** Receipts and recoveries on Capital Account in so far as they represent recoveries of expenditure previously debited to a Capital Major Head shall be taken in reduction of expenditure under the Major Head concerned except where, under the rules of allocation applicable to a particular department, such receipts have to be taken to Revenue.

**Rule 103 Conversion of outstanding loans into equity investments or grants-in-aid.** Government takes from time to time, suitable measures to strengthen/ restructure the Capital base of public sector enterprises so that these enterprises can improve their performance and productivity. As a part of the package scheme, financial relief in the form of conversion of outstanding loans into equity investments or grants-in-aid are also agreed to.

Where loans outstanding against Public Sector Undertakings are proposed to be converted into equity investments in or as grants-in-aid to the Public Sector Undertakings, the approval of the Parliament to such proposals, shall be obtained by including a token provision in the relevant Demands for Grants or Supplementary Demands for Grants as may be found expedient. The details of such conversion of loans may be explained in the relevant Budget/Supplementary Demand documents. After obtaining the approval of the Parliament, the balances under loans and the progressive expenditure of the Capital Heads of Accounts shall be corrected proforma in the relevant Accounts of the Union





Government, under the Loan/Capital Major Heads concerned.

## **VI. INTEREST ON CAPITAL**

**Rule 104 Interest rate.** Except in special cases regulated by special orders of Government, interest at such rates as may be specified from time to time shall be charged in the accounts of all Commercial Departments or units for which separate capital and revenue accounts are maintained within the Government accounts.

**Rule 105 (1) Charging of interest on capital outlay met out of specific loans raised by Government.** For capital outlay met out of specific loans raised by Government, the interest shall be charged at such rate as may be prescribed by Government, having regard to the rate of interest actually paid on such loans and the incidental charges incurred in raising and managing them.

By specific loans are meant loans that are raised in the open market for one specific purpose which is clearly specified in the prospectus and in regard to which definite information is given at the time of raising of the loans.

**Rule 105 (2)** For capital outlay provided otherwise, interest shall be charged at the rate of interest to be determined each year by the Department of Economic Affairs, Ministry of Finance.

**Rule 106 Method of calculation of interest.** The interest shall be calculated on the direct capital outlay at the end of the previous year plus half the outlay of the year itself, irrespective of whether such outlay has been met from current revenues or from other sources.

**Rule 107 How interest charged to capital is to be written back.** When under any special orders of Government, charges for interest during the process of construction of a project are temporarily met from capital, the writing back of capitalised interest shall form the first charge on any capital receipts or surplus revenue derived from the project when opened for working.

## **VII. ADJUSTMENT WITH GOVERNMENT DEPARTMENTS ETC**

### **Rule 108 Adjustments with State Governments.**

Subject to the relevant provision of the Constitution or of law made by Parliament or any orders issued thereunder, adjustments in respect of financial transactions with State Governments shall, unless otherwise provided for, be made in such manner, and to such extent as may be mutually agreed upon between the Central Government and the State Government concerned. However, adjustments with State Government in respect of the matters mentioned below shall be regulated by the rules contained in Appendix-5 to the Government Accounting Rules, 1990. The rules are based on reciprocal arrangements made with the State Governments and are, therefore, binding on all of them:-

- (i) Pay and Allowances, other than Leave Salaries.
- (ii) Leave Salaries.
- (iii) Pensions.
- (iv) Expenditure involved in Audit and keeping Accounts.
- (v) Cost of Police functions on Railways including the cost of protecting Railway Bridges.
- (vi) Cost of Forest Surveys carried out by the Survey of India, and Forest maps prepared by that Department.
- (vii) Leave Salary and Pension Contributions recovered in respect of Government servants lent on Foreign Service

**Rule 109 Re-audit.** As a convention, a period of three years has been accepted by the Central and State Governments for the re-audit of past transactions involving errors in classification

**Rule 110 When adjustment necessary.** Adjustment shall always be made unless otherwise agreed upon —

- (a) If a commercial department or undertaking or a regularly organised store department or store section of a department is concerned, or
- (b) If under the operation of any rule or order, an adjustment would have been made if the particular transaction with



State Government were a transaction between two departments of the Central Government.

**Rule 111 Petty and isolated claims for services rendered not to be preferred.** The Central Government (which includes Union Territories) and the State Governments have agreed under reciprocal arrangements not to prefer petty and isolated claims for an amount not exceeding Rupees ten thousand against one another

**Rule 112 Criteria in determining whether a particular claim is covered by the reciprocal arrangement.** The significant criterion in determining whether a particular claim is covered by the reciprocal arrangement mentioned above, will be that the claim shall be both petty and of an occasional character and shall cover services rendered and not supplies made unless the latter forms part of service. The term “service rendered” will be taken to mean an individual act of service, like providing police escort to a high dignitary and will not apply to supply of stores etc. Claims relating to Commercial undertakings under the Government of India or the State Governments such as those of the Railways, the Department of Post, the Electrical undertakings, etc., shall fall outside the purview of the proposed reciprocal arrangements and shall continue to be settled as hitherto.

If a doubt arises as to whether a particular claim would fall within or outside the purview of the proposed arrangement, it shall be decided by mutual consultation. The above arrangements will remain in force without any time limit in respect of all State Governments.

**Rule 113 Projects jointly executed by several State Governments.** In the case of Projects, jointly executed by several Governments, where the expenditure is to be shared by the participating Governments in agreed proportions, but the expenditure is ab-initio incurred by one Government and shares of other participating Governments recovered subsequently; such recoveries from other Governments shall be exhibited as abatement of charges under the relevant expenditure Head of Account in the books

of the Governments incurring the expenditure initially

**Rule 114 Claims of State Governments on account of the extra cost of agency functions.** Claims of State Governments, on account of the extra cost of agency functions entrusted to them under Article 258 of the Constitution shall be dealt with and settled in accordance with such directions as may be issued by the President in this regard from time to time

**Rule 115** The following principles shall be generally observed in dealing with claims preferred by State Governments under Clause (3) of Article 258 of the Constitution: —

- (i) If the agency work involves the employment of a State Commercial Department, it would be open to that department to charge its normal commercial costs.
- (ii) Public Works Department agency costs shall be represented by such percentage charges on the cost of Central Works executed by the State as may be agreed between the Central and the State Government concerned, works outlay being treated as an amount placed at the disposal of the State Government for actual expenditure on the execution of the work.
- (iii) The cost of regular joint establishment shall be shared as far as practicable on the basis of fixed annual sums settled in agreement with the State Government concerned.
- (iv) In other cases, the following procedure shall be adopted unless there are special orders to the contrary:-
  - (a) Details of claims preferred by State Governments shall be ascertained.
  - (b) If the work has been performed by the State Government in the past, the charges shall be compared with those charged in the past but it is not necessary to be meticulous in the matter.
  - (c) If the charges are found to be reasonable and do not exceed Rupees Fifty thousand per annum for any individual item (or connected group of items), a five





years contract shall be offered to the State Government during which the Central Government would pay the fixed sum per annum for the work. The amount will be subjected to review at the end of each period of five years.

- (d) If the amount agreed upon exceeds Rupees Fifty thousand, it shall be necessary to have an annual statement of proposed charges from the State Government at the time of preparation of the Budget. However, if in any individual case, the charges are obviously static, then the contract system may be adopted in these cases also.
- (v) In exceptional cases in which arbitration has to be resorted to, the Ministry of Finance will make the requisite arrangement in the matter.
- (vi) The Ministry of Finance shall be consulted on all matters arising under Article 258 (3) of the Constitution.

**Rule 116 Principles governing transactions in connection with the agency functions entrusted to State Government.** The following procedure shall be followed in regard to transactions arising in connection with the agency functions entrusted to the State Governments under Article 258 of the Constitution:

- (i) **The expenditure on extra staff or contingencies which the State Government have to incur**—The extra cost to the State Government arising mainly in respect of the additional staff employed or contingent and other expenditure, as in the case of work devolving on the State Governments in connection with the administration of the Census Act, is reimbursable under Article 258 (3) of the Constitution. Expenditure in this regard shall be provided in the State Budget in the first instance and adjusted in the accounts of the State Governments under the normal Heads of Accounts. These will be reimbursed in lumpsum to the State Governments, necessary provision being made under a distinct sub-head "Amounts paid to other Governments, Departments, etc.", under the

concerned Demand of the Ministry administratively concerned with the subject. In computing the extra cost, the element of leave and pensionary charges can also be included, provided the relevant service and financial rules of the State Governments provide for this.

- (ii) **The expenditure on work entrusted to the State Government, such as expenditure on construction and maintenance of National Highways, expenditure on Defence Works, Aviation Works, etc.**—The expenditure directly connected with the execution of the scheme or work entrusted to the State Government such as expenditure on the construction or maintenance of National Highways etc., will be adjusted direct in the accounts of the Central Government under the relevant Head of Account. The question of including the estimates in this regard in the Budget of the State Governments and subjecting them to the vote of the State Legislature will not arise. The expenditure will be adjusted under the Head "8658 – Suspense Accounts –PAO Suspense" in the Remittance Section of the State Accounts in the first instance pending their eventual clearance in accordance with the prescribed procedure.

Note: In the converse case relating to the entrustment of a State function to the Central Government under Article 258-A of the Constitution, a procedure similar to that indicated in the Rule 116 above shall be followed. The extra cost on staff and other contingent expenditure, etc., will accordingly have to be provided in the Budget of the Central Government in the usual manner and recovery made in lumpsum from the State Government concerned. The other expenditure on execution of the work proper should be debited to the State Government concerned directly and the question of obtaining a vote of the Parliament for the same will not arise.

**Rule 117 Crucial date for closure of Inter-Governmental adjustments.** Inter-Governmental adjustments can be carried out upto the 15th of April on which date the



books of the Reserve Bank are closed for the month of March. Every endeavour must, therefore, be made to settle as far as possible all transactions with State Governments before the close of the year.

**Rule 118 Adjustments with foreign Governments, outside bodies, etc.**

Unless exempted by Government by general or special orders, services shall not be rendered to any foreign Government or non-Government body or institution or to a separate fund constituted as such except on payment.

**Rule 119 Recoveries of expenditure for services rendered to non-Government parties.**

Recoveries of expenditure for services rendered or supplies made to non-Government parties or other Governments (including local funds and Governments outside India), shall in all cases, be classified as receipts of the Government rendering such services.

**Rule 120 Recoveries of expenditure for services rendered as an agent.**

When a Government undertakes a service merely as an agent of a private body, the entire cost of the service shall be recovered from that body so that the net cost to Government is nil. The recoveries shall be taken as reduction of expenditure.

**Explanation:** The term 'recovery' is used in these rules to denote repayment of, or payment by non-Government parties or other Governments towards charges initially incurred and classified by a Central Government Department in the account, as final expenditure by debit to a Revenue or Capital Head of Account. Recoveries towards establishment charges, tools and plants, fees for procurement of inspection of stores or both etc., effected at percentage rates or otherwise, are some examples.

**Rule 121 Payments to outside body or fund to be through grant-in-aid.** Any relief in respect of payment for services rendered or supplies made to any outside body or fund shall ordinarily be given through a grant-in-aid rather than by remission of dues.

**Rule 122 Charges relating to the maintenance and demarcations and disputes over boundaries.** The incidence of charges relating to the maintenance and demarcations and disputes over boundaries between India and a foreign

country is regulated by the following principles;

- (i) Maintenance – Half the maintenance charges will be borne by the Central Government, the other half being recovered, as far as practicable, from the foreign country, failing which the foreign country's share will also be borne by the Central Government.
- (ii) Demarcation and Disputes – Charges relating to demarcation of boundaries and boundary disputes will be borne by the Central Government under Entry 10 of the Union List, subject to such recovery as shall be made from the Foreign Country.
- (iii) Where streams or other watercourses form the boundaries and where the ordinary principle of median line applies, the Government concerned (i.e., Foreign Country or India) will bear the cost of maintenance of the boundary line on its side. Where a separate set of survey marks is maintained by each of the two Governments on its side, the cost of maintenance of the survey marks shall be borne by the Government concerned.

**Exception:**

- (a) The arrangement in (i) above in its application to Nepal will be subject to special arrangements worked out in consultation with the Nepal Government.
- (b) The share of the Bhutan Government for maintenance and demarcation of and disputes over boundaries will be borne by the Central Government for the present

**VIII.**

**INTER-DEPARTMENTAL ADJUSTMENTS**

**Rule 123 Inter-Departmental Adjustments.** Save as expressly provided by any general or special orders, a Service Department shall not charge other Departments for services rendered or supplies made which falls within the class of duties for which the former Department is constituted. However, a commercial Department or



undertaking shall ordinarily charge and be charged for any supplies made and services rendered to, or by, other departments of Government.

**Rule 124 Principles for division of Departments for purposes of inter-departmental payments.** For purposes of inter-Departmental payments, the Departments of a Government shall be divided into service Departments and commercial departments according to the following principles:-

- (i) Service Departments. -These are constituted for the discharge of those functions which either-
  - (a) Are inseparable from and form part of the idea of Government e.g. Departments of Administration of Justice, Jails, Police, Education, Medical, Public Health, Forest, Defence; or
  - (b) Are necessary to, and form part of, the general conduct of the business of Government e.g. Departments of Survey, Government Printing, Stationery, Public Works (Building and Roads Branch), Central Purchase Organisation (Director-General of Supplies and Disposals, New Delhi).
- (ii) Commercial Departments or Undertakings. -These are established mainly for the purposes of rendering services or providing supplies, of certain special kinds, on payment for the services rendered or for the articles supplied. They perform functions, which are not necessarily governmental functions. They are required to work to a financial result determined through accounts maintained on commercial principles.

**Rule 125 Period for preferment of claims.** All claims shall ordinarily be preferred between Departments, both commercial and non-commercial of the Central Government, within the same financial year and not beyond three years from the date of transaction. This limitation, however, may be waived in specific cases by mutual agreement between the departments concerned.

**Rule 126 Procedure for settlement of inter-**

**departmental adjustments.** The settlement of inter-departmental adjustments shall be regulated by the directions contained in Chapter 4 of Government Accounting Rules, 1990.

**Rule 127 Inter-departmental and other adjustments to be made in the account year.** Under the directions contained in the Account Code for Accountants General, Inter-departmental and other adjustments are not to be made in the accounts of the past year, if they could not have been reasonably anticipated in time for funds being obtained from the proper authority. In all cases, where the adjustment could have reasonably been anticipated as, for example, recurring payments to another Government or department and payments which, though not of fixed amount, are of a fixed character, etc., the Accounts Officer will automatically make the adjustment in the accounts before they are finally closed. The onus of proving that the adjustments could not have been reasonably anticipated should lie with the Controlling Officer.

As between different Departments of the same Government, the recoveries effected for services rendered shall be classified as deductions from the gross expenditure. However, recoveries made by a Commercial Department, e.g., Railways, Posts or a departmental commercial undertaking in respect of services rendered in pursuance of the functions for which the Commercial Department is constituted shall be treated as receipts of the Department but where it acts as an agent for the discharge of functions not germane to the essential purpose of the Department, the recoveries shall be taken as reduction of expenditure.

**Exception.** -Recoveries of fees for purchase, inspection, etc., effected by the Central Purchase Organizations of Government of India, are treated as receipts of the Department concerned.

**NOTE 1.** -The term 'recovery' is used in this rule to denote repayment of/or payment by one Department of the same Government towards charges initially incurred and classified by another Department in its accounts as final expenditure by debit to a Revenue or Capital Head of Account. Recoveries towards establishment charges,



tools and plants, fees for procurement or inspection of stores or both, etc., effected at percentage rates or otherwise, are some examples.

NOTE 2.-Recoveries effected from another Department of the same Government which are to be classified as deduction from the gross expenditure, shall be shown in the relevant Demand for Grant as "below the line" recovery under the appropriate Major Head of Account etc. Recovery actually effected, irrespective of the year to which it relates shall be adjusted in accounts in the schedule of recovery to be attached to the Appropriation Account of the year in which the recovery is effected.

**Rule 128 Adjustment of Pensionary Charges of certain Commercial Departments.**

Except as otherwise provided, the pensionary liability of commercial departments and undertakings, for which pro forma commercial accounts are maintained, shall be assessed on a contribution basis at such rates as may be fixed by Government from time to time. In the case of departments and undertakings, for which no regular commercial accounts are maintained either within or outside the regular Government accounts but which are allowed to charge for their products or services rendered, the pensionary liability shall be taken into account in the estimate of overhead charges and manufacturing costs for the purpose of calculating the issue price of goods manufactured or fees for services rendered. The calculation shall be made at rates prescribed for the purpose by Government.

NOTE: The Railways, Posts and Defence Departments are regarded as separate Governments for the purpose of adjustment of pensionary charges.

**Rule: 129 Pensionary liability in the case of Government Departments/ Undertakings declared as commercial.**

In the case of Government Departments and Undertakings declared as commercial, adjustment of Pensionary liability shall be made in the regular accounts by charging the average of the percentage for 15th year of service based on the rates of monthly contribution of

pension as prescribed in the appropriate order issued from time to time under Appendix-II of Fundamental and Supplementary Rules.



## WORKS

**Rule 130 Original works** means all new constructions, site preparation, additions and alterations to existing works, special repairs to newly purchased or previously abandoned buildings or structures, including remodelling or replacement.

Minor works mean works which add capital value to existing assets but do not create new assets.

Repair works means works undertaken to maintain building and fixtures. Works will also include services or goods incidental or consequential to the original or repair works.

**Rule 131 Administrative control of works includes:**

- (i) assumption of full responsibility for construction, maintenance and upkeep;
- (ii) proper utilization of buildings and allied works;
- (iii) provision of funds for execution of these functions.

**Rule 132 Powers to sanction works.** The powers delegated to various subordinate authorities to accord administrative approval, sanction expenditure and re-appropriate funds for works are regulated by the Delegation of Financial Powers Rules, and other orders contained in the respective departmental regulations.

**Rule 133 (1)** A Ministry or Department at its discretion may directly execute repair works estimated to cost up to Rupees Thirty Lakhs after following due procedure indicated in Rule 139, 159 & 160.

**Rule 133 (2)** A Ministry or Department may, at its discretion, assign repair works estimated to cost above Rupees thirty Lakhs and original/minor works of any value to any Public Works Organisation (PWO) such as Central Public Works Department (CPWD), State Public Works Department, others Central Government organisations authorised to carry out civil or electrical works such as Military Engineering Service (MES), Border Roads Organisation (BRO), etc. or Ministry/Department's construction wings of Ministries of Railways, Defence, Environment & Forests, Information & Broadcasting and Departments of Posts, and Space etc.

**Rule 133 (3)** As an alternative to 133(2), a Ministry or Department may award repair works

estimated to cost above Rupees thirty Lakhs and original works of any value to:

- (i) any Public Sector Undertaking set up by the Central or State Government to carry out civil or electrical works or
- (ii) to any other Central/ State Government organisation /PSU which may be notified by the Ministry of Urban Development (MoUD) for such purpose after evaluating their financial strength and technical competence.

For the award of work under this sub-rule, the Ministry/ Department shall ensure competition among such PSUs/ Organisations. This competition shall be essentially on the lump sum service charges to be claimed for execution of work.

In exceptional cases, for award of work under (i) and (ii) above, on nomination basis, the conditions contained in Rule 194 would apply. The work under these circumstances shall also be awarded only on the basis of lump sum service charge

**Rule 134 Work under the administrative control of the Public Works Departments.** Works not specifically allotted to any Ministry or Department shall be included in the Grants for Civil Works to be administered by Central Public Works Department. No such work may be financed partly from funds provided in departmental budget and partly from the budget for Civil works as mentioned above.

**Rule 135 (1) General Rules.** Subject to the observance of these general rules, (including Rule 144) the initiation, authorization and execution of works allotted to a particular Ministry or Department shall be regulated by detailed rules and orders contained in the respective departmental regulations and by other special orders applicable to them.

**Rule 135 (2)** Ministry or Department shall put in place, as far as possible, empowered project teams for all large value projects and these teams should be tasked only with project execution and not given other operational duties.

**Rule 136 (1)** No works shall be commenced or liability incurred in connection with it until:

- (i) administrative approval has been





obtained from the appropriate authority in each case.

- (ii) sanction to incur expenditure has been obtained from the competent authority.
- (iii) a properly detailed design has been sanctioned; while designing the projects etc, principles of Life Cycle cost may also be considered.
- (iv) estimates containing the detailed specifications and quantities of various items have been prepared on the basis of the Schedule of Rates maintained by CPWD or other Public Works Organisations and sanctioned.
- (v) funds to cover the charge during the year have been provided by competent authority.
- (vi) tenders invited and processed in accordance with rules.
- (vii) a Work Order issued.

**Rule 136** (2) On grounds of urgency or otherwise, if it becomes necessary to carry out a work or incur a liability under circumstances when the provisions set out under sub rule 1 of rule 136 cannot be complied with, the concerned executive officer may do so on his own judgement and responsibility. Simultaneously, he should initiate action to obtain approval from the competent authority and also to intimate the concerned Accounts Officer.

**Rule 136** (3) Any development of a project considered necessary while a work is in progress, which is not contingent on the execution of work as first sanctioned, shall have to be covered by a supplementary estimate.

**Rule 137** For purpose of approval and sanctions, a group of works which forms one project, shall be considered as one work. The necessity for obtaining approval or sanction of higher authority to a project which consists of such a group of work should not be avoided because of the fact that the cost of each particular work in the project is within the powers of such approval or sanction of a lower authority. This provision, however, shall not apply in case of works of similar nature which are independent of each other.

**Rule 138** Any anticipated or actual savings from a sanctioned estimate for a definite project, shall not, without special authority, be

applied to carry out additional work not contemplated in the original project.

**Rule 139 Procedure for Execution of Works.** The broad procedure to be followed by a Ministry or Department for execution of works under its own arrangements shall be as under :-

- (i) the detailed procedure relating to expenditure on such works shall be prescribed by departmental regulations framed in consultation with the Accounts Officer, generally based on the procedures and the principles underlying the financial and accounting rules prescribed for similar works carried out by the Central Public Works Department (CPWD);
- (ii) preparation of detailed design and estimates shall precede any sanction for works;
- (iii) no work shall be undertaken before Issue of Administrative Approval and Expenditure Sanction by the competent Authority on the basis of estimates framed;
- (iv) Open tenders will be called for works costing Rs. Five lakh to Rs. Thirty lakh;
- (v) limited tenders will be called for works costing less than Rupees five lakhs;
- (vi) execution of Contract Agreement or Award of work should be done before commencement of the work;
- (vii) final payment for work shall be made only on the Personal Certificate of the Officer-in-charge of execution of the work in the format given below:  
"I ..... Executing Officer of (Name of the Work), am personally satisfied that the work has been executed as per the specifications laid down in the Contract Agreement and the workmanship is up to the standards followed in the Industry."

**Rule 140** For original/minor works and repair works entrusted as per Rule 133(2) or Rule 133(3), the Administrative Approval and Expenditure Sanction shall be accorded and funds allotted by the concerned authority under these rules and in accordance with the Delegation of Financial Power Rules. The Public Works Organisation or the Public Sector Undertaking or any Organisation allotted





work shall then execute the work entrusted to it in accordance with the rules and procedures prescribed in that organisation. A Memorandum of Understanding (MoU) may be drawn with Public Works Organisation or the Public Sector Undertaking for proper execution of work.

**Rule 141** **Review of Projects.** After a project costing Rs. 100 crore or above is approved, the Administrative Ministry or Department will set up a Review Committee consisting of a representative each from the Administrative Ministry, Finance (Internal Finance Wing) and the Executing Agency to review the progress of the work. The Review Committee shall have the powers to accept variation within 10% of the approved estimates. For works costing less than Rs. 100 crore, it will be at the discretion of the Administrative Ministry/Department to set up a suitable mechanism for review and acceptance of variation within 10% of the approved estimates.



## PROCUREMENT OF GOODS AND SERVICES

### PROCUREMENT OF GOODS

**Rule 142** This chapter contains the general rules applicable to all Ministries or Departments, regarding procurement of goods required for use in the public service. Detailed instructions relating to procurement of goods may be issued by the procuring departments broadly in conformity with the general rules contained in this Chapter.

**Rule 143 Definition of Goods.** The term 'goods' used in this chapter includes all articles, material, commodity, livestock, furniture, fixtures, raw material, spares, instruments, machinery, equipment, industrial plant, vehicles, aircraft, ships, medicines, railway rolling stock, assemblies, sub-assemblies, accessories, a group of machineries comprising of an integrated production process or such other category of goods or intangible products like software, technology transfer, licenses, patents or other intellectual properties purchased or otherwise acquired for the use of Government but excludes books, publications, periodicals, etc. for a library. The term 'goods' also includes works and services which are incidental or consequential to the supply of such goods, such as, transportation, insurance, installation, commissioning, training and maintenance.

**Rule 144 Fundamental principles of public buying (for all procurements including procurement of works).** Every authority delegated with the financial powers of procuring goods in public interest shall have the responsibility and accountability to bring efficiency, economy, and transparency in matters relating to public procurement and for fair and equitable treatment of suppliers and promotion of competition in public procurement.

The procedure to be followed in making public procurement must conform to the following yardsticks :-

- (i) The description of the subject matter of procurement to the extent practicable should -
  - a) be objective, functional, generic and measurable and specify technical, qualitative and performance characteristics.

- b) not indicate a requirement for a particular trade mark, trade name or brand.

- (ii) the specifications in terms of quality, type etc., as also quantity of goods to be procured, should be clearly spelt out keeping in view the specific needs of the procuring organisations. The specifications so worked out should meet the basic needs of the organisation without including superfluous and non-essential features, which may result in unwarranted expenditure.

- (iii) Where applicable, the technical specifications shall, to the extent practicable, be based on the national technical regulations or recognized national standards or building codes, wherever such standards exist, and in their absence, be based on the relevant international standards. In case of Government of India funded projects abroad, the technical specifications may be framed based on requirements and standards of the host beneficiary Government, where such standards exist.

Provided that a procuring entity may, for reasons to be recorded in writing, adopt any other technical specification.

- (iv) Care should also be taken to avoid purchasing quantities in excess of requirement to avoid inventory carrying costs.
- (v) offers should be invited following a fair, transparent and reasonable procedure.
- (vi) the procuring authority should be satisfied that the selected offer adequately meets the requirement in all respects.
- (vii) the procuring authority should satisfy itself that the price of the selected offer is reasonable and consistent with the quality required.
- (viii) at each stage of procurement the concerned procuring authority must place on record, in precise terms, the considerations which weighed with it while taking the procurement decision.
- (ix) a complete schedule of procurement



cycle from date of issuing the tender to date of issuing the contract should be published when the tender is issued.

- (x) All Ministries/Departments shall prepare Annual Procurement Plan before the commencement of the year and the same should also be placed on their website.

**Rule 145 Authorities competent to purchase goods.** An authority which is competent to incur expenditure may sanction the purchase of goods required for use in public service in accordance with provisions in the Delegation of Financial Powers Rules, following the general procedure contained in the following rules.

**Rule 146 Procurement of goods required on mobilisation** Procurement of goods required on mobilisation and/ or during the continuance of Military operations shall be regulated by special rules and orders issued by the Government on this behalf from time to time.

**Rule 147 Powers for procurement of goods.** The Ministries or Departments have been delegated full powers to make their own arrangements for procurement of goods. In case, however, a Ministry or Department does not have the required expertise, it may project its indent to the Central Purchase Organisation (e.g. DGS&D) with the approval of competent authority. The indent form to be utilised for this purpose will be as per the standard form evolved by the Central Purchase Organisation

**Rule 148 Rate Contract.** DGS&D shall conclude rate contracts with the registered suppliers for such goods, which are not available on GeM, and are identified as common use items and are needed on recurring basis by various Central Government Ministries or Departments. DGS&D will furnish and update all the relevant details of the rate contracts on its website. The Ministries or Departments shall follow those rate contracts to the maximum extent possible.

**Rule 149. Government e-Market place (GeM).** DGS&D or any other agency authorized by the Government will host an online Government e-Marketplace (GeM) for common use Goods and Services. DGS&D will ensure adequate publicity including periodic advertisement of the

items to be procured through GeM for the prospective suppliers. The Procurement of Goods and Services by Ministries or Departments will be mandatory for Goods or Services available on GeM. The credentials of suppliers on GeM shall be certified by DGS&D. The procuring authorities will certify the reasonability of rates. The GeM portal shall be utilized by the Government buyers for direct on-line purchases as under :-

- (i) Up to Rs.50,000/- through any of the available suppliers on the GeM, meeting the requisite quality, specification and delivery period.
- (ii) Above Rs.50,000/- and up to Rs.30,00,000/- through the GeM Seller having lowest price amongst the available sellers, of at least three different manufacturers, on GeM, meeting the requisite quality, specification and delivery period. The tools for online bidding and online reverse auction available on GeM can be used by the Buyer if decided by the competent authority.
- (iii) Above Rs.30,00,000/- through the supplier having lowest price meeting the requisite quality, specification and delivery period after mandatorily obtaining bids, using online bidding or reverse auction tool provided on GeM.
- (iv) The invitation for the online e-bidding/reverse auction will be available to all the existing Sellers or other Sellers registered on the portal and who have offered their goods/services under the particular product/service category, as per terms and conditions of GeM.
- (v) The above mentioned monetary ceiling is applicable only for purchases made through GeM. For purchases, if any, outside GeM, relevant GFR Rules shall apply.
- (vi) The Ministries/Departments shall work out their procurement requirements of Goods and Services on either "OPEX" model or "CAPEX" model as per their requirement/ suitability at the time of preparation of Budget Estimates (BE) and shall project their Annual Procurement Plan of goods and



services on GeM portal within 30 days of Budget approval.

- (vii) The Government Buyers may ascertain the reasonableness of prices before placement of order using the Business Analytics (BA) tools available on GeM including the Last Purchase Price on GeM, Department's own Last Purchase Price etc.
- (viii) A demand for goods shall not be divided into small quantities to make piecemeal purchases to avoid procurement through L-1 Buying / bidding / reverse auction on GeM or the necessity of obtaining the sanction of higher authorities required with reference to the estimated value of the total demand.

#### **Rule 150 Registration of Suppliers**

- (i) With a view to establishing reliable sources for procurement of goods commonly required for Government use, the Central Purchase Organisation (e.g. DGS&D) will prepare and maintain item-wise lists of eligible and capable suppliers. Such approved suppliers will be known as "Registered Suppliers". All Ministries or Departments may utilise these lists as and when necessary. Such registered suppliers are prima facie eligible for consideration for procurement of goods through Limited Tender Enquiry. They are also ordinarily exempted from furnishing bid security along with their bids. A Head of Department may also register suppliers of goods which are specifically required by that Department or Office, periodically. Registration of the supplier should be done following a fair, transparent and reasonable procedure and after giving due publicity.
- (ii) Credentials, manufacturing capability, quality control systems, past performance, after-sales service, financial background etc. of the supplier(s) should be carefully verified before registration.
- (iii) The supplier(s) will be registered for a fixed period (between 1 to 3 years) depending on the nature of the goods. At the end of this period, the registered

supplier(s) willing to continue with registration are to apply afresh for renewal of registration. New supplier(s) may also be considered for registration at any time, provided they fulfil all the required conditions.

- (iv) Performance and conduct of every registered supplier is to be watched by the concerned Ministry or Department. The registered supplier(s) are liable to be removed from the list of approved suppliers if they fail to abide by the terms and conditions of the registration or fail to supply the goods on time or supply substandard goods or make any false declaration to any Government agency or for any ground which, in the opinion of the Government, is not in public interest.
- (v) The list of registered suppliers for the subject matter of procurement be exhibited on the Central Public Procurement Portal and websites of the Procuring Entity/ e-Procurement/ portals.

#### **Rule 151 Debarment from bidding.**

- (i) A bidder shall be debarred if he has been convicted of an offence—
  - (a) under the Prevention of Corruption Act, 1988; or
  - (b) the Indian Penal Code or any other law for the time being in force, for causing any loss of life or property or causing a threat to public health as part of execution of a public procurement contract.
- (ii) A bidder debarred under sub-section (i) or any successor of the bidder shall not be eligible to participate in a procurement process of any procuring entity for a period not exceeding three years commencing from the date of debarment. Department of Commerce (DGS&D) will maintain such list which will also be displayed on the website of DGS&D as well as Central Public Procurement Portal.
- (iii) A procuring entity may debar a bidder or any of its successors, from participating in any procurement process undertaken by it, for a period not exceeding two years, if it determines that the bidder has breached the code of integrity. The



Ministry/Department will maintain such list which will also be displayed on their website.

- (iv) The bidder shall not be debarred unless such bidder has been given a reasonable opportunity to represent against such debarment

**Rule 152 Enlistment of Indian Agents.** As per the Compulsory Enlistment Scheme of the Department of Expenditure, Ministry of Finance, it is compulsory for Indian agents, who desire to quote directly on behalf of their foreign principals, to get themselves enlisted with the Central Purchase Organisation (eg. DGS&D). However, such enlistment is not equivalent to registration of suppliers as mentioned under Rule 150.

**Rule 153 Reserved Items and other Purchase/Price Preference Policy.**

- (i) The Central Government, through administrative instructions, has reserved all items of hand spun and hand-woven textiles (khadi goods) for exclusive purchase from Khadi Village Industries Commission (KVIC). It has also reserved all items of handloom textiles required by Central Government departments for exclusive purchase from KVIC and/or the notified handloom units of Association of Corporations and Apex Societies of Handlooms (ACASH).
- (ii) Ministry of Micro, Small and Medium Enterprises (MSME) have notified procurement policy under section 11 of the Micro, Small and Medium Enterprises Development Act, 2006.
- (iii) The Central Government may, by notification, provide for mandatory procurement of any goods or services from any category of bidders, or provide for preference to bidders on the grounds of promotion of locally manufactured goods or locally provided services.

**Rule 154 Purchase of goods without quotation**

Purchase of goods upto the value of Rs. 25,000 (Rupees twenty five thousand) only on each occasion may be made without inviting quotations or bids on the basis of a certificate to be recorded by the competent authority in the following format.

"I,, am personally satisfied that these goods purchased are of the requisite quality and specification and have been purchased from a reliable supplier at a reasonable price."

**Rule 155 Purchase of goods by Purchase Committee.** Purchase of goods costing above Rs. 25,000 (Rupees twenty five thousand only) and upto Rs.2,50,000/- (Rupees two lakh and fifty thousand only) on each occasion may be made on the recommendations of a duly constituted Local Purchase Committee consisting of three members of an appropriate level as decided by the Head of the Department. The committee will survey the market to ascertain the reasonableness of rate, quality and specifications and identify the appropriate supplier. Before recommending placement of the purchase order, the members of the committee will jointly record a certificate as under.

"Certified that we, members of the purchase committee are jointly and individually satisfied that the goods recommended for purchase are of the requisite specification and quality, priced at the prevailing market rate and the supplier recommended is reliable and competent to supply the goods in question, and it is not debarred by Department of Commerce or Ministry/ Department concerned."

**Rule 156 (1) Purchase of goods directly under Rate Contract.** In case a Ministry or Department directly procures Central Purchase Organisation (e.g. DGS&D) rate contracted goods from suppliers, the prices to be paid for such goods shall not exceed those stipulated in the rate contract and the other salient terms and conditions of the purchase should be in line with those specified in the Rate Contract. The Ministry or Department shall make its own arrangement for inspection and testing of such goods where ever required.

**Rule 156 (2)** The Central Purchase Organisation (e.g. DGS&D) should host the specifications, prices and other salient details of different rate contracted items, appropriately updated, on the web site for use by the procuring Ministry or Department.

**Rule 157** A demand for goods should not be divided



into small quantities to make piecemeal purchases to avoid the necessity of obtaining the sanction of higher authority required with reference to the estimated value of the total demand.

**Rule 158 Purchase of goods by obtaining bids.**

Except in cases covered under Rule 154, 155, and 156(1), Ministries or Departments shall procure goods under the powers referred to in Rule 147 above by following the standard method of obtaining bids in :

- (i) Advertised Tender Enquiry
- (ii) Limited Tender Enquiry
- (iii) Two-Stage Bidding
- (iv) Single Tender Enquiry
- (v) Electronic Reverse Auctions

**Rule 159 E-Publishing**

- (i) It is mandatory for all Ministries/ Departments of the Central Government, their attached and Subordinate Offices and Autonomous /Statutory Bodies to publish their tender enquiries, corrigenda thereon and details of bid awards on the Central Public Procurement Portal (CPPP).
- (ii) Individual cases where confidentiality is required, for reasons of national security, would be exempted from the mandatory e-publishing requirement. The decision to exempt any case on the said grounds should be approved by the Secretary of the Ministry/ Department with the concurrence of the concerned Financial Advisor. In the case of Autonomous Bodies and Statutory Bodies' approval of the Head of the Body with the concurrence of the Head of the Finance should be obtained in each such case. Statistical information on the number of cases in which exemption was granted and the value of the concerned contract should be intimated on a Quarterly basis to the Ministry of Finance, Department of Expenditure.
- (iii) The above instructions apply to all Tender Enquiries, Requests for Proposals, Requests for Expressions of Interest, Notice for pre Qualification/ Registration or any other notice

inviting bids or proposals in any form whether they are advertised, issued to limited number of parties or to a single party.

- (iv) In the case of procurements made through DGS&D Rate Contracts or through any other Central Procurement Organizations (CPOs) only award details need to be published.
- (v) These instructions would not apply to procurements made in terms of provisions of Rules 154 (Purchase of goods without quotations) or 155 (Purchase of goods by purchase committee) of General Financial Rules.

**Rule 160 E-Procurement**

- (i) It is mandatory for Ministries/ Departments to receive all bids through e-procurement portals in respect of all procurements.
- (ii) Ministries/ Departments which do not have a large volume of procurement or carry out procurements required only for day-to-day running of offices and also have not initiated e-procurement through any other solution provided so far, may use e-procurement solution developed by NIC. Other Ministries/ Departments may either use e-procurement solution developed by NIC or engage any other service provider following due process.
- (iii) These instructions will not apply to procurements made by Ministries / Departments through DGS&D Rate Contracts.
- (iv) In individual case where national security and strategic considerations demands confidentiality, Ministries/ Departments may exempt such cases from e-procurement after seeking approval of concerned Secretary and with concurrence of Financial Advisers.
- (v) In case of tenders floated by Indian Missions Abroad, Competent Authority to decide the tender, may exempt such case from e-procurement.

**Rule 161 Advertised Tender Enquiry**

- (i) Subject to exceptions incorporated





under Rule 154, 155, 162 and 166, invitation to tenders by advertisement should be used for procurement of goods of estimated value of Rs. 25 lakhs (Rupees Twenty Five Lakh) and above. Advertisement in such cases should be given on Central Public Procurement Portal (CPPP) at [www.eprocure.gov.in](http://www.eprocure.gov.in) and on GeM. An organisation having its own website should also publish all its advertised tender enquiries on the website.

- (ii) The organisation should also post the complete bidding document in its website and on CPPP to enable prospective bidders to make use of the document by downloading from the web site.
- (iii) The advertisements for invitation of tenders should give the complete web address from where the bidding documents can be downloaded.
- (iv) In order to promote wider participation and ease of bidding, no cost of tender document may be charged for the tender documents downloaded by the bidders.
- (iv) Where the Ministry or Department feels that the goods of the required quality, specifications etc., may not be available in the country and it is necessary to also look for suitable competitive offers from abroad, the Ministry or Department may send copies of the tender notice to the Indian Embassies abroad as well as to the foreign Embassies in India. The selection of the embassies will depend on the possibility of availability of the required goods in such countries. In such cases e-procurement as per Rule 160 may not be insisted.
- (v) Ordinarily, the minimum time to be allowed for submission of bids should be three weeks from the date of publication of the tender notice or availability of the bidding document for sale, whichever is later. Where the Department also contemplates obtaining bids from abroad, the minimum period should be kept as four weeks for both domestic and foreign bidders.

#### **Rule 162 Limited Tender Enquiry**

- (i) This method may be adopted when estimated value of the goods to be procured is up to Rupees Twenty five Lakhs. Copies of the bidding document should be sent directly by speed post/registered post/courier/ e-mail to firms which are borne on the list of registered suppliers for the goods in question as referred under Rule 150 above. The number of supplier firms in Limited Tender Enquiry should be more than three. Efforts should be made to identify a higher number of approved suppliers to obtain more responsive bids on competitive basis.

Further, an organisation should publish its limited tender enquiries on Central Public Procurement Portal (CPPP) as per Rule 159. Apart from CPPP, the organisations should publish the tender enquiries on the Department's or Ministry's web site.

- (ii) The unsolicited bids should not be accepted. However Ministries/ Departments should evolve a system by which interested firms can register and bid in next round of tendering.
- (iii) Purchase through Limited Tender Enquiry may be adopted even where the estimated value of the procurement is more than Rupees twenty-five Lakhs, in the following circumstances.
  - (a) The competent authority in the Ministry or Department certifies that the demand is urgent and any additional expenditure involved by not procuring through advertised tender enquiry is justified in view of urgency. The Ministry or Department should also put on record the nature of the urgency and reasons why the procurement could not be anticipated.
  - (b) There are sufficient reasons, to be recorded in writing by the competent authority, indicating that it will not be in public interest to procure the goods through advertised tender enquiry.
  - (c) The sources of supply are definitely known and possibility of



fresh source(s) beyond those being tapped is remote.

- (iv) Sufficient time should be allowed for submission of bids in Limited Tender Enquiry cases.

**Rule 163 Two bid system (simultaneous receipt of separate technical and financial bids) :** For purchasing high value plant, machinery etc. of a complex and technical nature, bids may be obtained in two parts as under :

- (i) Technical bid consisting of all technical details along with commercial terms and conditions; and
- (ii) Financial bid indicating item-wise price for the items mentioned in the technical bid.

The technical bid and the financial bid should be sealed by the bidder in separate covers duly super-scribed and both these sealed covers are to be put in a bigger cover which should also be sealed and duly super-scribed. The technical bids are to be opened by the purchasing Ministry or Department at the first instance and evaluated by a competent committee or authority. At the second stage financial bids of only these technically acceptable offers should be opened after intimating them the date and time of opening the financial bid for further evaluation and ranking before awarding the contract.

**Rule 164 Two-Stage Bidding** (Obtain bids in two stages with receipt of financial bids after receipt and evaluation of technical bids)

- (i) Ministry/Department may procure the subject matter of procurement by the method of two-stage bidding, if
  - (a) it is not feasible to formulate detailed specifications or identify specific characteristics for the subject matter of procurement, without receiving inputs regarding its technical aspects from bidders; or
  - (b) the character of the subject matter of procurement is subject to rapid technological advances or market fluctuations or both; or
  - (c) Ministry/Department seeks to enter into a contract for the purpose of research, experiment,

study or development, except where the contract includes the production of items in quantities sufficient to establish their commercial viability or to recover research and development costs; or

- (d) The bidder is expected to carry out a detailed survey or investigation and undertake a comprehensive assessment of risks, costs and obligations associated with the particular procurement.
- (ii) The procedure for two stage bidding shall include the following, namely:—
  - (a) in the first stage of the bidding process, the Ministry/Department shall invite bids through advertised tender containing the technical aspects and contractual terms and conditions of the proposed procurement without a bid price;
  - (b) all first stage bids, which are otherwise eligible, shall be evaluated through an appropriate committee constituted by the Ministry/Department;
  - (c) the committee may hold discussions with the bidders and if any such discussion is held, equal opportunity shall be given to all bidders to participate in the discussions;
  - (d) in revising the relevant terms and conditions of the procurement, the procuring entity shall not modify the fundamental nature of the procurement itself, but may add, amend or omit any specification of the subject matter of procurement or criterion for evaluation;
  - (e) in the second stage of the bidding process, the procuring entity shall invite bids from all those bidders whose bids at the first stage were not rejected, to present final bid with bid prices in response to a revised set of terms and conditions of the procurement;
  - (f) any bidder, invited to bid but not in a position to supply the subject



matter of procurement due to modification in the specifications or terms and conditions, may withdraw from the bidding proceedings without forfeiting any bid security that he may have been required to provide or being penalised in any way, by declaring his intention to withdraw from the procurement proceedings with adequate justification.

**Rule 165 Late Bids.** In the case of advertised tender enquiry or limited tender enquiry, late bids (i.e. bids received after the specified date and time for receipt of bids) should not be considered.

**Rule 166 Single Tender Enquiry.** Procurement from a single source may be resorted to in the following circumstances :

- (i) It is in the knowledge of the user department that only a particular firm is the manufacturer of the required goods
- (ii) In a case of emergency, the required goods are necessarily to be purchased from a particular source and the reason for such decision is to be recorded and approval of competent authority obtained.
- (iii) For standardisation of machinery or spare parts to be compatible to the existing sets of equipment (on the advice of a competent technical expert and approved by the competent authority), the required item is to be purchased only from a selected firm

**Note :** Proprietary Article Certificate in the following form is to be provided by the Ministry/Department before procuring the goods from a single source under the provision of sub Rule 166 (i) and 166 (iii) as applicable.

- (i) The indented goods are manufactured by M/s.....
- (ii) No other make or model is acceptable for the following reasons :  
.....
- (iii) Concurrence of finance wing to the proposal vide: .....
- (iv) Approval of the competent authority vide:

(Signature with date and designation of the indenting officer)

#### **Rule 167 Electronic Reverse Auction**

- (i) Electronic Reverse Auction means an online real-time purchasing technique utilised by the procuring entity to select the successful bid, which involves presentation by bidders of successively more favourable bids during a scheduled period of time and automatic evaluation of bids;
- (ii) A procuring entity may choose to procure a subject matter of procurement by the electronic reverse auction method, if:
  - (a) It is feasible for the procuring entity to formulate a detailed description of the subject matter of the procurement;
  - (b) There is a competitive market of bidders anticipated to be qualified to participate in the electronic reverse auction, so that effective competition is ensured;
  - (c) The criteria to be used by the procuring entity in determining the successful bid are quantifiable and can be expressed in monetary terms; and
- (iii) The procedure for electronic reverse auction shall include the following, namely:
  - (a) The procuring entity shall solicit bids through an invitation to the electronic reverse auction to be published or communicated in accordance with the provisions similar to e-procurement; and
  - (b) The invitation shall, in addition to the information as specified in e-procurement, include details relating to access to and registration for the auction, opening and closing of the auction and Norms for conduct of the auction.

#### **Rule 168 Contents of Bidding Document**

All the terms, conditions, stipulations and information to be incorporated in the bidding document are to be shown in the appropriate chapters as below :-

Chapter – 1: Instructions to Bidders.



- Chapter – 2: Conditions of Contract.
- Chapter – 3: Schedule of Requirements.
- Chapter – 4: Specifications and allied Technical Details.
- Chapter – 5: Price Schedule (to be utilised by the bidders for quoting their prices).
- Chapter – 6: Contract Form.
- Chapter – 7: Other Standard Forms, if any, to be utilised by the purchaser and the bidders.

**Rule 169 Maintenance Contract.** Depending on the cost and nature of the goods to be purchased, it may also be necessary to enter into maintenance contract(s) of suitable period either with the supplier of the goods or with any other competent firm, not necessarily the supplier of the subject goods. Such maintenance contracts are especially needed for sophisticated and costly equipment and machinery. It may, however, be kept in mind that the equipment or machinery is maintained free of charge by the supplier during its warranty period or such other extended periods as the contract terms may provide and the paid maintenance should commence only thereafter.

#### **Rule 170 Bid Security**

- (i) To safeguard against a bidder's withdrawing or altering its bid during the bid validity period in the case of advertised or limited tender enquiry, Bid Security (also known as Earnest Money) is to be obtained from the bidders except Micro and Small Enterprises (MSEs) as defined in MSE Procurement Policy issued by Department of Micro, Small and Medium Enterprises (MSME) or are registered with the Central Purchase Organisation or the concerned Ministry or Department. The bidders should be asked to furnish bid security along with their bids. Amount of bid security should ordinarily range between two percent to five percent of the estimated value of the goods to be procured. The amount of bid security should be determined accordingly by the Ministry or Department and indicated in the bidding documents. The bid security may be accepted in the form of Account Payee Demand

Draft, Fixed Deposit Receipt, Banker's Cheque or Bank Guarantee from any of the Commercial Banks or payment online in an acceptable form, safeguarding the purchaser's interest in all respects. The bid security is normally to remain valid for a period of forty-five days beyond the final bid validity period.

- (ii) Bid securities of the unsuccessful bidders should be returned to them at the earliest after expiry of the final bid validity and latest on or before the 30th day after the award of the contract.
- (iii) In place of a Bid security, the Ministries/ Departments may require Bidders to sign a Bid securing declaration accepting that if they withdraw or modify their Bids during the period of validity, or if they are awarded the contract and they fail to sign the contract, or to submit a performance security before the deadline defined in the request for bids document, they will be suspended for the period of time specified in the request for bids document from being eligible to submit Bids for contracts with the entity that invited the Bids.

#### **Rule 171 Performance Security**

- (i) To ensure due performance of the contract, Performance Security is to be obtained from the successful bidder awarded the contract. Unlike contracts of Works and Plants, in case of contracts for goods, the need for the Performance Security depends on the market conditions and commercial practice for the particular kind of goods. Performance Security should be for an amount of five to ten per cent. of the value of the contract as specified in the bid documents. Performance Security may be furnished in the form of an Account Payee Demand Draft, Fixed Deposit Receipt from a Commercial bank, Bank Guarantee from a Commercial bank or online payment in an acceptable form safeguarding the purchaser's interest in all respects.
- (ii) Performance Security should remain valid for a period of sixty days beyond the date of completion of all



contractual obligations of the supplier including warranty obligations.

- (iii) Bid security should be refunded to the successful bidder on receipt of Performance Security.

**Rule 172 (1) Advance payment to supplier**

Ordinarily, payments for services rendered or supplies made should be released only after the services have been rendered or supplies made. However, it may become necessary to make advance payments for example in the following types of cases :-

- (i) Advance payment demanded by firms holding maintenance contracts for servicing of Air-conditioners, computers, other costly equipment, etc.
- (ii) Advance payment demanded by firms against fabrication contracts, turn-key contracts etc.

Such advance payments should not exceed the following limits :

- (a) Thirty per cent. of the contract value to private firms;
- (b) Forty per cent. of the contract value to a State or Central Government agency or a Public Sector Undertaking; or
- (c) in case of maintenance contract, the amount should not exceed the amount payable for six months under the contract.

Ministries or Departments of the Central Government may relax, in consultation with their Financial Advisers concerned, the ceilings (including percentage laid down for advance payment for private firms) mentioned above. While making any advance payment as above, adequate safeguards in the form of bank guarantee etc. should be obtained from the firm.

**Rule 172 (2) Part payment to suppliers:**

Depending on the terms of delivery incorporated in a contract, part payment to the supplier may be released after it dispatches the goods from its premises in terms of the contract.

**Rule 173 Transparency, competition, fairness and elimination of arbitrariness in the procurement process** All government

purchases should be made in a transparent, competitive and fair manner, to secure best value for money. This will also enable the prospective bidders to formulate and send their competitive bids with confidence. Some of the measures for ensuring the above are as follows:-

- (i) the text of the bidding document should be self-contained and comprehensive without any ambiguities. All essential information, which a bidder needs for sending responsive bid, should be clearly spelt out in the bidding document in simple language. The condition of prior turnover and prior experience may be relaxed for Startups (as defined by Department of Industrial Policy and Promotion) subject to meeting of quality & technical specifications and making suitable provisions in the bidding document. The bidding document should contain, inter alia.
  - (a) Description and Specifications of goods including the nature, quantity, time and place or places of delivery.
  - (b) the criteria for eligibility and qualifications to be met by the bidders such as minimum level of experience, past performance, technical capability, manufacturing facilities and financial position etc or limitation for participation of the bidders, if any.
  - (c) eligibility criteria for goods indicating any legal restrictions or conditions about the origin of goods etc which may required to be met by the successful bidder.
  - (d) the procedure as well as date, time and place for sending the bids.
  - (e) date, time and place of opening of the bid.
  - (e) Criteria for evaluation of bids
  - (f) special terms affecting performance, if any.
  - (g) Essential terms of the procurement contract





- (h) Bidding Documents should include a clause that "if a firm quotes NIL charges/ consideration, the bid shall be treated as unresponsive and will not be considered".
- (ii) Any other information which the procuring entity considers necessary for the bidders to submit their bids.
- (iii) Modification to bidding document:
  - (a) In case any modification is made to the bidding document or any clarification is issued which materially affects the terms contained in the bidding document, the procuring entity shall publish or communicate such modification or clarification in the same manner as the publication or communication of the initial bidding document was made.
  - (b) In case a clarification or modification is issued to the bidding document, the procuring entity shall, before the last date for submission of bids, extend such time limit, if, in its opinion more time is required by bidders to take into account the clarification or modification, as the case may be, while submitting their bids.
  - (c) Any bidder who has submitted his bid in response to the original invitation shall have the opportunity to modify or re-submit it, as the case may be, or withdraw such bid in case the modification to bidding document materially affect the essential terms of the procurement, within the period initially allotted or such extended time as may be allowed for submission of bids, after the modifications are made to the bidding document by the procuring entity:  
Provided that the bid last submitted or the bid as modified by the bidder shall be considered for evaluation
- (iv) Suitable provision should be kept in the bidding document to enable a bidder to question the bidding conditions, bidding process and/ or rejection of its bid. The reasons for rejecting a tender or non-issuing a tender document to a prospective bidder must be disclosed where enquiries are made by the bidder.
- (v) Suitable provision for settlement of disputes, if any, emanating from the resultant contract, should be kept in the bidding document.
- (vi) The bidding document should indicate clearly that the resultant contract will be interpreted under Indian Laws.
- (vii) The bidders should be given reasonable time to prepare and send their bids.
- (viii) The bids should be opened in public and authorised representatives of the bidders should be permitted to attend the bid opening.
- (ix) The specifications of the required goods should be clearly stated without any ambiguity so that the prospective bidders can send meaningful bids. In order to attract sufficient number of bidders, the specification should be broad based to the extent feasible
- (x) Pre-bid conference: In case of turn-key contract(s) or contract(s) of special nature for procurement of sophisticated and costly equipment or wherever felt necessary, a suitable provision is to be kept in the bidding documents for one or more rounds of pre-bid conference for clarifying issues and clearing doubts, if any, about the specifications and other allied technical details of the plant, equipment and machinery etc. projected in the bidding document. The date, time and place of pre-bid conference should be indicated in the bidding document. This date should be sufficiently ahead of bid opening date. The records of such conference shall be intimated to all bidders and, shall also be exhibited on the website(s) where tender was published.
- (xi) Criteria for determining





responsiveness are to be taken into account for evaluating the bids such as:

- (a) time of delivery.
  - (b) Performance/ efficiency/ environmental characteristics.
  - (c) the terms of payment and of guarantees in respect of the subject matter of procurement
  - (d) price.
  - (e) cost of operating, maintaining and repairing etc.
- (xii) Bids received should be evaluated in terms of the conditions already incorporated in the bidding documents; No new condition which was not incorporated in the bidding documents should be brought in for evaluation of the bids. Determination of a bid's responsiveness should be based on the contents of the bid itself without recourse to extrinsic evidence.
  - (xiii) Bidders should not be permitted to alter or modify their bids after expiry of the deadline for receipt of bids.
  - (xiv) Negotiation with bidders after bid opening must be severely discouraged. However, in exceptional circumstances where price negotiation against an ad-hoc procurement is necessary due to some unavoidable circumstances, the same may be resorted to only with the lowest evaluated responsive bidder.
  - (xv) In the Rate Contract system, where a number of firms are brought on Rate Contract for the same item, negotiation as well as counter offering of rates are permitted to the bidders and for this purpose special permission has been given to the Directorate General of Supplies and Disposals (DGS&D).
  - (xvi) Contract should ordinarily be awarded to the lowest evaluated bidder whose bid has been found to be responsive and who is eligible and qualified to perform the contract satisfactorily as per the terms and conditions incorporated in the corresponding bidding document. However, where the lowest acceptable bidder against ad-hoc requirement is not in a position to supply the full quantity required, the remaining quantity, as far as possible, be ordered from the next higher responsive bidder at the rates offered by the lowest responsive bidder.
  - (xvii) Procurement of Energy Efficient Electrical Appliances: Ministries/ Departments while procuring electrical appliances notified by Department of Expenditure shall ensure that they carry the notified threshold or higher Star Rating of Bureau of Energy Efficiency (BEE).
  - (xviii) The name of the successful bidder awarded the contract should be mentioned in the CPPP, Ministries or Departments website and their notice board or bulletin.
  - (xix) Rejection of all Bids is justified when
    - a. effective competition is lacking.
    - b. all Bids and Proposals are not substantially responsive to the requirements of the Procurement Documents.
    - c. the Bids'/Proposals' prices are substantially higher than the updated cost estimate or available budget; or
    - d. none of the technical Proposals meets the minimum technical qualifying score.
  - (xx) Lack of competition in rule 173(xix) shall not be determined solely on the basis of the number of Bidders. Even when only one Bid is submitted, the process may be considered valid provided following conditions are satisfied:
    - a. the procurement was satisfactorily advertised and sufficient time was given for submission of bids.
    - b. the qualification criteria were not unduly restrictive; and
    - c. prices are reasonable in comparison to market values
  - (xxi) When a limited or open tender results in only one effective offer, it shall be treated as a single tender contract.



- (xxii) In case a purchase Committee is constituted to purchase or recommend the procurement, no member of the purchase Committee should be reporting directly to any other member of such Committee in case estimated value of procurement exceeds Rs. 25 lakhs.

**Rule 174 Efficiency, Economy and Accountability in Public Procurement System.** Public procurement procedure should ensure efficiency, economy and accountability in the system. To achieve the same, the following keys areas should be addressed :

- (i) To reduce delay, appropriate time frame for each stage of procurement should be prescribed by the Ministry or Department.
- (ii) To minimise the time needed for decision making and placement of contract, every Ministry/Department, with the approval of the competent authority, may delegate, wherever necessary, appropriate purchasing powers to the lower functionaries.
- (iii) The Ministries or Departments should ensure placement of contract within the original validity of the bids. Extension of bid validity must be discouraged and resorted to only in exceptional circumstances.
- (iv) The Central Purchase Organisation (e.g. DGS&D) should bring into the Rate Contract system more and more common user items which are frequently needed in bulk by various Central Government Departments. The Central Purchase Organisation (e.g. DGS&D) should also ensure that the Rate Contracts remain available without any break.

**Rule 175 (1) Code of Integrity**

No official of a procuring entity or a bidder shall act in contravention of the codes which includes

- (i) prohibition of
  - (a) making offer, solicitation or acceptance of bribe, reward or gift or any material benefit, either directly or indirectly, in exchange for an unfair advantage in the procurement process or to

otherwise influence the procurement process.

- (b) any omission, or misrepresentation that may mislead or attempt to mislead so that financial or other benefit may be obtained or an obligation avoided.
- (c) any collusion, bid rigging or anti-competitive behavior that may impair the transparency, fairness and the progress of the procurement process.
- (d) improper use of information provided by the procuring entity to the bidder with an intent to gain unfair advantage in the procurement process or for personal gain.
- (e) any financial or business transactions between the bidder and any official of the procuring entity related to tender or execution process of contract; which can affect the decision of the procuring entity directly or indirectly.
- (f) any coercion or any threat to impair or harm, directly or indirectly, any party or its property to influence the procurement process.
- (g) obstruction of any investigation or auditing of a procurement process.
- (h) making false declaration or providing false information for participation in a tender process or to secure a contract;
- (ii) disclosure of conflict of interest.
- (iii) Disclosure by the bidder of any previous transgressions made in respect of the provisions of sub-clause (i) with any entity in any country during the last three years or of being debarred by any other procuring entity.

**Rule 175 (2)** The procuring entity, after giving a reasonable opportunity of being heard, comes to the conclusion that a bidder or prospective bidder, as the case may be, has contravened the code of integrity, may take appropriate measures.



**Rule 176 Buy-Back Offer**

When it is decided with the approval of the competent authority to replace an existing old item(s) with a new and better version, the department may trade the existing old item while purchasing the new one. For this purpose, a suitable clause is to be incorporated in the bidding document so that the prospective and interested bidders formulate their bids accordingly. Depending on the value and condition of the old item to be traded, the time as well as the mode of handing over the old item to the successful bidder should be decided and relevant details in this regard suitably incorporated in the bidding document. Further, suitable provision should also be kept in the bidding document to enable the purchaser either to trade or not to trade the item while purchasing the new one.

**PROCUREMENT OF SERVICES**

**A. CONSULTING SERVICES**

**Rule 177 "Consulting Service"** means any subject matter of procurement (which as distinguished from 'Non- Consultancy Services' involves primarily non-physical project-specific, intellectual and procedural processes where outcomes/deliverables would vary from one consultant to another), other than goods or works, except those incidental or consequential to the service, and includes professional, intellectual, training and advisory services or any other service classified or declared as such by a procuring entity but does not include direct engagement of a retired Government servant.

**Note:** These Services typically involve providing expert or strategic advice e.g., management consultants, policy consultants, communications consultants, Advisory and project related Consulting Services which include, feasibility studies, project management, engineering services, finance, accounting and taxation services, training and development etc.

**Rule 178** The Ministries or Departments may hire external professionals, consultancy firms or consultants (referred to as consultant hereinafter) for a specific job, which is well defined in terms of content and time frame for its completion.

**Rule 179** This chapter contains the fundamental principles applicable to all Ministries or Departments regarding engagement of consultant(s). Detailed instructions to this effect may be issued by the concerned Ministries or Departments. However, the Ministries or Departments shall ensure that they do not contravene the basic rules contained in this chapter.

**Rule 180 Identification of Services required to be performed by Consultants:** Engagement of consultants may be resorted to in situations requiring high quality services for which the concerned Ministry/ Department does not have requisite expertise. Approval of the competent authority should be obtained before engaging consultant(s).

**Rule 181 Preparation of scope of the required Consultant(s):** The Ministries/ Departments should prepare in simple and concise language the requirement, objectives and the scope of the assignment. The eligibility and prequalification criteria to be met by the consultants should also be clearly identified at this stage.

**Rule 182 Estimating reasonable expenditure:** Ministry or Department proposing to engage consultant(s) should estimate reasonable expenditure for the same by ascertaining the prevalent market conditions and consulting other organisations engaged in similar activities.

**Rule 183 Identification of likely sources.**

- (i) Where the estimated cost of the consulting service is up to Rupees twenty-five lakhs, preparation of a long list of potential consultants may be done on the basis of formal or informal enquiries from other Ministries or Departments or Organisations involved in similar activities, Chambers of Commerce & Industry, Association of consultancy firms etc.
- (ii) Where the estimated cost of the consulting services is above Rupees twenty-five lakhs, in addition to (i) above, an enquiry for seeking 'Expression of Interest' from consultants should be published on Central Public Procurement Portal (CPPP) at [www.eprocure.gov.in](http://www.eprocure.gov.in) and on



GeM. An organisation having its own website should also publish all its advertised tender enquiries on the website. Enquiry for seeking Expression of Interest should include in brief, the broad scope of work or service, inputs to be provided by the Ministry or Department, eligibility and the pre-qualification criteria to be met by the consultant(s) and consultant's past experience in similar work or service. The consultants may also be asked to send their comments on the objectives and scope of the work or service projected in the enquiry. Adequate time should be allowed for getting responses from interested consultants.

**Rule 184 Short listing of consultants.** On the basis of responses received from the interested parties as per Rule 183 above, consultants meeting the requirements should be short listed for further consideration. The number of short listed consultants should not be less than three.

**Rule 185 Preparation of Terms of Reference (TOR).**

The TOR should include

- (i) Precise statement of objectives.
- (ii) Outline of the tasks to be carried out.
- (iii) Schedule for completion of tasks.
- (iv) The support or inputs to be provided by the Ministry or Department to facilitate the consultancy.
- (v) The final outputs that will be required of the Consultant.

**Rule 186 Preparation and Issue of Request for Proposal (RFP).** RFP is the document to be used by the Ministry/Department for obtaining offers from the consultants for the required service. The RFP should be issued to the shortlisted consultants to seek their technical and financial proposals. The RFP should contain :

- (i) A letter of Invitation
- (ii) Information to Consultants regarding the procedure for submission of proposal.
- (iii) Terms of Reference (TOR).
- (iv) Eligibility and pre-qualification criteria in case the same has not been ascertained through Enquiry for Expression of Interest.

- (v) List of key position whose CV and experience would be evaluated.
- (vi) Bid evaluation criteria and selection procedure.
- (vii) Standard formats for technical and financial proposal.
- (viii) Proposed contract terms.
- (ix) Procedure proposed to be followed for midterm review of the progress of the work and review of the final draft report.

**Rule 187 Receipt and opening of proposals**

Proposals should ordinarily be asked for from consultants in 'Two bid' system with technical and financial bids sealed separately. The bidder should put these two sealed envelopes in a bigger envelope duly sealed and submit the same to the Ministry or Department by the specified date and time at the specified place. On receipt, the technical proposals should be opened first by the Ministry or Department at the specified date, time and place.

**Rule 188 Late Bids.** Late bids i.e. bids received after the specified date and time of receipt should not be considered.

**Rule 189 Evaluation of Technical Bids:** Technical bids should be analysed and evaluated by a Consultancy Evaluation Committee (CEC) constituted by the Ministry or Department. The CEC shall record in detail the reasons for acceptance or rejection of the technical proposals analysed and evaluated by it.

**Rule 190 Evaluation of Financial Bids of the technically qualified bidders:** The Ministry or Department shall open the financial bids of only those bidders who have been declared technically qualified by the Consultancy Evaluation Committee as per Rule 189 above for further analysis or evaluation and ranking and selecting the successful bidder for placement of the consultancy contract.

**Rule 191 Methods of Selection/ Evaluation of Consultancy Proposals**

The basis of selection of the consultant shall follow any of the methods given in Rule 192 to 194 as appropriate for the circumstances in each case.

**Rule 192. Quality and Cost Based Selection (QCBS):** QCBS may be used for Procurement of consultancy services,



where quality of consultancy is of prime concern.

- (i) In QCBS initially the quality of technical proposals is scored as per criteria announced in the RFP. Only those responsive proposals that have achieved at least minimum specified qualifying score in quality of technical proposal are considered further.
- (ii) After opening and scoring, the Financial proposals of responsive technically qualified bidders, a final combined score is arrived at by giving predefined relative weight ages for the score of quality of the technical proposal and the score of financial proposal.
- (iii) The RFP shall specify the minimum qualifying score for the quality of technical proposal and also the relative weight ages to be given to the quality and cost (determined for each case depending on the relative importance of quality vis-a-vis cost aspects in the assignment, e.g. 70:30, 60:40, 50:50 etc). The proposal with the highest weighted combined score (quality and cost) shall be selected.
- (iv) The weight age of the technical parameters i.e. non- financial parameters in no case should exceed 80 percent.

**Rule 193 Least Cost System (LCS).** LCS is appropriate for assignments of a standard or routine nature (such as audits and engineering design of non-complex works) where well established methodologies, practices and standards exist. Unlike QCBS, there is no weight age for Technical score in the final evaluation and the responsive technically qualified proposal with the lowest evaluated cost shall be selected.

**Rule 194 Single Source Selection/Consultancy by nomination.** The selection by direct negotiation/nomination, on the lines of Single Tender mode of procurement of goods, is considered appropriate only under exceptional circumstance such as:

- (i) tasks that represent a natural continuation of previous work carried out by the firm;
- (ii) in case of an emergency situation, situations arising after natural

disasters, situations where timely completion of the assignment is of utmost importance; and

- (iii) situations where execution of the assignment may involve use of proprietary techniques or only one consultant has requisite expertise.
- (iv) Under some special circumstances, it may become necessary to select a particular consultant where adequate justification is available for such single-source selection in the context of the overall interest of the Ministry or Department. Full justification for single source selection should be recorded in the file and approval of the competent authority obtained before resorting to such single-source selection.
- (v) It shall ensure fairness and equity, and shall have a procedure in place to ensure that the prices are reasonable and consistent with market rates for tasks of a similar nature; and the required consultancy services are not split into smaller sized procurement.

**Rule 195 Monitoring the Contract.** The Ministry/Department should be involved throughout in the conduct of consultancy, preferably by taking a task force approach and continuously monitoring the performance of the consultant(s) so that the output of the consultancy is in line with the Ministry /Department's objectives.

**Rule 196 Public competition for Design of symbols/logos.** Design competition should be conducted in a transparent, fair and objective manner. Wide publicity should be given to the competition so as to ensure that the information is accessible to all possible participants in the competition. This should include publication on the website of Ministry/Department concerned, as also the Central Public Procurement Portal. If the selection has been by a jury of experts nominated for the purpose, the composition of the jury may also be notified.

## **B. OUTSOURCING OF SERVICES**

**Rule 197 "Non-Consulting Service"** means any subject matter of procurement (which as distinguished from 'Consultancy





Services'), involve physical, measurable deliverables/ outcomes, where performance standards can be clearly identified and consistently applied, other than goods or works, except those incidental or consequential to the service, and includes maintenance, hiring of vehicle, outsourcing of building facilities management, security, photocopier service, janitor, office errand services, drilling, aerial photography, satellite imagery, mapping etc.

**Rule 198 Procurement of Non-consulting Services.**

A Ministry or Department may procure certain non-consulting services in the interest of economy and efficiency and it may prescribe detailed instructions and procedures for this purpose without, however, contravening the following basic guidelines.

**Rule 199 Identification of likely contractors.**

The Ministry or Department should prepare a list of likely and potential contractors on the basis of formal or informal enquiries from other Ministries or Departments and Organisations involved in similar activities, scrutiny of 'Yellow pages', and trade journals, if available, web site etc.

**Rule 200 Preparation of Tender enquiry.**

Ministry or Department should prepare a tender enquiry containing, inter alia :

- (i) The details of the work or service to be performed by the contractor;
- (ii) The facilities and the inputs which will be provided to the contractor by the Ministry or Department;
- (iii) Eligibility and qualification criteria to be met by the contractor for performing the required work/service; and
- (iv) The statutory and contractual obligations to be complied with by the contractor.

**Rule 201 Invitation of Bids.**

- (i) For estimated value of the non-consulting service up to Rupees ten lakhs or less: The Ministry or Department should scrutinise the preliminary list of likely contractors as identified as per Rule 199 above, decide the prima facie Eligible and

capable contractors and issue limited tender enquiry to them asking for their offers by a specified date and time etc. as per standard practice. The number of the contractors so identified for issuing limited tender enquiry should be more than three.

- (ii) For estimated value of the non-consulting service above Rs.10 lakhs: The Ministry or Department should issue advertisement in such case should be given on Central Public Procurement Portal(CPPP)at [www.eprocure.gov.in](http://www.eprocure.gov.in) and on GeM. An organisation having its own website should also publish all its advertised tender enquiries on the website. The advertisements for invitation of tenders should give the complete web address from where the bidding documents can be downloaded.

**Rule 202 Late Bids.** Late bids i.e. bids received after the specified date and time of receipt should not be considered.

**Rule 203 Evaluation of Bids Received.**

The Ministry or Department should evaluate, segregate, rank the responsive bids and select the successful bidder for placement of the contract.

**Rule 204 Procurement of Non-consulting services by nomination.** Should it become necessary, in an exceptional situation to procure a non-consulting service from a specifically chosen contractor, the Competent Authority in the Ministry or Department may do so in consultation with the Financial Adviser. In such cases the detailed justification, the circumstances leading to such procurement by choice and the special interest or purpose it shall serve, shall form an integral part of the proposal.

**Rule 205 Monitoring the Contract.** The Ministry or Department should be involved throughout in the conduct of the contract and continuously monitor the performance of the contractor.

**Rule 206** Any circumstances which are not covered in Rule 198 to Rule 205 for procurement of non-consulting services, the procuring entity may refer Rule 135 to Rule 176 pertaining to procurement of goods and not to the procurement of consulting services.





## INVENTORY MANAGEMENT

**Rule 207** This chapter contains the basic rules applicable to all Ministries or Departments regarding inventory management. Detailed instructions and procedures relating to inventory management may be prescribed by various Ministries or Departments broadly in conformity with the basic rules contained in this chapter.

**Rule 208 (1) Receipt of goods and materials from private suppliers.**

- (i) While receiving goods and materials from a supplier, the officer-in-charge of stores should refer to the relevant contract terms and follow the prescribed procedure for receiving the materials.
- (ii) All materials shall be counted, measured or weighed and subjected to visual inspection at the time of receipt to ensure that the quantities are correct, the quality is according to the required specifications and there is no damage or deficiency in the materials. Technical inspection where required should be carried out at this stage by Technical Inspector or Agency approved for the purpose. An appropriate receipt, in terms of the relevant contract provisions may also be given to the supplier on receiving the materials.
- (iii) Details of the material so received should thereafter be entered in the appropriate stock register, preferably in an IT-based system. The officer-in-charge of stores should certify that he has actually received the material and recorded it in the appropriate stock registers.

**Rule 209 Receipt/issue of goods and materials from internal divisions of the same organisation.**

- (i) The indenting officer requiring goods and materials from internal division(s) of the same organisation should project an indent in the prescribed form for this purpose. While receiving the supply against the indent, the indenting officer shall examine, count, measure or weigh the materials as the case may be, to ensure that the quantities are correct, the quality is in line with the required specifications and there is no damage or deficiency in the materials. An appropriate

receipt shall also be given to this effect by the indenting officer to the division sending the materials.

- (ii) In the case of issue of materials from stock for departmental use, manufacture, sale, etc., the Officer-in-charge of the stores shall see that an appropriate indent, in the prescribed form has been projected by the indenting officer. A written/online acknowledgement of receipt of material issued shall be obtained from the indenting officer or his authorised representative at the time of issue of materials.
- (iii) In case of materials issued to a contractor, the cost of which is recoverable from the contractor, all relevant particulars, including the recovery rates and the total value chargeable to the contractor should be got acknowledged from the contractor duly signed and dated.
- (iv) If the Officer-in-charge of the stores is unable to comply with the indent in full, he should make the supply to the extent available and make suitable entry to this effect in the indenter's copy of the indent. In case alternative materials are available in lieu of the indented materials, a suitable indication to this effect may be made in the document.

**Rule 210 Custody of goods and materials.** The officer-in-charge of stores having custody of goods and materials, especially valuable and/or combustible articles, shall take appropriate steps for arranging their safe custody, proper storage accommodation, including arrangements for maintaining required temperature, dust free environment etc.

**Rule 211 Lists and Accounts.**

- (i) The Officer-in-charge of stores shall maintain suitable item-wise lists and accounts and prepare accurate returns in respect of the goods and materials in his charge making it possible at any point of time to check the actual balances with the book balances.

The form of the stock accounts mentioned above shall be determined with reference to the nature of the



goods and materials, the frequency of the transactions and the special requirements of the concerned Ministries/Departments.

- (ii) Separate accounts shall be kept for
  - (a) Fixed Assets such as plant, machinery, equipment, furniture, fixtures etc. in the Form GFR-22.
  - (b) Consumables such as office stationery, chemicals, maintenance spare parts etc. in the Form GFR-23.
  - (c) Library books in the Form GFR 18
  - (d) Assets of historical/artistic value held by museum/government departments in the Form GFR-24.

Note: These forms can be supplemented with additional details by Ministries/Departments as required.

**Rule 212 Hiring out of Fixed Assets.** When a fixed asset is hired to local bodies, contractors or others, proper record should be kept of the assets and the hire and other charges as determined under rules prescribed by the competent authority, should be recovered regularly. Calculation of the charges to be recovered from the local bodies, contractors and others as above should be based on the historical cost.

**Rule 213 (1) Physical verification of Fixed Assets.** The inventory for fixed assets shall ordinarily be maintained at site. Fixed assets should be verified at least once in a year and the outcome of the verification recorded in the corresponding register. Discrepancies, if any, shall be promptly investigated and brought to account.

**Rule 213 (2) Verification of Consumables:** A physical verification of all the consumable goods and materials should be undertaken at least once in a year and discrepancies, if any, should be recorded in the stock register for appropriate action by the competent authority.

**Rule 213 (3) Procedure for verification :**

- (i) Verification shall always be made in the presence of the officer, responsible for the custody of the inventory being verified.
- (ii) A certificate of verification along with the findings shall be recorded in the stock register.

- (iii) Discrepancies, including shortages, damages and unserviceable goods, if any, identified during verification, shall immediately be brought to the notice of the competent authority for taking appropriate action in accordance with provision given in Rule 33 to 38.

**Rule 214 Buffer Stock.** Depending on the frequency of requirement and quantity thereof as well as the pattern of supply of a consumable material, optimum buffer stock should be determined by the competent authority.

**Note:** As the inventory carrying cost is an expenditure that does not add value to the material being stocked, a material remaining in stock for over a year shall generally be considered surplus, unless adequate reasons to treat it otherwise exist. The items so declared surplus may be dealt as per the procedure laid down under Rule 217.

**Rule 215 Physical verification of Library books.**

- (i) Complete physical verification of books should be done every year in case of libraries having not more than twenty thousand volumes. For libraries having more than twenty thousand volumes and up to fifty thousand volumes, such verification should be done at least once in three years. Sample physical verification at intervals of not more than three years should be done in case of libraries having more than fifty thousand volumes. In case such verification reveals unusual or unreasonable shortages, complete verification shall be done.
- (ii) Loss of five volumes per one thousand volumes of books issued/consulted in a year may be taken as reasonable provided such losses are not attributable to dishonesty or negligence. However, loss of a book of a value exceeding Rs. 1,000/- (Rupees One thousand only) and rare books irrespective of value shall invariably be investigated and appropriate action taken.

**Rule 216 Transfer of charge of goods, materials etc.** In case of transfer of Officer-in-charge of the goods, materials etc., the transferred officer shall see that the goods or material



are made over correctly to his successor. A statement giving all relevant details of the goods, materials etc., in question shall be prepared and signed with date by the relieving officer and the relieved officer. Each of these officers will retain a copy of the signed statement.

**Rule 217 Disposal of Goods.**

- (i) An item may be declared surplus or obsolete or unserviceable if the same is of no use to the Ministry or Department. The reasons for declaring the item surplus or obsolete or unserviceable should be recorded by the authority competent to purchase the item.
- (ii) The competent authority may, at his discretion, constitute a committee at appropriate level to declare item(s) as surplus or obsolete or unserviceable.
- (iii) The book value, guiding price and reserved price, which will be required while disposing of the surplus goods, should also be worked out. In case where it is not possible to work out the book value, the original purchase price of the goods in question may be utilised. A report of stores for disposal shall be prepared in Form GFR - 10.
- (iv) In case an item becomes unserviceable due to negligence, fraud or mischief on the part of a Government servant, responsibility for the same should be fixed.
- (v) **Sale of Hazardous waste/Scrap Batteries/Electronic waste:** Scrap lots comprising of hazardous waste, batteries etc. shall be sold keeping in view the extant guidelines of Ministry of Environment & Forest. Prospective bidders of such lots of hazardous waste/scrap batteries/ e-waste should be in possession of registration, valid on the date of e-Auction and on the date of delivery, as recycler/ pre-processor agency.

**Rule 218 Modes of Disposal.**

- (I) Surplus or obsolete or unserviceable goods of assessed residual value above Rupees Two Lakh should be disposed of by :
  - (a) obtaining bids through advertised tender or
  - (b) public auction.

- (ii) For surplus or obsolete or unserviceable goods with residual value less than Rupees Two Lakh, the mode of disposal will be determined by the competent authority, keeping in view the necessity to avoid accumulation of such goods and consequential blockage of space and, also, deterioration in value of goods to be disposed of. Ministries/ Departments should, as far as possible prepare a list of such goods.
- (iii) Certain surplus or obsolete or unserviceable goods such as expired medicines, food grain, ammunition etc., which are hazardous or unfit for human consumption, should be disposed of or destroyed immediately by adopting suitable mode so as to avoid any health hazard and/or environmental pollution and also the possibility of misuse of such goods.
- (iv) Surplus or obsolete or unserviceable goods, equipment and documents, which involve security concerns (e.g. currency, negotiable instruments, receipt books, stamps, security press etc.) should be disposed of/ destroyed in an appropriate manner to ensure compliance with rules relating to official secrets as well as financial prudence.

**Rule 219 Disposal through Advertised Tender.**

- (i) The broad steps to be adopted for this purpose are as follows :
  - (a) Preparation of bidding documents.
  - (b) Invitation of tender for the surplus goods to be sold.
  - (c) Opening of bids.
  - (d) Analysis and evaluation of bids received.
  - (e) Selection of highest responsive bidder.
  - (f) Collection of sale value from the selected bidder.
  - (g) Issue of sale release order to the selected bidder.
  - (h) Release of the sold surplus goods to the selected bidder.
  - (i) Return of bid security to the unsuccessful bidders.
- (ii) The important aspects to be kept



in view while disposing the goods through advertised tender are as under:-

- (a) The basic principle for sale of such goods through advertised tender is ensuring transparency, competition, fairness and elimination of discretion. Wide publicity should be ensured of the sale plan and the goods to be sold. All the required terms and conditions of sale are to be incorporated in the bidding document comprehensively in plain and simple language. Applicability of taxes, as relevant, should be clearly stated in the document.
- (b) The bidding document should also indicate the location and present condition of the goods to be sold so that the bidders can inspect the goods before bidding.
- (c) The bidders should be asked to furnish bid security along with their bids. The amount of bid security should ordinarily be ten per cent. of the assessed or reserved price of the goods. The exact bid security amount should be indicated in the bidding document.
- (d) The bid of the highest acceptable responsive bidder should normally be accepted. However, if the price offered by that bidder is not acceptable, negotiation may be held only with that bidder. In case such negotiation does not provide the desired result, the reasonable or acceptable price may be counter offered to the next highest responsive bidder(s).
- (e) In case the total quantity to be disposed of cannot be taken up by the highest acceptable bidder, the remaining quantity may be offered to the

next higher bidder(s) at the price offered by the highest acceptable bidder.

- (f) Full payment, i.e. the residual amount after adjusting the bid security should be obtained from the successful bidder before releasing the goods.
- (g) In case the selected bidder does not show interest in lifting the goods, the bid security should be forfeited and other actions initiated including re-sale of the goods in question at the risk and cost of the defaulter, after obtaining legal advice.

(iii) Late bids i.e. bids received after the specified date and time of receipt should not to be considered.

#### **Rule 220 Disposal through Auction.**

- (i) A Ministry or Department may undertake auction of goods to be disposed of either directly or through approved auctioneers.
- (ii) The basic principles to be followed here are similar to those applicable for disposal through advertised tender so as to ensure transparency, competition, fairness and elimination of discretion. The auction plan including details of the goods to be auctioned and their location, applicable terms and conditions of the sale etc. should be given wide publicity in the same manner as is done in case of advertised tender.
- (iii) While starting the auction process, the condition and location of the goods to be auctioned, applicable terms and conditions of sale etc., (as already indicated earlier while giving wide publicity for the same), should be announced again for the benefit of the assembled bidders.
- (iv) During the auction process, acceptance or rejection of a bid should be announced immediately on the stroke of the hammer. If a bid is accepted, earnest money (not less than twenty-five per cent. of the bid value) should immediately be taken on the spot from the successful bidder



either in cash or in the form of Deposit-at-Call-Receipt (DACR), drawn in favour of the Ministry or Department selling the goods. The goods should be handed over to the successful bidder only after receiving the balance payment.

- (v) The composition of the auction team will be decided by the competent authority. The team should however include an officer of the Internal Finance Wing of the department

**Rule 221 Disposal at scrap value or by other modes.** If a Ministry or Department is unable to sell any surplus or obsolete or unserviceable item in spite of its attempts through advertised tender or auction, it may dispose of the same at its scrap value with the approval of the competent authority in consultation with Finance division. In case the Ministry or Department is unable to sell the item even at its scrap value, it may adopt any other mode of disposal including destruction of the item in an eco-friendly manner.

**Rule 222** A sale account should be prepared for goods disposed of in Form GFR 11 duly signed by the officer who supervised the sale or auction.

**Rule 223 (1) Powers to write off.** All profits and losses due to revaluation, stock-taking or other causes shall be duly recorded and adjusted where necessary. Formal sanction of the competent authority shall be obtained in respect of losses, even though no formal correction or adjustment in government accounts is involved. Powers to write off of losses are available under the Delegation of Financial Powers Rules.

**Rule 223 (2) Losses due to depreciation :** Losses due to depreciation shall be analysed, and recorded under following heads, as applicable :-

- (i) normal fluctuation of market prices;
- (ii) normal wear and tear;
- (iii) lack of foresight in regulating purchases; and
- (iv) negligence after purchase.

**Rule 223 (3) Losses not due to depreciation :** Losses not due to depreciation shall be grouped under the following heads :-

- (i) losses due to theft or fraud;
- (ii) losses due to neglect;

- (iii) anticipated losses on account of obsolescence of stores or of purchases in excess of requirements;
- (iv) losses due to damage, and
- (v) losses due to extra ordinary situations under 'Force Majeure' conditions like fire, flood, enemy action, etc.;



## CONTRACT MANAGEMENT

**Rule 224** (1) All contracts shall be made by an authority empowered to do so by or under the orders of the President in terms of Article 299 (1) of the Constitution of India.

**Rule 224** (2) All the contracts and assurances of property made in the exercise of the executive power of the Union shall be executed on behalf of the President. The words "for and on behalf of the President of India" should follow the designation appended below the signature of the officer authorized in this behalf.

**Note 1:** The various classes of contracts and assurances of property, which may be executed by different authorities, are specified in the Notifications issued by the Ministry of Law from time to time.

**Note 2:** The powers of various authorities, the conditions under which such powers should be exercised and the general procedure prescribed with regard to various classes of contracts and assurances of property are laid down in Rule 21 of the Delegation of Financial Powers Rules.

**Rule 225 General principles for contract.**

The following general principles should be observed while entering into contracts:—

- (i) The terms of contract must be precise, definite and without any ambiguities. The terms should not involve an uncertain or indefinite liability, except in the case of a cost plus contract or where there is a price variation clause in the contract.
- (ii) Standard forms of contracts should be adopted wherever possible, with such modifications as are considered necessary in respect of individual contracts. The modifications should be carried out only after obtaining financial and legal advice.
- (iii) In cases where standard forms of contracts are not used, legal and financial advice should be taken in drafting the clauses in the contract.
- (iv) (a) A Ministry or Department may, at its discretion, make purchases of value up to Rupees two lakh and fifty thousand by issuing purchase orders containing basic terms and conditions:  
(b) In respect of Works Contracts, or Contracts for purchases valued

between Rupees one lakh to Rupees ten lakhs, where tender documents include the General Conditions of Contract (GCC), Special Conditions of Contract (SCC) and scope of work, the letter of acceptance will result in a binding contract.

- (c) In respect of contracts for works with estimated value of Rupees ten lakhs or above or for purchase above Rupees ten lakhs, a Contract document should be executed, with all necessary clauses to make it a self-contained contract. If however, these are preceded by Invitation to Tender, accompanied by GCC and SCC, with full details of scope and specifications, a simple one page contract can be entered into by attaching copies of the GCC and SCC, and details of scope and specifications, Offer of the Tenderer and Letter of Acceptance.
- (d) Contract document should be invariably executed in cases of turnkey works or agreements for maintenance of equipment, provision of services etc.
- (v) No work of any kind should be commenced without proper execution of an agreement as given in the foregoing provisions.
- (vi) Contract document, where necessary, should be executed within 21 days of the issue of letter of acceptance. Non-fulfilment of this condition of executing a contract by the Contractor or Supplier would constitute sufficient ground for annulment of the award and forfeiture of Earnest Money Deposit.
- (vii) Cost plus contracts should ordinarily be avoided. Where such contracts become unavoidable, full justification should be recorded before entering into the contract. Where supplies or special work covered by such cost plus contracts have to continue over a long duration, efforts should be made to convert future contracts on a firm price basis after allowing a reasonable period to the suppliers/contractors to





stabilize their production/ execution methods and processes.

**Explanation :** A cost plus contract means a contract in which the price payable for supplies or services under the contract is determined on the basis of actual cost of production of the supplies or services concerned plus profit either at a fixed rate per unit or at a fixed percentage on the actual cost of production.

- (viii) (a) Price Variation Clause can be provided only in long-term contracts, where the delivery period extends beyond 18 months. In short-term contracts firm and fixed prices should be provided for. Where a price variation clause is provided, the price agreed upon should specify the base level viz, the month and year to which the price is linked, to enable variations being calculated with reference to the price levels prevailing in that month and year.
- (b) A formula for calculation of the price variations that have taken place between the Base level and the Scheduled Delivery Date should be included in this clause. The variations are calculated by using indices published by Governments or Chambers of Commerce periodically. An illustrative formula has been appended to these rules at Appendix-11 for guidance.
- (c) The Price variation clause should also specify cut off dates for material and labour, as these inputs taper off well before the scheduled Delivery Dates.
- (d) The price variation clause should provide for a ceiling on price variations, particularly where escalations are involved. It could be a percentage per annum or an overall ceiling or both. The buyer should ensure a provision in the contract for benefit of any reduction in the price in terms of the price variation clause being passed on to him.
- (e) The clause should also stipulate a

minimum percentage of variation of the contract price above which price variations will be admissible (e.g. where resultant increase is lower than two per cent. no price adjustment will be made in favour of the supplier).

- (f) Where advance or stage payments are made there should be a further stipulation that no price variations will be admissible on such portions of the price, after the dates of such payment.
- (g) Where deliveries are accepted beyond the scheduled Delivery Date subject to levy of liquidated damages as provided in the Contract, the liquidated damages (if a percentage of the price) will be applicable on the price as varied by the operation of the Price variation clause.
- (h) No price variation will be admissible beyond the original Scheduled Delivery Date for defaults on the part of the supplier.
- (i) Price variation may be allowed beyond the original Scheduled Delivery Date, by specific alteration of that date through an amendment to the contract in cases of Force Majeure or defaults by Government.
- (j) Where contracts are for supply of equipment, goods etc, imported (subject to customs duty and foreign exchange fluctuations) and/or locally manufactured (subject to excise duty and other duties and taxes), the percentage and element of duties and taxes included in the price should be specifically stated, along with the selling rate of foreign exchange element taken into account in the calculation of the price of the imported item.
- The mode of calculation of variations in duties and taxes and Foreign exchange rates and the documents to be produced in support of claims for such variations should also be stipulated in the Contract.



- (k) The clause should also contain the mode and terms of payment of the price variation admissible.
- (ix) Contracts should include provision for payment of all applicable taxes by the contractor or supplier.
- (x) "Lump sum" contracts should not be entered into except in cases of absolute necessity. Where lump sum contracts become unavoidable, full justification should be recorded. The contracting authority should ensure that conditions in the lump sum contract adequately safeguard and protect the interests of the Government.
- (xi) Departmental issue of materials should be avoided as far as possible. Where it is decided to supply materials departmentally, a schedule of quantities with the issue rates of such material as are required to execute the contract work should form an essential part of the contract.
- (xii)(a) In contracts where government property is entrusted to a contractor either for use on payment of hire charges or for doing further work on such property, specific provision for safeguarding government property (including insurance cover) and for recovery of hire charges regularly, should be included in the contracts.
- (b) Provision should be made in the contract for periodical physical verification of the number and the physical condition of the items at the contractor's premises. Results of such verification should be recorded and appropriate penal action taken where necessary.
- (xiii) Copies of all contracts and agreements for purchases of the value of Rupees Twenty-five Lakhs and above, and of all rate and running contracts entered into by civil departments of the Government other than the departments like the Directorate General of Supplies and Disposals for which a special audit procedure exists, should be sent to the Audit Officer and /or the Accounts officer as the case may be.
- (xiv)(a) The terms of a contract, including the scope and specification once entered into, should not be materially varied.
- (b) Wherever material variation in any of the terms or conditions in a contract becomes unavoidable, the financial and other effects involved should be examined and recorded and specific approval of the authority competent to approve the revised financial and other commitments obtained, before varying the conditions.
- (c) All such changes should be in the form of an amendment to the contract duly signed by all parties to the contract.
- (xv) Normally no extensions of the scheduled delivery or completion dates should be granted except where events constituting force majeure, as provided in the contract, have occurred or the terms and conditions include such a provision for other reasons. Extensions as provided in the contract may be allowed through formal amendments to the contract duly signed by parties to the contract.
- (xvi) All contracts shall contain a provision for recovery of liquidated damages for defaults on the part of the contractor. Only in exceptional circumstances to be justified by procuring entity in writing, an exemption from such provision can be made.
- (xvii) A warranty clause should be incorporated in every contract, requiring the supplier to, without charge, repair or rectify defective goods or to replace such goods with similar goods free from defect. Any goods repaired or replaced by the supplier shall be delivered at the buyers premises without costs to the buyer.
- (xviii) All contracts for supply of goods should reserve the right of Government to reject goods which do not conform to the specifications.



- (xix) No claim for the payment from contractor shall be entertained after the lapse of three years of arising of the claim.

**Rule 226 Management of Contracts.**

- (i) Implementation of the contract should be strictly monitored and notices issued promptly whenever a breach of provisions occurs.
- (ii) Proper procedure for safe custody and monitoring of Bank Guarantees or other Instruments should be laid down. Monitoring should include a monthly review of all Bank Guarantees or other instruments expiring after three months, along with a review of the progress of supply or work. Extensions of Bank Guarantees or other instruments, where warranted, should be sought immediately.

**Rule 227 Legal Advice.**

Wherever disputes arise during implementation of a contract, legal advice should be sought before initiating action to refer the dispute to conciliation and/or arbitration as provided in the contract or to file a suit where the contract does not include an arbitration clause. The draft of the plaint for arbitration should be got vetted by obtaining legal and financial advice. Documents to be filed in the matter of resolution of dispute, if any, should be carefully scrutinized before filing to safeguard government interest.



## GRANTS-IN-AID AND LOANS

### I. GRANTS-IN-AID

**Rule 228** As a general principle Grants-in-aid can be given to a person or a public body or an institution having a distinct legal entity. Thus Grants-in-aid including scholarships may be sanctioned by an authority competent to do so under the Delegation of Financial Powers Rules to :—

- (a) Institutions or Organizations set up as Autonomous Organisations, under a specific statute or as a society registered under the Societies Registration Act, 1860 or Indian Trusts Act, 1882 or other statutes.
- (b) Voluntary organizations or Non-Government Organisations carrying out activities which promote the welfare schemes and programmes of the Government should be selected on the basis of well-defined criteria regarding financial and other resources, credibility and type of activities undertaken.
- (c) Educational and other institutions by way of scholarships or stipends to the students.
- (d) Urban and Rural local self-government institutions
- (e) Co-operative societies.
- (f) Societies or clubs set up by Government servants to promote amongst themselves social, cultural and sports activities as recreational avenues.

**Rule 229** **General Principles for setting up of Autonomous Organisations** referred to under Rule 228(a):-

- (i) No new autonomous institutions should be created by Ministries or Departments without the approval of the Cabinet.
- (ii) No new autonomous institution should be created by an Autonomous Body itself, the appraisal/approval process for creation of new autonomous bodies would apply in such cases too. However, Regional Centres/Offices/Sub-Stations of any autonomous body can be created with prior approval of the administrative ministry in consultation with Ministry of Finance.

- (iii) Stringent criteria should be followed for setting up of new autonomous organisations and the type of activities to be undertaken by them. The Ministry or Department should examine in detail: (a) whether the activities proposed to be taken up are necessary at all; (b) whether these activities, if necessary, need to be undertaken by setting up an autonomous organisation only or whether these could be performed by the concerned Government agency or any other organisation already existing.
- (iv) All autonomous organisations, new or already in existence should be encouraged to maximise generation of internal resources and eventually attain self-sufficiency.
- (v) The Ministry or Department may consider creating a Corpus Fund for an Autonomous Body only with prior concurrence of Ministry of Finance if the corpus is created out of budgetary allocation. If the corpus is created out of internal accruals of the body, approval of the administrative Ministry must be obtained.
- (vi) User Charges: Governing Body of the Autonomous Body shall review user charges/ sources of internal revenue generation at least once a year and inform the administrative Ministry. This exercise should preferably be completed before the formulation of Union Annual Budget.
- (vii) All Autonomous Bodies should maintain database relating to grants, income, expenditure, investment assets and employee strength in the format prescribed by the Department of Expenditure, Ministry of Finance.
- (viii) Financial advice for Autonomous Bodies: Every autonomous organisation should designate an officer at appropriate level to render financial advice whose concurrence should be obtained for sanction and incurring of expenditure. The financial limits up to which such concurrence is mandatory may be drawn up by each organisation. The Chief Executive Officer of the Autonomous body will be responsible for overall financial



management of the autonomous bodies.

- (ix) Peer review of autonomous organisations: Ministry shall put in place a system of external or internal peer review of autonomous organisations every three or five years depending on the size and nature of activity. Such a review should be the responsibility of the concerned administrative division of the Ministry/Department and should focus, inter alia, on;
  - (a) the objective for which the autonomous organisation was set up and whether these objectives have been or are being achieved;
  - (b) whether the activities should be continued at all, either because they are no longer relevant or have been completed or if there has been a substantial failure in achievement of objectives.
  - (c) whether the nature of the activities is such that these need to be performed only by an autonomous organisation.
  - (d) whether similar functions are also being undertaken by other organisations, be it in the Central Government or State Governments or the Private Sector, and if so, whether there is scope for merging or winding up the organisations under review.
  - (e) whether the total staff complement, particularly at the support level, is kept at a minimum: whether the enormous strides in information technology and communication facilities as also facilities for outsourcing of work on a contract basis, have been taken into account in determining staff strength; and whether scientific or technical personnel are being deployed on functions which could well be carried out by non-scientific or non-technical personnel etc.
  - (f) whether user charges including overhead/ institutional charges / management fee in respect of sponsored projects, wherever the output or benefit of services are

utilised by others, are levied at appropriate rates

- (g) the scope for maximizing internal resources generation in the organisation so that the dependence upon Government budgetary support is minimised.
- (x) An organisation whose performance is found to be outstanding and internationally acclaimed as a result of the review envisaged under Para (v) above should be granted greater autonomy and increased flexibility in matters of recruitment and financial rules thereby enabling it to devise and adopt staff structures, procedures and rules suited to improving their productivity.
- (xi) Autonomous organisations as also others with a budgetary support of more than Rupees five crores per annum, should be required to enter into a Memorandum of Understanding with the Administrative Ministry or Department, spelling out clearly performance parameters, output targets in terms of details of programme of work and qualitative improvement in output, along with commensurate input requirements. The output targets, given in measurable units of performance, should form the basis of budgetary support extended to these organisations. The roadmap for improved performance with clear milestones should form part of the MoU.
- (xii) Findings of the peer review should be examined and put up for appropriate decision to the Secretary by the concerned programme division of the Administrative Department. Further releases of Grant (after three or five years, as the case may be), should be made conditional on conduct and decisions on the findings of such peer review.

**Rule 230 (1) Principles and Procedure for award of Grants-in-aid.**

Any Institution or Organisation seeking Grants-in-aid from Government will be required to submit an application which includes all relevant information such as



Articles of Association, bye-laws, audited statement of accounts, sources and pattern of income and expenditure etc. enabling the sanctioning authority to assess the suitability of the Institution or Organisation seeking Grant. The application should clearly spell out the need for seeking Grant and should be submitted in such form as may be prescribed by the sanctioning authority. The Institution or Organisation seeking Grants-in-aid should also certify that it has not obtained or applied for grants for the same purpose or activity from any other Ministry or Department of the Government of India or State Government.

**Rule 230** (2) In order to obviate duplication in Grants-in-aid, each Ministry or Department should maintain a list of institutions or organisations along with details of amount and purpose of Grants given to them. These details should also be made available on the website of the Ministry/Department.

**Rule 230** (3) Award of Grants should be considered only on the basis of viable and specific schemes drawn up in sufficient detail by the institution or organisation. The budget for such schemes should disclose, inter alia, the specific quantified and qualitative targets likely to be attained against the outlay. In the cases of the schemes where Grants are given as part of the expenditure on reimbursement basis (i.e. the expenditure has already been incurred on approved project/scheme and reimbursement from the Government in the form of Grant/Subsidy etc. is due) the same will be treated as the Central Financial Assistance (CFA) and no Utilization Certificate shall be required in such cases of reimbursements.

**Rule 230** (4) Recurring Grant is defined as one which is released periodically to the same organization for the same purpose. Non-recurring Grant is one time release to an organization for a special purpose (which could be released in instalments). Every order sanctioning a Grant shall indicate whether it is recurring or non-recurring and specify clearly the object for which it is being given and the general and special conditions, if any, attached to the Grant. In the case of non-recurring Grants for specified object, the order shall also specify the time limit within which the

Grant or each instalment of it, is to be spent.

**Rule 230** (5) Central Autonomous Organisations which receive Grants should account for capital and revenue expenditure separately. The Government of India, Ministry of Finance has formulated standard formats for presentation of final accounts, for all Central Autonomous Organisations. All Grant sanctioning authorities should enforce the condition of maintaining and presenting their annual accounts in the standard formats on all Central Autonomous Organisations.

**Rule 230** (6) The Grants sanctioning authorities should not only take into account the internally generated resources while regulating the award of Grants but should consider laying down targets for internal resources generation by the Grantee Institutions or Organisations every financial year, particularly where Grants are given on recurring basis every year.

**Rule 230** (7) **Unspent Balances:** When recurring Grants-in-aid are sanctioned to the same Institution or Organisation for the same purpose, the unspent balance of the previous Grant should be taken into account in sanctioning the subsequent Grant. For this purpose, the Programme Division of Ministries/Department shall take help of PFMS Portal to know the bank balance of the recipients before making each release. The instructions of Department of Expenditure regarding the use of PFMS Portal for Central Sector Schemes issued from time to time shall be strictly followed by all Ministries/Departments. The principles of 'just in time release', should be applied for releases in respect of all payments to the extent possible. The following broad principles shall be adhered to:

- (i) Cash balance at a time should preferably not be more than 3 months of requirements
- (ii) Funds should be released as per actual requirements and that sanction may precede the release of funds, though its validity may be limited to that financial year.

**Rule 230** (8) All interests or other earnings against Grants in aid or advances (other than reimbursement) released to any Grantee institution should be mandatorily remitted





to the Consolidated Fund of India immediately after finalisation of the accounts. Such advances should not be allowed to be adjusted against future releases.

**Rule 230 (9)** In making Grants to Non-Government or Quasi-Government Institutions or Organisations, a condition should be laid down that assets acquired wholly or substantially out of Government Grants, except those declared as obsolete and unserviceable or condemned in accordance with the procedure laid down in the General Financial Rules, shall not be disposed of without obtaining the prior approval of the authority which sanctioned the Grants-in-aid.

**Rule 230 (10)** The sanctioning authority may prescribe conditions regarding quantum and periodicity for release of Grants-in-aid in instalments in consultation with the Financial Adviser. However, the release of the last instalment of the Annual Grant must be conditional upon the Grantee Institutions providing reasonable evidence of proper utilization of instalments released earlier. In the cases where Central Financial Assistance (CFA) has been sanctioned, the grant will be released in one instalment upon the Grantee Institutions/ Organisation providing complete evidence of achieving the specified objectives and expenditure incurred supported by Audited Statement of Expenditure. In these cases, the grantee institutions will not be required to submit Utilization Certificates.

**Rule 230 (11)** In order to finalize the Budgetary Estimates of Grants in aid to the Grantee Institutions, the Ministry or Department should impress upon Institution or Organisation desiring Grants from Government, to submit their requirement with supporting details by the end of September in the year preceding the year for which the Grants-in-aid is sought. The Ministry or Department should finalize their examination of the requests with the utmost expedition and make the necessary Budget provision where it is decided to sanction Grants. The Institution or Organisation should be informed of the result of their requests by April of the succeeding year.

**Rule 230 (12)**

- (i) All Grantee Institutions or Organisations which receive more than fifty per cent. of their recurring expenditure in the form of Grants-in-aid, should ordinarily formulate terms and conditions of service of their employees which are, by and large, not higher than those applicable to similar categories of employees in Central Government. In exceptional cases relaxation may be made in consultation with the Ministry of Finance.
- (ii) Grantee Institutions or Organisations should be encouraged to take advantage of the pension or gratuity schemes or Group Insurance Schemes or house buildings loans or vehicle loans schemes etc. available in the market for employees instead of undertaking liability on their own or Government account.

**Rule 230 (13)** The sanctioning authority, while laying down the pattern of assistance, may decide whether the ownership of buildings constructed with Grants-in-aid may vest with Government or the Grantee Institution or Organisation. Where the ownership is vested in the Government, the Grantee Institution or Organisation may be allowed to occupy the building as a lessee. In such cases suitable record of details of location, cost, name of lessee and terms and conditions of lease must be maintained in the records of the granting Ministry or Department. In all cases of buildings constructed with Grants-in-aid, responsibility of maintenance of such buildings shall be of the Grantee Institution or Organisation.

**Rule 230 (14)** Any other special terms and conditions or procedures for transaction of business as Government may desire to be followed by the Grantee Institution or Organisation, shall be got incorporated in the Articles of Association or bye-laws of the Institution or Organisation concerned before release of Grants-in-aid.

**Rule 230 (15)** Grants-in-aid may be sanctioned to meet the bonafide expenditure incurred not earlier than two years prior to the date of issue of the sanction.

**Rule 230 (16)** The stipulation in regard to refund of



the unutilised amount of Grant-in-aid with interest thereon should be brought out clearly in the letter sanctioning the Grant as well as in the bond so required to be executed.

**Rule 230. (17)** (i) As a precondition to the sanction of Grants-in-aid to the agencies where:

- (a) the recipient body employs more than twenty persons on a regular basis and at least fifty per cent of its recurring expenditure is met from Grants-in-aid from Central Government; and
- (b) the body is a registered society or a co-operative institution and is in receipt of a general purpose annual Grants-in-aid of Rupees twenty lakhs and above from the Consolidated Fund of India;

the Grant sanctioning authority should ensure that a suitable clause is invariably included in the terms and conditions under which the Grants-in-aid are given, to provide for reservation for Scheduled Castes and Scheduled Tribes or OBC in posts and services under such organizations or agencies. The relative provision may be on the following lines :-

" ..... (Name of Institution or Organization etc.) agrees to make reservations for Scheduled Castes and Scheduled Tribes or OBC in the posts or services under its control on the lines indicated by the Government of India".

- (ii) While sanctioning Grants-in-aid to Institutions or Organisations referred to in (a) above, the Grant sanctioning authority should keep in view the progress made by such Institutions or Organisations in employing Scheduled Castes and Scheduled Tribes or OBC candidates in their services.

**Rule 231 (1) Grants-in-aid to "Voluntary Organisations"** Subject to the following terms and conditions, Grants-in-aid towards administrative expenditure may be sanctioned to voluntary organizations to ensure a certain minimum staff structure and qualified personnel to improve their effectiveness and expand their activities under the following conditions :-

- (i) The Grants-in-aid should not exceed twenty-five per cent. of approved administrative expenditure on pay and allowances of the personnel of the voluntary organisation concerned;
- (ii) Grants-in-aid to meet administrative expenditure to any private institutions other than the voluntary organizations should not ordinarily be sanctioned. In exceptional cases such Grants can be considered for sanction in consultation with Internal Finance Wing.

**Rule 231 (2)** Before a Grant is released, the members of the Executive Committee of the Grantee should be asked to Execute Bonds in a prescribed format binding themselves jointly and severally to:-

- (i) abide by the conditions of the Grants-in-aid by the target dates, if any, specified therein; and
- (ii) not to divert the Grants or entrust execution of the scheme or work concerned to another Institution(s) or Organization(s); and
- (iii) abide by any other conditions specified in the agreement governing the Grants-in-aid.
- (iv) In the event of the Grantee failing to comply with the conditions or committing breach of the conditions of the Bond, the signatories to the Bond shall be jointly and severally liable to refund to the President of India, the whole or a part amount of the Grant with interest at ten per cent. per annum thereon or the sum specified under the Bond. The stamp duty for this Bond shall be borne by the Government.

**Rule 231 (3)** Execution of Bond will not apply to Quasi-Government Institutions, Central Autonomous Organisations and Institutions whose budget is approved by the Government

**Rule 232 General Principles for award of Grants-in-aid for Centrally Sponsored Schemes.** The following principles should be kept in view by Ministries/Departments of the Central Government at the time of designing Centrally Sponsored Schemes for implementation in State Governments or Union Territories and approving and releasing assistance to State Governments or Union Territories for such schemes: -



- (i) Every Centrally Sponsored Scheme should have a time-bound quantifiable and measurable outcome targets with provisions for periodic monitoring, mid-term evaluation and detailed impact studies.
- (ii) The scheme should be designed in consultation with States and Union Territories. States should be delegated adequate powers to change the details of the schemes to suit local conditions, subject to reporting such changes to the concerned Ministry or Department.
- (iii) Where schemes are in operation with similar objectives targeting the same population, the schemes should be converged.
- (iv) To ensure monitoring and effective control over such schemes, the number of schemes should be restricted, so that the gain from the expenditure on such schemes is maximized. The role of the Central Ministries or Departments should be capacity building, inter-sectoral coordination and detailed monitoring.
- (v) The release of funds to State Governments and monitoring further utilisation should be undertaken through PFMS. The Ministries or Departments should establish a mechanism to ensure that the funds earlier released have been effectively utilised and that the data and facts reported by the State Governments or Union Territories relating to physical and financial performance are correct. Before releasing further funds, it should also be ensured that the State Governments or Union Territories have the capacity to actually spend the balance from the previous years and the releases during the current year.
- (vi) The Ministries or Departments should focus attention on the attainment of the objectives and not on expenditure only. A mechanism for avoiding release of large part of funds towards the end of the year should be devised and incorporated in the Scheme design itself.
- (vii) A concurrent monitoring and evaluation mechanism should be built into the Scheme. A periodic review of every Centrally Sponsored Scheme should be undertaken for any required mid-course correction or changes in the scheme design
- (viii) A post-completion review of every Centrally Sponsored Scheme should be undertaken by the State Government(s) or Union Territories implementing the scheme, highlighting the time and cost overruns, if any, and suggestions for formulating and implementing future schemes. A copy of the review should be obtained by the Ministry concerned and kept in view while formulating new Centrally Sponsored Schemes.

**Rule 233 Funding of Sponsored Projects or Schemes.**

- (i) Ministries or Departments of Government sponsor projects or schemes to be undertaken by Universities, Indian Institute of Technology and other similar Autonomous Organisations such as ICAR, CSIR, ICMR etc., the results from which are expected to be in national interest. Normally the entire expenditure on such projects or schemes including capital expenditure, is funded by the Ministry or Department. The funds released for such projects or schemes in one or more installments are not treated as Grants-in-aid in the books of the implementing agency. Apart from the requirement of submission of technical and financial reports on completion of the project or scheme, a stipulation should be made in such cases that the ownership in the physical and intellectual assets created or acquired out of such funds shall vest in the sponsor. While the Project or Scheme is ongoing, the recipients should not treat such assets as their own assets in their Books of Accounts but should disclose their holding and using such assists in the Notes to Accounts specifically.
- (ii) On completion of the Projects or Schemes and the receipt of technical and financial reports, the Ministries/ Departments should decide and



communicate to the implementing agencies whether the assets should be returned, sold or retained by them.

- (iii) If the assets are to be sold, the proceeds therefrom should be credited to the account of the sponsoring Department/Organisation. If the assets are allowed to be retained by the Institution/Organisation, the implementing agency should include the assets at the book value in their own accounts.

**Rule 234 Register of Grants.** A Register of Grants shall be maintained by the sanctioning authority in the format given in Form GFR - 21.

- (i) Columns (i) to (v) of the Register in format at Form GFR - 21 should be filled in simultaneously with the issue of the order sanctioning each Grant. These columns should be attested by any Gazetted Officer nominated for the purpose by the sanctioning authority. The serial number should be recorded on the body of the sanction at the time the item is entered in the Register as under : "Noted at Serial No .....in the Register of Grants".
- (ii) Such a record will guard against the possibility of double payment. Columns (vi) and (vii) should be filled in and attested by the Gazetted Officer concerned as soon as the bill is ready. The bill should then be submitted to the Gazetted Officer nominated to act as Drawing and Disbursing Officer with the register for signing the bill and to the sanctioning authority for giving dated initials in column (viii) of Register. It should also be the duty of the sanctioning authority to verify that the conditions, if any, attached to the Grant have been duly accepted by the Grantee without any reservation and that no other bill for the same purpose has already been paid before. No bill should be signed unless it has been noted in the Register of Grants against the relevant sanction. This will also facilitate watching of payments in instalments, if any, in the case of lump sum sanctions.

- (iii) Information at column (xiii) of the Form GFR-21 above should be used also for regulating the subsequent Grants.

**Rule 235 Accounts of Grantee Institutions.**

Institutions or Organisations receiving Grants should, irrespective of the amount involved, be required to maintain subsidiary accounts of the Government grant and furnish to the Accounts Officer a set of audited statement of accounts. These audited statements of accounts should be required to be furnished after utilization of the Grants-in-aid or whenever called for.

**Rule 236 (1) Audit of Accounts.** The accounts of all Grantee Institutions or Organisations shall be open to inspection by the sanctioning authority and audit, both by the Comptroller and Auditor General of India under the provision of CAG(DPC) Act 1971 and internal audit by the Principal Accounts Office of the Ministry or Department, whenever the Institution or Organisation is called upon to do so and a provision to this effect should invariably be incorporated in all orders sanctioning Grants-in-aid.

**Rule 236 (2)**

- (i) The accounts of the Grantee Institution or Organisation shall be audited by the Comptroller and Auditor General of India under Section 14 of the Comptroller and Auditor General of India (Duties, Powers and Conditions of Service) Act, 1971, if the Grants or loans to the institution in a financial year are not less than Rupees twenty-five lakhs and also not less than seventy-five percent of the total expenditure of the Institution. The accounts may also be audited by the Comptroller and Auditor General of India if the Grants or loans in a financial year are not less than Rupees one crore. Where the accounts are so audited by the Comptroller and Auditor General of India in a financial year, he shall continue to audit the accounts for a further period of two years notwithstanding that the conditions outlined above are not fulfilled.
- (ii) Where any Grant and /or loan is given for any specific purpose to any Institution or Organisation or



authority, not being a foreign State or international Body/Organization, the Comptroller and Auditor General is competent under Section 15 (1) of the CAG's (DPC) Act, 1971, to scrutinize the procedures by which the sanctioning authority satisfies itself as to the fulfillment of the conditions subject to which such Grants and/or loans were given and shall, for this purpose, have right of access to the books and accounts of that Institute or Organisation or authority.

**Rule 236 (3)** In all other cases, the Institution or Organisation shall get its accounts audited from Chartered Accountants of its own choice.

**Rule 236 (4)** Where the Comptroller and Auditor General of India is the sole auditor for a local Body or Institution, auditing charges will be payable by the auditee Institution in full unless specifically waived by Government

**Rule 237 Time Schedule for submission of annual accounts.** The dates prescribed for submission of the annual accounts for Audit leading to the issue of Audit Certificate by the Comptroller and Auditor General of India and for submission of annual report and audited accounts to the nodal Ministry for timely submission to the Parliament are listed below:-

- (i) Approved and authenticated annual accounts to be made available by the Autonomous Body to the concerned Audit Office and commencement of audit of annual accounts-30th June
- (ii) Issue of the final SAR in English version with audit certificate to Autonomous Body/ Government concerned -31st October
- (iii) Submission of the Annual Report and Audited Accounts to the Nodal for it to be laid on the Table of the Parliament -31st December

**Rule 238 (1) Utilization Certificates.** In respect of non-recurring Grants to an Institution or Organisation, a certificate of actual utilization of the Grants received for the purpose for which it was sanctioned in Form GFR 12-A, should be insisted upon in the order sanctioning the Grants-in-aid. The Utilization Certificate in respect of Grants referred to in Rule 230 (10) should also disclose whether the specified,

quantified and qualitative targets that should have been reached against the amount utilised, were in fact reached, and if not, the reasons therefor. They should contain an output based performance assessment instead of input based performance assessment. The Utilization Certificate should be submitted within twelve months of the closure of the financial year by the Institution or Organisation concerned. Receipt of such certificate shall be scrutinised by the Ministry or Department concerned. Where such certificate is not received from the Grantee within the prescribed time, the Ministry or Department will be at liberty to blacklist such Institution or Organisation from any future grant, subsidy or other type of financial support from the Government.

**Rule 238 (2)** In respect of recurring Grants, Ministry or Department concerned should release any amount sanctioned for the subsequent financial year only after Utilization Certificate in respect of Grants of preceding financial year is submitted. Release of Grants-in-aid in excess of seventy five per cent of the total amount sanctioned for the subsequent financial year shall be done only after utilisation certificate and the annual audited statement relating to Grants-in-aid released in the preceding year are submitted to the satisfaction of the Ministry/Department concerned. Reports submitted by the Internal Audit parties of the Ministry or Department and Inspection Reports received from Indian Audit and Accounts Department and the performance reports if any received for the third and fourth quarter in the year should also be looked into while sanctioning further Grants.

**Rule 238 (3)** Utilization certificates need not be furnished in cases where the Grants -in -aid / CFA are being made as reimbursement of expenditure already incurred on the basis of duly audited accounts. In such cases the sanction letters should specify clearly that the Utilization Certificates will not be necessary.

**Rule 238 (4)** In respect of Central Autonomous Organisations, the Utilization Certificate shall disclose separately the annual expenditure incurred and the funds given to suppliers of stores and assets, to construction agencies, to staff for (House





Building and Purchase of conveyance) which do not constitute expenditure at that stage but have been met out of Grants and are pending adjustments. These shall be treated as unutilized Grants allowed to be carried forward. While recording the Grants in the subsequent year the amount carried forward shall be taken into account.

**Rule 238** (5) In the case of Private and Voluntary Organizations receiving recurring Grants-in-aid from Rupees ten lakhs to less than Rupees fifty lakhs, all the Ministries or Departments of Government of India should include in their Annual Report a statement showing the quantum of funds provided to each of those organizations and the purpose for which they were utilized, for the information of Parliament. The Annual Reports and accounts of Private and Voluntary Organizations receiving recurring Grants-in-aid to the tune of Rupees fifty lakhs and above should be laid on the Table of the House within nine months of the close of the succeeding financial year of the Grantee Organisations.

**Rule 238** (6) In the case of organizations receiving one-time assistance or non recurring Grants as Grants-in-aid from Rupees ten lakhs to Rupees fifty lakhs, all Ministries or Departments of Government of India should include in their Annual Reports, statements showing the quantum of funds provided to each of these organizations and the purpose for which the funds were utilized, for the information of Parliament. The Annual Reports and Audited Accounts of Private and Voluntary Organizations or societies registered under the Registration of Societies Act, 1860, receiving one-time assistance/non-recurring Grants of Rupees fifty lakhs and above should also be laid on the Table of the House, within nine months of the close of the succeeding financial year of the grantee Organisations.

**Rule 239** **State Government to submit Utilization Certificate for Grants-in-aid relating to Scheme.** When Central Grants are given to State Governments for implementation of Central Scheme, Utilization Certificate in format GFR 12-C may be submitted by the State Government in respect of the Scheme. The

UC should be counter-signed by the Administrative Secretary of the Division regulating the Scheme/Finance Secretary.

**Rule 240** **State Government to submit Utilization Certificate when expenditure incurred through local bodies.** When Central Grants are given to State Governments for expenditure to be incurred by them through local bodies or private institutions, the Utilization Certificates should be furnished by the State Government concerned.

**Rule 241** **Utilisation Certificate in case of Direct Benefit Transfer (DBT) Scheme.** In case of the schemes covered under Direct Benefit Transfers (DBT), where the fund flow is directly from the Central Government to the beneficiaries, the intimation from the bank/National Payments Corporation of India (Aadhaar Payment Bridge) regarding deposit of the funds in the beneficiaries' bank accounts, generated as per procedure prescribed by the Controller General of Accounts, may be treated as a Utilization Certificate. The Ministry/Department releasing the Grant should keep proper record and accounts relating to such direct releases under DBT to the beneficiaries bank accounts.

**Rule 242** (1) **Performance parameters.** Performance parameters should be clearly set to allow better oversight of the Autonomous Body.

**Rule 242** (2) **Submission of Achievement-cum-Performance Reports.**

- i. The Grantee Institutions or Organisations should be required to submit performance cum achievement reports soon after the end of the financial year, and in any case, not later than six months after the close of the financial year.
- ii. In regard to non-recurring Grants such as those meant for celebration of anniversaries, conduct of special tours and maintenance Grants for education, performance-cum-achievement reports need not be obtained.
- iii. In the case of recurring Grants, submission of achievement-cum-performance reports should usually be insisted upon in all cases. However, in the case of Grants-in-aid not





exceeding Rupees twenty five lakhs, the sanctioning authority may dispense with the submission of performance-cum-achievement reports and should, in that event, refer to the Utilization Certificates and other information available with it to decide whether or not the Grants-in-aid should continue to be given.

- iv. (a) The Annual Reports and Audited Statements of Accounts of Autonomous Organisations are required to be laid on the table of the Parliament. In such cases, the Ministries or Departments of Central Government need not incorporate performance-cum-achievement reports in the Annual Reports.
- (b) In all other cases, if the Grants-in-aid exceed Rupees ten lakhs but less than rupees fifty lakhs, the Ministry or Departments of the Central Government should include a statement in their Annual Report of their own assessment of the achievements or performance of the Institution or Organisations.
- (c) In cases where the Grants-in-aid are for Rupees fifty lakhs or more, the Ministry or Departments of the Central Government should include in their Annual Report a review of the utilization of the Grants-in-aid individually, specifying in detail the achievements vis-à-vis the amount spent, the purpose and destination of Grants.
- v. Where the accounts of the Grantee Institutions or Organisations are audited by the CAG of India copies of the performance-cum-achievement reports, furnished by the grantee Institution to the Administrative Ministry or sanctioning authority should be made available to audit. In other cases copies of such reports, received by the Departments of the Central Government or the sanctioning authority should be made available to audit when local audit of such Grants-in-aid in the Administrative Ministry or Department

or sanctioning authority is conducted or when it is called for by the Accountant General.

**Rule 243 Discretionary Grants.** When an allotment for Discretionary Grants is placed at the disposal of a particular authority, the expenditure from such Grants shall be regulated by general or special orders of the competent authority specifying the object for which the Grants can be made and any other condition(s) that shall apply to them. Such Discretionary Grants must be non-recurring and not involve any future commitment.

**Rule 244 Other Grants.** Grants, subventions, etc., including Grants to States other than those dealt with in the foregoing rules, shall be made under special orders of Government.

- Rule 245**
- (i) Regulation of recurring Grants-in-aid for Government employees' welfare :—
    - a. Grants-in-aid for provision of amenities or of recreational or welfare facilities to the staff of the offices of the Government are regulated under orders of the Ministry of Home Affairs issued from time to time. The admissibility of the Grants-in-aid for the welfare of the employees of the Government should be regulated in the following manner :—
      - i. The Grant in aid will be admissible on the basis of the total strength borne on the regular strength of an organization, i.e., Ministry or Department, etc., and its Attached and Subordinate Offices and such statutory bodies whose budget forms part of Consolidated Fund of India, irrespective of the fact whether any individual is a member of the staff club, etc., or not. However, Grant-in-aid in respect of Gazetted Officers will be admissible only to that Ministry or Department or Office where membership of recreation club is open to such officers.

Staff paid from contingencies, work-charged staff etc., will not be taken into calculation for this purpose. Staff eligible for similar concession under some other rule or statutory provision, e.g., industrial workers will also not be covered by these orders.



- ii) Amounts of Grants-in-aid. (a) The rate of the Grant-in-aid will be Rupees fifty per head per annum. In addition to this, an additional Grant-in-aid up to Rupees twenty-five per head per annum to match the subscriptions collected during the previous financial year by the existing staff clubs will be admissible. In the case of staff clubs which are started during the financial year in which Grant-in-aid is to be given, an additional matching grants-in-aid up to Rupees twenty-five per head per annum, to match the subscription collected by such clubs up to the date on which the proposal for the Grant is mooted, may be sanctioned. The total strength of the eligible staff will be that existing on the thirty-first March of the previous financial year or that on the date on which proposal for Grant is mooted in the case of new staff clubs above rates, as revised from time to time will apply.
- iii) An illustrative list of items on which expenditure can be incurred out of Grants-in-aid sanctioned by Government for provision of amenities is given below:
  - i) Articles of sports – Outdoor and indoor games equipment
  - ii) Cost of uniforms, etc., supplied to teams of players.
  - iii) Magazines and periodicals.
  - iv) Entry fee for tournaments
  - v) Hiring of playgrounds
  - vi) Hiring and repair for furniture, etc.,
  - vii) Purchase of furniture.
  - viii) Conveyance expenses incurred locally.
  - ix) Entertainments.
  - x) Prizes.
  - xi) Film shows.
  - xii) Hiring of accommodation for Club/Association, etc.
  - xiii) Cultural, Sports and Physical development programme(s).
  - xiv) Inter-Ministerial meets.
  - xv) Inter-Departmental meets
2. A maximum one time Grant of Rupees fifty thousand may be sanctioned for setting up of a Recreation Club.
3. Grants-in-aid to the Ministry or Departments of the Central Government and their Attached and Subordinate Offices will be allocated by the concerned Ministry or Department on receipt of formal requests in the prescribed manner. For the purposes of these Grants-in-aid, the Departments of the Central Government and their attached and Subordinate Offices will be treated as a single unit. It will be the responsibility of that Ministry or Department to distribute the amount further to its Attached and Subordinate Offices and to their different clubs. The accounts of these clubs for the preceding year duly audited by an Internal Auditor should be obtained immediately after the close of the financial year in any case by the thirtieth April by the Ministry or Department before allocating funds for the next financial year.
4. Grants-in-aid for the provision of amenities or recreational or welfare facilities to the staff of the Indian Audit and Accounts Department are regulated by separate orders

## II. LOANS

**Rule 246** The rules in this Section shall be observed by all authorities competent to sanction loans of public moneys to State Governments, Local Administrations of Union Territories, local bodies, foreign Government on specific recommendation of State Government, Government institutions and other Government bodies.

**Rule 247 (1) Powers and Procedure for sanction of loans.** The powers of Departments of the Central Government and Administrators as well as other subordinate authorities to sanction loans are given in the Delegation of Financial Powers Rules and other general and special orders issued under that rule.

**Rule 247 (2) Nodal Division in Ministry of Finance.** The Budget Division, Department of Economic Affairs, Ministry of Finance shall be the nodal division in the Ministry of Finance to finalise terms and conditions of loans by the Central Government.



**Rule 248** All sanctions of loans issued by a Department of Central Government or an Administrator of Union Territory in exercise of their powers under the relevant provision of Delegation of Financial Powers Rules shall include a certificate to the effect that the same is in accordance with the rules or principles prescribed by the Ministry of Finance and that the rate of interest on the loan and the period of repayment thereof have been fixed with the approval of that Ministry.

**Rule 249** (1) All sanctions to loans shall be subject to the Delegation of Financial Powers Rules and shall specify the terms and conditions relating to them including the terms and conditions of their repayment and payment of interest.

**Rule 249** (2) Borrowers shall be required to adhere strictly to the terms settled for the loans made to them. Modifications of these terms can be made subsequently only for very special reasons and after seeking prior concurrence of Ministry of Finance.

**Rule 250** (1) **General conditions for regulating all loans :** All loans shall be regulated by the following general conditions :-

- (i) A specific term shall be fixed which shall be as short as possible, within which each loan has to be fully repaid with interest due. The terms may, in very special cases, extend to thirty years.
- (ii) The term is to be calculated from the date on which the loan is completely drawn or declared by competent authority to be closed.
- (iii) The repayment of loans shall be effected by instalments, which shall ordinarily be fixed on annual basis, and with due dates of payment being specially prescribed.
- (iv) Any instalment paid before its due date may be taken entirely towards the principal, provided it is accompanied by payment toward interest due up-to-date of actual payment of instalment; if not, the amount of the instalment shall first be adjusted towards the interest due for preceding and current periods and the balance, if any, shall alone be applied towards the principal. If, however, the payment of the instalment is in advance of the due

date by fourteen days or less, interest for the full period (half-year or full year, as the case may be) shall be payable.

- (v) When the due date of repayment of any instalment of principal or interest falls on a Sunday or a public holiday, the payment made on the next working day following the Sunday or the public holiday, shall be regarded as payment on the due date and no interest shall be charged for the day or days by which the recovery is so postponed.

**Exception.** If an instalment of principal or interest is payable on the thirty-first March of a year, and if that day happens to be a public holiday the recoveries shall be made on the immediately preceding working day. In case, the due date for the repayment of a loan or payment of interest falls on a holiday observed by the Reserve Bank of India, at which the effective credit of the same is to take place this shall be shifted to the next working day, except when the due date is thirty-first March.

- (vi) The payment of interest and the repayment of principal of a loan are always to be made with reference to the calendar date on which the loan in question is paid. However, where payment of instalment is in advance of the due date by fourteen days or less, interest for the full year or half year (depending on the prescribed mode of recovery) shall be charged thereon. In the case of a loan sanctioned by the Central Government to a State Government on or before thirty-first March of a year, which is adjusted in the books of the Reserve Bank of India in the month of April but in the accounts of the previous year the instalment of principal and/or interest shall fall due for payment on the thirty-first March of the succeeding year and not on the anniversaries of the calendar date in April on which the inter-Governmental adjustment was carried out.
- (vii) The date of drawal of a loan by a State Government shall be determined as indicated below –



- (a) When monetary settlement is involved—Normally the calendar date on which amount of a loan is actually credited to the account of the State Government by the Reserve Bank is to be treated as the date of its drawal.

This position shall also hold in cases where adjustment in accounts is made in one month but date of adjustment in the books of the Reserve Bank of India falls in the following calendar month. The calendar date on which the credit is actually afforded to the State Government in the books of the Reserve Bank of India in such cases shall be treated as the date of its drawal.

**Exception.** An exception to this arrangement is in the case of loans for which credit is afforded to the recipient State Government in the month of April by the Reserve Bank of India but in the accounts of previous year. In such cases, a loan shall be deemed to have been paid on the thirty-first March of the financial year in the accounts for which the payment is adjusted. Consequently, payment of annual interest as also repayment of instalment of principal in respect of such loans shall fall due on the thirty-first March of the succeeding years and not on the anniversaries of the calendar date in April on which inter-Governmental adjustment on account of such loans was carried out in the books of the Reserve Bank of India.

- (b) Where no monetary settlement is involved.—In regard to cases where adjustment in the books of the Accounts Offices are only involved and actual credit through the Reserve Bank of India is not necessary, the last date of the month of account in which the adjustment is effected shall be taken as the date of drawal of loan for purposes of repayment and charging interest.

(viii) In order to avoid any default in the

payment of loan, the Principal Accounts Officers or Pay and Accounts Officers who maintain the detailed accounts of loans, shall issue notices in Form GFR-19 to the loanees (other than State and Union Territory Governments) i.e. Public Sector Undertakings, statutory bodies and Government institutions etc., say, a month in advance of the due date for the repayment of any instalment of the principal and/ or interest thereon. However, omission to give notice does not give the loanees any claim to exemption from the consequences of default in the repayment of the principal and/or interest thereon.

**Rule 250** (2) Before sanctioning a loan to private Institutions the lending Ministry or Department shall examine the financial health and managerial ability of such institutes.

**Rule 250** (3) (i) Before considering a loan application from parties other than State Governments and Local Administrations of Union Territories, the following requirements shall be fulfilled:-

- (a) it shall be seen that there is adequate budget provision;
- (b) it shall be seen whether the grant of the loan is in accordance with approved Government policy and accepted patterns of assistance.

(ii) Before approving the loan, the applicant shall be asked to furnish the following materials and information:-

- (a) copies of profit and loss (or income and expenditure) accounts and balance sheets for the last 3 years;
- (b) the main sources of income and how the loan is proposed to be repaid within the stipulated period;
- (c) the security proposed to be offered for the loan together with a valuation of the security offered by an independent authority and a certificate to the effect that the asset offered as security is not already encumbered.
- (d) Details of loan or loans taken from the Central Government or a State



Government in the past, indicating amount, purpose, rate of interest, stipulated period of repayment, date of original loan and amount outstanding against the loan(s) on the date of the application and the assets, if any, given as security;

- (e) a complete list of all other loans, outstanding on the date of application and the assets given as security against them;
- (f) the purpose for which the loan is proposed to be utilized and the economics of the scheme.

**NOTE.** Where the loan is to be given to Government institution on the strength of a guarantee given by the trust managing it, similar information should be called for in respect of the trust also.

- (iii) On receipt of the information called for as mentioned in (ii) above, confidential enquiries shall be made from the other Departments of the Central Government or State Governments from which the party has taken loans, to judge the performance in regard to the previous loans. If the replies indicate that the performance was not satisfactory, the loan shall be refused. It must be analysed that the financial position of the party is sound. It shall also be ensured that the security offered is adequate and its value is at least thirty-three and one-third per cent. above the amount of the loan. If possible, an independent valuation of the security offered shall be obtained. The applicant for the loan must satisfy both the criteria for financial soundness and adequacy of security before a loan is sanctioned.
- (iv) In the case of Institutions which receive Grants-in-aid from Government to meet a part of their deficits and the balance is met by the State Government and the Trustees of Management, it shall be ensured—
  - (a) that in computing the deficit for purpose of the Grant-in-aid, the income from the scheme, if any, earmarked for servicing the loan and the instalment of repayment of the loan and interest (if any) is

not included;

- (b) that as far as possible, the scheme for which the loan is given is self-financing and does not throw an additional burden on the general income of the institutions, e.g., in the case of hostels for colleges that the rents proposed are adequate;
- (c) the Institution produces an undertaking from the State Government or the Management that any shortfall towards repayment of the loan and interest shall be made good by it. In the latter case the financial position of the Management (Trust) shall be investigated after calling for information on the lines of Rule 250. (3) (i) above.
- (v) Ministries or Departments of the Central Government shall lay down a procedure for periodical review of the old loans so that prompt action can be taken, if necessary, for enforcing regular payments.

**Rule 250** (4) The detailed procedure to be followed in connection with the Grant of loans to local bodies shall be regulated by the provisions of the Local Authorities Loans Act and other special Acts and by rules made thereunder.

**Rule 251** (1) **Interest on Loans.** Interest shall be charged at the rate prescribed by the Government for any particular loan or for the class of loans concerned.

**Rule 251** (2) A loan shall bear interest for the day of payment but not for the day of repayment. Interest for any shorter period than a complete year shall be calculated as follows, unless any other method of calculation is prescribed in any particular case or class of cases.

$$\frac{\text{Number of days} \times \text{Yearly rate of interest}}{365 \text{ (366 in case of a leap year)}}$$

**Rule 252** (1) **Procedure to be followed for recovery of loans and interest thereon and Grant of moratorium.** The instructions issued by the Ministry of Finance from time to time prescribing the interest rates and other terms and conditions of loans to State and Union Territory Governments, Local Bodies,





Statutory Corporations, financial, industrial and commercial undertakings in the Public Sector shall be strictly followed.

**Rule 252** (2) The recovery of loans shall ordinarily be effected in annual equal instalments of principal together with interest due on the outstanding amount of principal from time to time. The repayment and interest instalments may be rounded off to the nearest rupee subject to final adjustment at the time of payment of last instalment of principal and/or interest.

**Rule 252** (3) A suitable period of moratorium towards repayment might be agreed to in individual cases having regard to the projects for which the loans are to be utilized. However, no moratorium shall ordinarily be allowed in respect of interest payable on loans.

**Rule 253** (1) **Loans to State and Union Territory Governments, Local Bodies, Statutory Corporations, Public Sector Undertakings, etc.** Loans shall ordinarily be sanctioned at the normal rates of interest prescribed by Government for the particular category of the loanee. In cases where the normal rate is considered too high and a concession is justified, it shall take the form of direct subsidy debitable to the grants of the sanctioning authority. In such cases interest shall, however, be paid by the borrower in the first instance at the normal rates and subsidy shall be claimed separately.

**Rule 253** (2) **Agreements and other documentation.**

- (i) In the case of loans to parties other than State Governments and wholly owned Government Companies, a loan agreement specifying all the terms and conditions shall be executed. A clause shall invariably be inserted in all such agreements enabling Government at any time to call for accounts of the applicant relating to any accounting year with power to depute an officer specially authorized for this purpose to inspect the applicant's books, if necessary.
- (ii) A written undertaking in Form GFR 15 shall be obtained from a wholly Government-owned company at the time of sanctioning the loan. The sanction shall specifically state that such an undertaking would be

obtained from the loanee before the drawal of the amount of loan and a certificate that the undertaking has been obtained, shall be recorded by the Drawing Officer of the office of the sanctioning authority in the bill for drawal of the amount of loan. The sanction in respect of loans to other organizations, where a formal agreement is required to be executed, shall also be issued in the same manner.

**Rule 254** **Undertaking to be obtained from wholly-owned Government Companies.**

In the case of loans to wholly-owned Government Companies, a written undertaking to the effect that the fixed assets of the company shall not be hypothecated without prior approval of the Government shall be obtained in Form GFR 32. No stamp duty need be paid on these written undertakings.

**Rule 255** Loans to parties other than State Governments, wholly owned Government Companies and Local Administration of Union Territories shall be sanctioned only against adequate security. The security to be taken shall ordinarily be at least thirty-three and one-third per cent. more than the amount of the loan. However, a competent authority may accept security of less value for adequate reasons to be recorded.

**Rule 256** (1) **Submission of Utilization Certificate, Reports, Statements, etc.** In cases in which conditions are attached to the utilization of loan, either in the shape of the specification of the particular objects on or the time within which the money must be spent or otherwise, the authority competent to sanction the loan shall be primarily responsible for certifying to the Accounts Officer where necessary, the fulfilment of the conditions attaching to the loan, unless there is any special rule or order to the contrary. The loans sanctioned to the State Governments and the Local Administration of Union Territories shall not, however, come within the purview of this rule.

**Rule 256** (2)

- (i) The certificate referred to in Rule 256 (1) above shall be furnished as in Form GFR 12-B and at such intervals as may





be agreed to between the Audit Officer and/or the Accounts Officer, as the case may be, and the Ministry or Department concerned. Before recording the certificate, the certifying officer shall take steps to satisfy himself that the conditions, on which the loan was sanctioned, have been or are being fulfilled. For this purpose, he may require the submission to him at suitable intervals of such reports, statements, etc., which shall establish the utilization of loan for the purpose for which it was sanctioned. The loanee institution may also be required to furnish a certificate from its Auditors that the conditions attaching to the loan have been or are being fulfilled. The certificate shall give details of the breaches, if any, of those conditions.

- (ii) A Certificate of Utilization of the loan shall be furnished to the Accounts Officer in every case of loan made for specific purposes, even if of the any conditions is not specifically attached to the grant. Such certificates are not, however, necessary in cases where loans are sanctioned not for any specific purpose or object but take the shape of a temporary financial aid or where the loans have been sanctioned to the Public Sector Undertakings intended for financing of their approved capital outlays. The repayment of loan, however, has to be watched in the usual manner.
- (iii) In respect of loans the detailed accounts of which are maintained in the Audit Offices, the authorities sanctioning the loan shall furnish the Utilization Certificate in respect of each individual case.
- (iv) Where the detailed accounts of the loans are maintained by the Departmental authorities, a consolidated Utilization Certificate shall be furnished to Audit by the Ministries/Departments sanctioning the loans to Institutions/Organisations for the total amount of the loans disbursed during each year for different purposes including the loans sanctioned by their subordinate officers. This certificate shall not cover the loans to individuals for which

Utilization Certificates need not be furnished to the Accounts Officer. The Certificate shall indicate the year-wise and object-wise break-up of loans disbursed and the loans for which Utilizations Certificates are furnished. The utilization certificate shall also show the loans disbursed separately for each sub-head of account to facilitate verification by the Accounts Officer.

- (v) The Utilization Certificates shall be furnished within a 'reasonable time' after the loan is paid to the institutions. The Department of Central Government shall prescribe, in consultation with the Ministry of Finance, target dates for the submission of the Utilization Certificates by the Department concerned to the Accounts Officer. The target date shall, as far as possible, be not later than eighteen months from the date of sanction of the loan.
- (vi) In respect of loans, the detailed accounts of which are maintained by Departmental Officers and where consolidated Utilization Certificates are to be furnished to Accounts Officer, the period of 18 months shall be reckoned from the expiry of the financial year in which the loans are disbursed. The consolidated Utilization Certificates in respect of such loans paid each year shall, therefore, be furnished not later than September of the second succeeding financial year.
- (vii) The due dates for submission of the Utilization Certificates shall be specified in the letter of sanction for loan. The target date as specified shall be rigidly enforced and extension shall only be allowed in very exceptional circumstances in consultation with the Ministry of Finance under intimation to the Audit Officer and/or the Accounts Officer, as the case may be. No further loans shall be sanctioned unless the sanctioning authorities are satisfied about the proper utilization of the earlier loan sanctioned to an Institution, etc.

**Rule 257 Instalments of Loans.** When a loan of public money is taken out in instalments, each instalment of the loan so drawn shall



be treated as a separate loan for purposes of repayment of principal and payment of interest thereon except where the various instalments drawn during a financial year are, for this purpose, allowed to be consolidated into a single loan as at the end of that particular financial year. In the latter event, simple interest at the prescribed rate on the various loan instalments from the date of drawal of each instalment to the date of their consolidation shall be separately payable by the borrower. Repayment of each loan or the consolidated loan, as the case may be, and the payment of interest thereon shall be arranged by the borrower annually on or before the anniversary date of drawal or consolidation of the loan in such number of instalments as the sanctioning authority may prescribe. The sanctioning authority may allow, in deserving cases a moratorium towards repayment of principal but not for the payment of interest. Should it appear that there is an undue delay on the part of the debtor in taking out the last instalment of a loan the authority sanctioning the loan may at any time declare that loan closed, and order repayment of capital to begin. The Accounts Officer shall bring to notice any delay that appears to him to require this remedy and he shall take this step whether or not there are any dates fixed for taking of instalments.

**NOTE 1.** These instructions are applicable mutatis mutandis to loans, the repayments of which are made by other than annual instalments.

**NOTE 2.** It must be remembered that the calculation fixing the amount of equal periodical instalments, by which a loan is repaid with interest, presupposes punctual payment of the instalment and that, if any instalment is not punctually repaid, the interest amount shall need to be recalculated.

**Rule 258 (1) Defaults in Payment.** The loan sanctions in favour of State or Union Territory Governments and the loan sanctions or undertakings or agreements in case of wholly Government owned companies or Public Sector Undertakings shall invariably include provision for the levy of penal interest on overdue instalments of interest or principal and interest. The loan sanctions and

agreements in all other cases shall invariably stipulate a higher rate of interest and provide for lower rate of interest in the case of punctual payments. The penal or the higher rate of interest, as the case may be, shall not, except under special orders of Government, be less than two and half per cent per annum above the normal rate of interest prescribed by Government from time to time for the loans advanced.

**Rule 258 (2)** Any default in the payment of interest upon a loan or in the repayment of principal, shall be promptly reported by the Accounts Officer, to the authority which sanctioned the loan. The responsibility of the Accounts Officer, under this rule refers only to the loans, the detailed accounts for which are kept by him.

**Rule 258 (3)** Procedure to be followed in case of defaults in repayment of interest free loans or loans sanctioned at concessional rates of interest :

- (i) In the case of grant of interest free loans e.g., loans to technical educational institutions for construction of hostels, prompt repayment shall be made a condition for the grant of interest free loans. The sanction letter in such cases shall provide that in the event of any default in repayment, interest at rates prescribed by Government from time to time will be chargeable on the loans.
- (ii) In the case of loans sanctioned at concessional rates of interest the difference between the normal rate and concessional rate), shall be made conditional upon prompt repayments of principal and payment of interest thereon by the entity concerned.
- (iii) In the cases where in addition to interest free loans, subsidy is also provided to meet running expenses the sanction letter shall provide that in the event of any default in repayment, the defaulted dues would be recovered out of the subsidy payable.

**Rule 258 (4)** On receipt of a report of default referred to in sub-rule (2) above, the authority concerned shall immediately take steps to get the default remedied and also consider enforcement of penal or higher rate of interest on the overdue amounts. Where the sanctioning authority



is satisfied, having regard to the circumstances of the case, that penal or higher interest need not be recovered, the borrower shall ordinarily be asked to pay interest, at the normal rate prescribed in the loan sanction, on the overdue amount (of principal and/or interest) from the due date of payment up to the date of settlement of the default. The recovery of additional interest shall not be waived except in special circumstances or where the period of defaults is very short, e.g., a few days.

**Rule 259 Irrecoverable Loans.** A competent authority, after prior approval of the Ministry of Finance may remit or write off any loans owing to their irrecoverability or otherwise.

**Rule 260 Accounts and Control.** Subject to such general or specific directions as may be given by the Comptroller and Auditor-General in this behalf, detailed accounts of loans to Institutions and Organizations, etc., shall be maintained by the Accounts Officer who shall watch their recovery and see that the conditions attached to each loan are fulfilled.

**Rule 261** The instructions contained in this Chapter relating to cost of audit of Grants-in-aid are applicable Mutatis mutandis in the case of loans as well.

**Rule 262 Annual Returns.** Each Principal Accounts Officer shall submit to the concerned Ministry or Department of Government, a statement in Form GFR 13 showing the details of outstanding Central Loans borne on his books as on thirty-first March each year. This statement shall be submitted not later than the following thirtieth September and shall indicate the aggregate of outstanding balance of loans, details of defaults, if any, in repayment of principal and/ or interest and the earliest period to which the default pertains, against each State or Union Territory Government, foreign Government, Railway or Department of Posts funds, Central Public Sector and other Government Institutions etc. Where, however, detailed accounts are not required to be maintained by the Accounts Office, the statement shall contain departmental authority-wise aggregate balances of outstanding loans.

**Rule 263 (1) Review of Annual Statements with a**

**view to enforce repayments of the principal and interest due.**

The Administrative Ministries shall keep watch over the receipt of the Annual Statements in Form GFR 20 regularly from the Accounts Officer and conduct a close review of the cases of defaults in repayment of the instalments of principal and/or interest due, as revealed from these Annual Statements and take suitable measures for enforcing repayments of the principal and interest due. If these statements are not received in time, the Accounts Officer shall be reminded promptly. To facilitate a proper review of the position of outstanding loans, the Ministries may also arrange to maintain centrally a list of all sanctions issued relating to loans advanced to State Governments and other entities.

**Rule 263 (2) Submission of Annual Assessment Report.**

A copy of Annual Assessment Report on status of all outstanding loans, including timely and accurate payment of principal and interest due, shall be submitted by the Financial Advisor of the Administrative Ministry concerned to the Ministry of Finance by 30th June of each financial year.



## BUDGETING AND ACCOUNTING OF EXTERNALLY AIDED PROJECTS

### **Rule 264 (1) Implementation of Projects or Schemes through external aid receipt.**

The projects or schemes of the Government of India to be implemented through external aid receipt from multilateral or bilateral funding agencies shall be shown in the budget proposals approved annually by the Parliament.

### **Rule 264 (2) The external aid comes from bilateral and multilateral sources as follows:**

- (i) Bilateral funding to finance specific project(s) by the funding agency(ies) under Government to Government agreement(s); and,
- (ii) Multi-lateral funding by Multi-Lateral Funding Agencies, such as the World Bank under agreement(s) between the borrower (Government of India) and the Multilateral Funding Agency(ies).

### **Rule 264 (3) The Department of Economic Affairs, Ministry of Finance as the nodal agency shall execute the legal agreement for loans or grants from external funding Agency(ies). However, grant agreements for Technical Assistance can also be executed by the beneficiary Ministries or Departments with the approval of Ministry of Finance, Department of Economic Affairs.**

### **Rule 264 (4) The Office of the Controller of Aid Accounts and Audit (CAAA) in the Department of Economic Affairs, Ministry of Finance shall be responsible for implementing the financial covenants laid down in the agreement(s) executed by Department(s) of Government of India and the External Funding Agency(ies). A copy of all such agreements shall be sent to the Office of Controller, Aid Accounts and Audit, Department of Economic Affairs for this purpose.**

### **Rule 265 Currency of external aid.**

The external aid shall flow from the Funding Agency in foreign currency or Indian Rupees and shall be received by the Reserve Bank of India, Mumbai which shall remit the rupee equivalent to the account of Controller, Aid Accounts and Audit, Department of Economic Affairs at Reserve Bank of India, New Delhi. The remittances shall be accounted as external loan/Grant receipts in the Consolidated Fund of India.

### **Rule 266 Accounting of Cash grants.** Cash grants, as distinct from commodity grant or other assistance in kind received from external sources shall be accounted for only by the office of Controller of Aid Accounts and Audit, Department of Economic Affairs.

### **Rule 267 Procedure for withdrawal.** The concerned administrative Ministries or Departments shall be required to make provision of funds under the relevant head of account as 'External Aided Component' in their Detailed Demands for Grants for release of external aid amounts during the year to the respective Project Implementing Agencies. There are mainly two procedures laid down for withdrawal of funds from the loan or grant account:

### **Rule 267 (1) Reimbursement procedure.** Under the reimbursement procedure the Project Implementing Agency shall initially spend or incur expenditure and subsequently claim the amount from the Funding Agency through the office of the Controller, Aid Accounts. The remittances shall be accounted as External Loan or Grant receipt in the Consolidated Fund of India. There are two ways of dealing with the reimbursement claims as given below:

#### **(i) Reimbursement through Special Account (Revolving Fund Scheme).**

Under the Revolving Fund Scheme, the Funding Agency disburses the estimated expenditure of four months for the projects as initial advance to Government of India under the respective loan or credit or grant agreement. Office of Controller of Aid Accounts & Audit withdraws the amount specified in the agreement as initial deposit from the Funding Agency, by sending a simple withdrawal application in the prescribed format after the loan is declared effective. Such initial deposit designated in US Dollars is received by Reserve Bank of India, Mumbai and Rupee equivalent shall be passed on to Controller of Aid Accounts & Audit through Government Foreign Transaction (GFT) advice. However, Reserve Bank of India, Mumbai shall maintain a loan wise proforma account for liquidation of advance



received from Funding Agency. Office of Controller of Aid Accounts and Audit, on receipt of reimbursement claims from Project Implementing Agency, shall send an advice to Reserve Bank of India, Mumbai advising it to debit the Special Account with the US Dollars equivalent of the amount of the eligible claim. Office of Controller, Aid Accounts and Audit shall consolidate all such claims and submit to Funding Agency for replenishment of Special Account. This shall be accompanied by a statement of debits and credits made during the period by Reserve Bank of India, Mumbai and supporting documents received from the Project Implementing Agency.

- (ii) **Reimbursement outside Special Account:** Under the reimbursement procedure (where there is no provision in the loan or credit agreement for the Special Account or the balance in the Special Account is 'Nil') office of Controller of Aid Accounts and Audit shall send the reimbursement claims received from the Project Implementing Agency direct to the Funding Agency after checking the eligibility aspect. The Funding Agency shall disburse the eligible expenditure to the borrower's account with Reserve Bank of India, Mumbai, who shall pass on the Rupee equivalent to the account of the Controller of Aid Accounts and Audit at Reserve Bank of India, New Delhi by issue of Government Foreign Transaction (GFT) advice.

**Rule 267 (2) Direct Payment Procedure.** Under this procedure adopted in some cases the Funding Agency, on the request of the Project Implementing Agency (received through Controller of Aid Accounts and Audit), duly supported by relevant documents, shall directly pay to the contractor or supplier or consultant from the loan or credit or grant account. The Funding Agency, after satisfying itself as to the eligibility of the expenditure etc. remits the amount directly to the account of the payees as per the payment instructions. The Funding Agency apprises the office of Controller of Aid Accounts

and Audit and the Project Implementing Agency of the particulars of the payment made. Office of Controller of Aid Accounts and Audit shall work out the rupee equivalent of the foreign currency payment. This rupee equivalent shall be recovered by office of Controller of Aid Accounts and Audit from the Project Implementing Agencies or State Governments which have availed of the Direct Payment Procedure.

**Note :** In the case of Central Projects, Centrally Sponsored Projects and Public Sector or Financial Institutions, the concerned administrative Ministry or Department shall release the fund to the Project Implementing Agency with the instruction to deposit rupee equivalent of the foreign currency that have been availed of under Direct Payment Procedure by them to the account of Controller of Aid Accounts and Audit at Reserve Bank of India, New Delhi or Branch of SBI so authorised.

**Rule 268**

**(1) Fund Flow for State Projects financed from external aid source.** The respective Departments of the State Government shall provide in the Budget such expenditure proposed to be incurred under Plan Schemes during the financial year by the Project Implementing Agencies. These shall be in respect of State projects to be financed from external aid sources both under loan or credit and grants and eligible for disbursement from Funding Agency under Reimbursement or Direct Payment Procedure.

**Rule 268**

**(2) Fund flow for State Projects under Reimbursement Procedure.** The disbursements under the "Reimbursement through Special Account" and "Reimbursement out side Special Account", referred to in Rule 267 (i), shall be consolidated at periodical intervals under each loan or credit State-wise by the office of the Controller of Aid Accounts and Audit. The details of the same shall be sent to Plan Finance Division of the Department of Expenditure in the Ministry of Finance for release of funds to the respective State Governments. The Plan Finance division of Department of Expenditure in the Ministry of Finance shall issue sanctions for actual release of the disbursement for each State. A copy of such sanction shall be endorsed





to the Finance Department of the concerned State Government for information. The office of the Chief Controller of Accounts, Ministry of Finance shall issue the Inter-Government (IG) Advice to Reserve Bank of India, Central Accounts Section, Nagpur, for effecting the release to the concerned State Governments. The account of the State Government maintained at Reserve Bank of India, Central Accounts Section, Nagpur, shall be credited with the amount so released, thus, completing the cycle of funds from the expenditure incurred from the Budget of the State till receipt of funds of such expenditure from Government of India to the State.

**Rule 268 (3) Fund flow for State Projects under Direct Payment Procedure.**

Under Direct Payment Procedure the claims shall be processed as mentioned in Rule 267 (ii). Office of Controller of Aid Accounts and Audit shall work out the Rupee equivalent of such Direct Payment based on Reserve Bank of India buying rate applicable for the value date on which the Direct Payment was made. Office of Controller of Aid Accounts and Audit shall consolidate such disbursement in Rupees, and send a list of such disbursement State-wise to Plan Finance Division of Department of Expenditure at periodical intervals requesting them to release the amount to the State concerned notionally and recover the same for credit to Controller of Aid Accounts and Audit's account. The Plan Finance Division shall issue a separate sanction for the amount to be released to the State concerned and for simultaneous recovery and credit back to the account of the Controller of Aid Accounts and Audit. A copy of such sanction shall also be endorsed to the Finance Department of the State Government concerned. The office of the Chief Controller of Accounts, Ministry of Finance shall advise Reserve Bank of India, Central Accounts Section, Nagpur, for making necessary adjustment entries in the accounts of the State concerned under intimation to the Finance Department of the State and Controller of Aid Accounts and Audit. This completes the cycle of funds flow in the case of direct payment claims.

**Rule 269 Fund flow for Central or Central sponsored Projects.** Under the Central or Central sponsored project financed from external aid, whether loan or grant, the process of disbursement of such claims by the Funding Agency shall be the same as explained in Rule 267. The respective Ministry or Department get EAP funds under a separate budget head when Demands for Grants are passed in the Parliament and advised by the Budget Division of the Ministry of Finance. The funds shall be released to Project Implementing Agency within six weeks by the administrative Ministry or Department with reference to expenditure incurred by the Project Implementing Agency.

**Rule 270 Fund flow for Public Sector or Financial Institutions.** When the Project Implementing Agency under Loan or Credit Agreement is a Public Sector or Financial Institution or Autonomous Body and Government of India is the Borrower, the Administrative Ministry concerned shall provide in its budget funds required to be passed on to the Project Implementing Agency for the expenditure incurred by the latter under the externally aided project. The Project Implementing Agency shall submit claims under reimbursement or direct payment procedures to the office of the Controller of Aid Accounts and Audit, Department of Economic Affairs. The disbursement of the claims by the Funding Agency shall be similar as explained in Rule 267. The concerned administrative Ministry or Department releases the amount to Project Implementing Agency based on the certification of disbursement received from the Funding Agency as certified by the office of the Controller of Aid Accounts and Audit.

However, where the loan is negotiated directly by a particular Public Sector Undertaking or Financial Institution, the funds from the Funding Agency shall flow direct to the borrowing entity.

**Rule 271 Repayment of loans.** Office of Controller of Aid Accounts and Audit shall be responsible for prompt repayment of principal on the due date as per the agreements. The remittance of foreign currency is arranged through designated Public Sector Commercial Banks and Reserve Bank of India. The Rupee





equivalent and the amount of foreign currency remitted shall be intimated by the Banks to Controller of Aid Accounts and Audit. The Rupee equivalent of the foreign currency remitted is credited to the respective Banks' account maintained at Reserve Bank of India, New Delhi, by debit to Controller of Aid Accounts and Audit's account as per standing arrangement. On the receipt of the advice from Reserve Bank of India, New Delhi, Controller of Aid Accounts and Audit shall debit the concerned loan account in the Consolidated Fund of India. The repayment of loans shall be classified as charged expenditure. In cases where the funds from externally aided Projects are further passed on as loans, the recovery of the loan along with interest shall be the responsibility of the respective administrative Ministry or Department.

**Rule 272 Interest Payments.** Interest on external loans shall be paid on the due date as stipulated in the loan or credit agreements against the budget provision made for this purpose. Interest payments shall be accounted for as debit under the Major Head '2049-Interest Payments' for external loans in the Consolidated Fund of India. The procedure for transfer of amount shall be the same as followed in the case of repayment of loans, referred to in Rule 271 above. The interest payment shall be classified as charged expenditure.

**Rule 273 Accounting of exchange variation.** The exchange variation in respect of foreign loans that have been fully repaid shall be adjusted written off to "8680-Miscellaneous Government Accounts - Write off in terms of Government Accounting Rules and the procedures prescribed by CGA in consultation with CAG.

**Rule 274 Aid in form of materials and equipment.** In cases where materials, equipment and other commodities, without involving any cash inflow, are received as aid from foreign countries, the Funding Agency issues an advice to the concerned Ministry or Department giving details of materials supplied along with the value thereof. The Ministry or Department concerned in turn shall intimate the details to the office of the Controller of Aid Accounts and Audit,

Department of Economic Affairs for making the budget provision in regard to aid material or equipment.

**Note :** Refer to Para 4.8.1 of Civil Accounts Manual and Note (1) below Major Head '3606-Aid Materials and Equipments' of List of Major and Minor Heads of Account of Union and States for detail procedure of adjustment of value of the materials etc. received



## GOVERNMENT GUARANTEES

**Rule 275 (1) Power to Give and Limits on Government Guarantees.** The power of the Union Government to give guarantees emanates from and is subject to such limits as may be fixed in terms of Article 292 of the Constitution of India, the Fiscal Responsibility and Budget Management Act and Rules framed there under as amended from time to time.

**Rule 275 (2)** In terms of the Fiscal Responsibility and Budget Management Act and Rules framed thereunder, the Central Government shall not give guarantees aggregating the amount prescribed therein.

**Rule 275 (3)** Powers to grant Government of India Guarantee, including those on external borrowings, vests with the Budget Division, Department of Economic Affairs (DEA).

**Rule 276 Objectives of Government Guarantees:** The sovereign guarantee is normally extended for the purpose of achieving the following objectives:

- (i) To improve viability of projects or activities undertaken by central entities with significant social and economic benefits;
- (ii) To enable central public sector companies to raise resources at lower interest charges or on more favourable terms;
- (iii) To fulfil the requirement in cases where sovereign guarantee is a precondition for concessional loans from bilateral/ multilateral agencies to central public sector companies/agencies.

**Rule 277 Guidelines for grant of Government of India Guarantee:** The following guidelines should be followed by the Ministries or Departments of the Government of India for recommending guarantee or counter guarantee.—

- (i) A proposal for guarantee by Government must be justified in public interest such as in the case of borrowings by central public sector institutions for approved development purposes or borrowings by central public sector undertakings from Banks for working capital and other purposes.
- (ii) The Administrative Ministry/ Department or the credit Divisions of Department of Economic Affairs shall

examine the proposal in consultation with the Financial Adviser in the same manner as a proposal for loan. While examining the proposal the following considerations shall be kept in view :-

- (a) Public interest which the guarantee is expected to serve.
  - (b) Credit worthiness of the borrower to ensure that no undue risk is involved.
  - (c) Terms of the borrowing shall take into account the yields as applicable on Government paper of similar maturity.
  - (d) The conditions prescribed in the guarantee order/agreement in order to ensure continued credit worthiness of the borrower.
- (iii) Risk associated with assumption of a new contingent liability/guarantee proposal, including the probability of future payouts should be thoroughly assessed by the concerned Administrative Ministry/Department or Credit Divisions of Department of Economic Affairs recommending the proposal. Such assessment should ideally be entrusted to an independent unit and should be undertaken even when it has already been decided by a higher authority to provide guarantees. The assessment should reveal an accurate picture of the financial condition of the entity to be guaranteed; risks associated with implementation of the project/scheme, etc. This information would be useful to estimate the funds needed to meet associated contingent liabilities if the need should arise, in current or future budgets.
- (iv) After examination in the concerned Ministry or Department or Credit Division of DEA, all proposals for extending guarantees shall be referred to Budget Division, DEA for approval. No guarantees shall be given without the approval of Budget Division, DEA
- (v) With a view to enable the Ministry of Finance to examine cases of Government of India guarantees and extension thereto, all Ministries or Departments should furnish to that Ministry, data of certain operational



parameters of the Public Sector Undertaking or Entity, as given in GFR 26. In case the accounts of the Central Public Sector Undertaking or Entity have been audited by the Comptroller & Auditor General of India, the effect of the comments of the Comptroller & Auditor General of India on the Central Public Sector Undertaking's profitability should be brought out. Further, where BIFR targets have been assigned or Cabinet directions issued to the Company, the actuals vis-à-vis targets for the preceding three years should be indicated. The data should be furnished in the Form GFR 26 along with the proposal for guarantee.

- (vi) Guarantees shall normally be restricted to the repayment of principal and normal interest component of the loan. Other risks shall not form part of the guarantee.
- (vii) Government guarantees will be extended to only central public sector companies/agencies.
- (viii) Government guarantees shall not be provided to the private sector.
- (ix) Government guarantees should normally not be extended for external commercial borrowings.
- (x) Government guarantees may be given on all soft loan components of the bilateral/multilateral aid. However, guarantee shall not be normally given for the commercial loan components of such aid.
- (xi) Government of India guarantee will not be given in cases of grants. However, if the donor insists on ensuring performance, the same may be listed as a negotiating condition for getting the grant.
- (xii) Appropriate conditions, may be made by Government while giving the guarantee e.g. period of guarantee, levy of fee to cover risk, representation for Government on the Board of Management, Mortgage or lien on the assets, submission to Government of periodical reports and accounts, right to get the accounts audited on behalf of Government etc. Even if fee, representation and mortgage are not

considered necessary, the right to verify the continued credit-worthiness of the borrower should be ensured.

- (xiii) Guarantees may not be proposed for pursuing low priority objectives or programmes. Proposal for grant of guarantee as an off-budget support should also be examined comprehensively by the proposing Ministry/Department against other alternative forms of support which may be more appropriate and cost-effective. For example, in the case of provision of credit guarantees to enterprises that continually incur losses as a result of government's pricing policy, budgetary subsidies or direct government loans may be a more effective and less costly option.
- (xiv) Guarantees may not be proposed in respect of Central Public Sector Enterprises whose strong financial credentials and high credit rating would indicate inherent ability to directly raise the required resources without the support of government guarantee.

**Rule 278 Borrowings from multilateral agencies by Central Public Sector Undertakings.**

- (i) All borrowings from the multilateral agencies by Central Public Sector Undertakings would be direct (without Government of India's intermediation) on the terms as agreed mutually between the borrower and the lender and approved by the Government of India. However, where such terms involve guarantee of Government of India, prior approval of the Budget Division of the Ministry of Finance may be obtained.
- (ii) The borrowing should relate to the Projects approved by the prescribed competent authority of the Central Government.
- (iii) Wherever guarantee is to be given by Government of India, the borrower shall enter into an agreement with the Government of India for the payment of guarantee fee on the principal amount of the loan drawn and loan outstanding from time to time.
- (iv) The Government of India Guarantee would only cover the principal amount



and the normal interest. All other risks including the exchange rate risk would be shared between the borrower and lender as per terms and conditions prescribed in the loan agreement.

**Rule 279 (1) Levy of Guarantee Fees.** The rates of fee on guarantees would be as notified by the Budget Division, Department of Economic Affairs, Ministry of Finance from time to time. The rates of guarantee fee are given in Appendix - 12. Ministries or Departments shall levy the prescribed fee in respect of all cases. The fees are also to be levied in respect of non-fund based borrowings or credits (viz. letters of credit, Bank guarantees etc.). In case of any doubt with regard to the categorisation of any particular undertaking or organization or the nature of borrowing for the purpose of levy of fee, the matter may be referred to the Budget Division for clarification. The Ministries or Departments should also take adequate steps to ensure prompt recovery of the prescribed fees.

**Rule 279 (2)** The guarantee fee should be levied before the guarantee is given and thereafter on first April every year. The rate of guarantee fee is to be applied on the amount outstanding at the beginning of the guarantee year.

**Rule 279 (3)** Where the guarantee fee is not paid on the due date, fee should be charged at double the normal rates for the period of default.

**Rule 279 (4)** The Government may guarantee no more than 80% of the project loan, depending on the conditions imposed by the lender. This would incentivize the lenders to make proper analysis of the project, credit worthiness of the borrower(s), and build strategies for risk management. In such cases, bankers/ lenders may be asked to share the risk by bearing a minimum of 20% of the net loss associated with any default. The arrangement would ensure that the lenders undertake a more rigorous assessment of the risk exposure.

Provided further that in certain exceptional circumstances, the Government of India may guarantee 100% of the financing where the organisation concerned is discharging some function on behalf of the Government of India.

## **Rule 280 Execution of Government Guarantees.**

- (i) Once the guarantee is approved by Ministry of Finance, the guarantees will be executed and monitored by the Administrative Ministries concerned, who are also required to report the status in this regard on an annual basis till they are invoked or are obliterated. The following guidelines need to be kept in view while issuing guarantees-
  - a) The obligations of the borrower to service the loan and the guarantee, and the monitoring of the utilization of the guaranteed loans, and adherence to the terms and conditions of the guarantee by the Borrower shall be ensured by the Administrative Ministry/ Department through a back-to-back agreement with the borrower which may be drawn up and implemented to the satisfaction of the Administrative Ministry concerned. For this purpose, necessary records to monitor the guarantee, including servicing of guarantee fee shall be maintained by the Line Ministries/ Departments concerned.
  - b) Administrative Ministry should ensure that there are no inconsistencies between the guarantee approval given by the Ministry of Finance and the guarantee agreement signed by it with the borrower. The obligations enforced by the Government as guarantor would be duly factored in.
  - c) Deviations/modifications/ amendments on the main conditions of the guarantee, particularly with reference to the rate of interest on the loan to be guaranteed and obligations of the Government to be covered, should not be referred in a routine manner to Budget Division for clarification/ change. The Administrative Ministry concerned shall make out a separate case, fully justifying the need for considering any proposed modifications/ amendments, after thorough



scrutiny of the request of the borrower for the same, before placing these proposals before the Budget Division for a final decision.

- d) In respect of bilateral and multilateral credit, Standard format of Guarantee of the lending institutions may be examined with a view that the same are not in contradiction with the conditions of sovereign guarantee prescribed in this chapter, before signing by the Administrative Ministry/ Department. The guarantee agreement may also not omit any conditions as brought out in this Chapter. New conditions or covenants, and differences, if any, shall be referred to Budget Division of the Department of Economic Affairs (DEA) for concurrence.
- e) Guarantee proposals approved by the Budget Division shall have to be executed in the same financial year. If the guarantee/ loan agreement is not signed in the same financial year as that of the approval of the guarantee proposal, the guarantee proposal shall have to be submitted again.
- f) The guarantee shall hold only for the specific purpose agreed to by the Budget Division.
- g) Guarantee given by Government of India shall be non-transferrable and would cease to exist in case the ownership of the entity is transferred from Government of India, unless the Guarantee is re-confirmed by the Budget Division.
- (ii) The Financial Advisers in Ministry/ Department will perform the responsibility of maintenance of records and reporting including for the Finance Accounts and the IGAS, through the office of Controller/Chief Controller of Accounts.

**Rule 281 (1) Review of Guarantees.** All Ministries or Departments shall ensure that all guarantees are reviewed every year. The

monitoring or review undertaken should examine whether the borrower is discharging repayment obligations or interest obligations as per terms of the loan agreement, whether the repaying capacity for the loan and guarantee amount is imposed in any manner, and whether all covenants and conditions are being religiously followed. The Financial Advisers of the Ministries or Departments should undertake these reviews. A copy of the review report including on timely and correct payment of guarantee fees, shall be forwarded by the Finance Advisor to the Budget Division by 30th April every year for the previous financial year.

**Rule 281 (2)** The Financial Adviser of the Ministries or Departments would be responsible for ensuring that the annual reviews are carried out by the Ministries or Departments concerned. They shall also ensure that a register of guarantees in Form GFR 25 is maintained :-

- (i) to keep a record of guarantees;
- (ii) to retain information required from time to time in respect of guarantees;
- (iii) to keep record of the annual reviews to see that these are carried out regularly;
- (iv) to keep record of levy and recovery of guarantee fee;
- (v) to send data as contained in Form GFR 25, duly updated every year to the Budget Division in the Ministry of Finance, Department of Economic Affairs by tenth of April.

**Rule 281 (3)** In respect of guarantees issued by the Ministry of Finance for external loans, the respective credit divisions of Department of Economic Affairs shall conduct an annual review in consultation with the Financial Adviser (DEA). For this purpose the Financial Adviser (DEA) shall ensure the maintenance of the required registers, as well as ensure that the annual reviews are carried out by the concerned credit divisions, and report forwarded to the Budget Division in Form GFR 25. In cases, where the guarantees on external loans are issued by the concerned administrative Ministry, that Ministry would be responsible for conducting the review.

**Rule 281 (4) Classification of guarantees.** For the purpose of record keeping, guarantees shall be classified as under:-





- (i) guarantees given to the RBI, other banks and industrial and financial institutions for repayment of principal and payment of interest, cash credit facility, financing seasonal agricultural operations and/or providing working capital to companies, corporations, cooperative societies and banks;
- (ii) guarantees given for repayment of share capital, payment of minimum annual dividend and repayment of bonds or loans, debentures issued or raised by the statutory corporations and central public sector undertakings;
- (iii) guarantees given in pursuance of agreements entered into by the Government of India with international financial institutions, foreign lending agencies, foreign governments, contractors, suppliers, consultants etc., towards repayment of principal, interest and/ or commitment charges on loans etc., and /or for payment against supplies of material and equipment;
- (iv) counter guarantees to banks in consideration of the banks having issued letters of credit or authority to foreign suppliers for supplies made or services rendered.
- (v) guarantees given to Railways for due and punctual payment of dues by Central Government companies or corporation;
- (vi) Others guarantees not covered under above five classes.

**Rule 282 Accounting for Guarantees.** In order to ensure greater transparency in its fiscal operations in the public interest, Rule 6 of the FRBM Rules, 2004 requires government to publish a disclosure statement on guarantees given by government, at the time of presenting the annual financial statement and demands for grants. This statement covers, inter alia, details regarding the class and number of guarantees, amounts guaranteed, outstanding, invocations, guarantee fee payable and other material details.

- (i) The statement is to be compiled by the Administrative Ministries/ Departments and submitted to Controller General of Accounts, for

onward submission to Budget Division. Based upon the inputs, a statement of Guarantees given by the Central Government is depicted as an annexure in the Receipt Budget.

- (ii) While furnishing the Statement of guarantees to the Ministry of Finance, the Administrative Ministries or Departments should ensure and certify that the amounts shown tally with the total figures in the statement to be included in the Detailed Demands for grants.
- (iii) While furnishing the summary statements, the Ministries or Departments should also certify that the information tallies with the material furnished to the Controller General of Accounts for the purpose of inclusion in the Finance Accounts of the relevant year and is compliant with Indian Government Accounting Standard- 1 (IGAS-1) relating to Government Guarantees.

**Rule 283 (1) Invocation of Guarantee.** A Guarantee Redemption Fund (GRF) has been established in the Public Account of India for redemption of guarantees given to CPSEs, Financial Institutions, etc., by the Central Government whenever such guarantees are invoked. The funding to the Guarantee Redemption Fund is to be done through budgetary appropriations, as considered appropriate, under the head 'Transfer to Guarantee Redemption Fund' through the Demands for Grants of the Department of Economic Affairs.

**Rule 283 (2)** The Administrative Ministries/ Departments should inform any case of impending/likely invocation, well in advance, to the Budget Division, along with the proposed corrective measures.

**Rule 283 (3)** In the event of invocation of a guarantee, the obligation may be discharged by sanctioning loan to the borrowing entity equal to the amount of guarantee outstanding with the approval of Budget Division, Ministry of Finance. However, any payment on this account will finally be charged to the Guarantee Redemption Fund maintained in the Public Accounts.



## MISCELLANEOUS SUBJECTS

### I. ESTABLISHMENT

**Rule 284 (1) Proposal for additions to Establishment.**

All proposals for additions to establishment shall be submitted to sanctioning authority in accordance with the instructions contained in Rule 11 of the Delegation of Financial Powers Rules and other such instructions which may be prescribed in this regard.

**Rule 284 (2) All proposals for creation of new posts or a revision in an existing establishment should contain, inter alia:-**

- (i) the present cost of the establishment in existence;
- (ii) cost implications of the change proposed giving details of pay and allowances of post(s) proposed;
- (iii) expenditure in respect of claim to pension or gratuity or other retirement benefits that may arise in consequence of the proposals;
- (iv) details on how the expenditure is proposed to be met including proposed re-appropriations.

**Rule 284 (3) Continuation of an existing post beyond the specified duration will be with explicit approval of Ministry of Finance, based on functional justification.**

**Rule 284 (4) All proposals for increase in emoluments for an existing post(s) shall be referred to the Ministry of Finance for approval.**

**Rule 285 All service matters from entry to exit, including leave, transfer, promotion, performance appraisal should be maintained in a digitised format.**

**Rule 286 (1) Transfer of Charge.** A report of transfer of a Gazetted Government servant duly made in Form GFR 16 and signed both by the relieved and relieving Government servants, shall be sent on the same day to the Head of the Department or other Controlling Officers concerned except in the following types of cases in respect of which report of transfer of charge need not be signed both by the relieving and relieved Government servants simultaneously and may be sent independently:-

- (i) Where a Gazetted Government servant assumes charge of a newly

created or vacant post or relinquishes charge of a post which has been abolished.

- (ii) Where a Gazetted government servant vacates a post for a short period and no formal appointment or officiating arrangement is made in his place.
- (iii) Where due to administrative exigencies a government servant is required to move to another post relinquishing his post against local arrangement.

**Rule 286 (2) In cases in which the transfer of charge involves assumption of responsibility for cash, stores, etc., the following instructions should be observed :-**

- (i) The Cash Book or imprest account should be closed on the date of transfer and a note recorded in it over the signatures of both the relieved and the relieving Government servants, showing the cash and imprest balances and the number of unused cheques/receipt books, if any, made over and received by them respectively.
- (ii) The relieving Government servant should bring to notice anything irregular or objectionable in the conduct of business that may have come officially to his notice to the incoming officer.
- (iii) In the case of any sudden casualty occurring or any emergent necessity arising for a Government servant to relinquish his charge, the next senior officer of the department present shall take charge. When the person who takes charge is not a Gazetted Government servant, he must at once report the circumstances to his nearest departmental superior and obtain orders as to the cash in hand, if any.

**Rule 286 (3) The additional procedure to be followed by an Audit Officer or Accounts Officer, etc., in making over charge of his functions in connection with the Charitable Endowments and other Trust Accounts is laid down in Appendix – 8.**

**Rule 287 Date of Birth.** Every person newly appointed to a service or a post under



Government shall, at the time of the appointment, declare the date of birth by the Christian era with confirmatory documentary evidence such as a Matriculation Certificate, where prescribed qualification for appointment is Matriculation or above. In other cases Municipal Birth Certificate or Certificate from the recognised school last attended shall be treated as a valid document.

**Rule 288 (1) Service Book.** Detailed Rules for maintenance of Service Books are contained in SRs. Service Books maintained in the establishment should be verified every year by the Head of Office who, after satisfying himself that the services of Government servants concerned are correctly recorded in each Service Book shall record the following certificate "Service verified from .....(the date record from which the verification is made) ..... upto .....(date)....."

**Rule 288 (2)** The service book of a government servant shall be maintained in duplicate. First copy shall be retained and maintained by the Head of the Office and the second copy should be given to the government servant for safe custody as indicated below :-

- (i) To the existing employees - within six months of the date on which these rules become effective, if not already given.
- (ii) To new appointees - within one month of the date of appointment.

**Rule 288 (3)** In January each year the Government servant shall handover his copy of the Service Book to his office for updation. The office shall update and return it to the Government Servant within thirty days of its receipt.

**Rule 288 (4)** In case the Government servants' copy is lost by the government servant, it shall be replaced on payment of a sum of Rs. 500/-.

**Rule 288 (5)** All Service Books should be digitised for easy reference and to avoid problems in case of loss of Service Books.

**Rule 289 Retrospective claim due from date of sanction.** In the case of sanction accorded with retrospective effect the charge does not become due before it is sanctioned. In such cases the time-limit specified in Rule

296 (1) should be reckoned from the date of sanction and not from the date on which the sanction takes effect.

**Rule 290 Due date of T. A. claim.** Travelling allowance claim of a government servant shall fall due for payment on the date succeeding the date of completion of the journey. He shall submit the travelling allowance claim within sixty days of its becoming due failing which it shall stand forfeited.

**Rule 291** Reckoning the date in case of T.A. claims by retired Government servants appearing in a Court of Law for defending himself.— Retired Government servants become eligible for reimbursement of Travelling expenses in respect of travel(s) for appearing in court of law for defending himself only when the judgement relating to his honorable acquittal is pronounced by the court. In such cases the date of pronouncements of the judgement shall be the reference point for submission and reimbursement of his T.A claim.

**Rule 292 Due date of Leave Travel Concession claim.** Leave Travel Concession claim of a government servant shall fall due for payment on the date succeeding the date of completion of return journey. The time limit for submission of the claims shall be as under :-

- (i) In case advance drawn : Within thirty days of the due date.
- (ii) In case advance not drawn : Within sixty days of the due date.

In case of (i) above if the claim is not submitted within one month of the due date, the amount of advance shall be recovered but the Government employee shall be allowed to submit the claim as under (ii) above. In case of failure to submit the claim in both the cases within the prescribed time lines, the claim shall stand forfeited.

**Rule 293 Due date of Over Time Allowance claims.** A claim for overtime allowance shall fall due for payment on first day of the month following the month to which the overtime allowance relates. The claim shall stand forfeited if not submitted within 60 days of the due date.

**Rule 294 Due date of a withheld increment.** In the absence of any specific order withholding an ordinary increment under



FR 24 before the date on which it falls due for payment, the period of one year should be counted from the date on which it falls due and not with reference to the date on which the Increment Certificate is signed by the competent authority. Even where an increment is withheld, the time-limit should be reckoned from the date on which it falls due after taking into account the period for which it is withheld.

**Rule 295 (1) Arrear Claims.** Any arrear claim of a Government servant which is preferred within two years of its becoming due shall be settled by the Drawing and Disbursing Officer or Accounts Officer, as the case may be, after usual checks.

**Rule 295 (2)** For the purpose of the above provisions, the date on which the claim is presented at the office of disbursement should be considered to be the date on which it is preferred.

**Rule 295 (3)**

- (i) A claim of a government servant which has been allowed to remain in abeyance for a period exceeding two years, should be investigated by the Head of the Department concerned. If the Head of Department is satisfied about the genuineness of the claim on the basis of the supporting documents and there are valid reasons for the delay in preferring the claims, the claims should be paid by the Drawing and Disbursing Officer or Accounts Officer, as the case may be, after usual checks.
- (ii) A Head of Department may delegate the powers, conferred on him by sub rule (i) above to the subordinate authority competent to appoint the Government servant by whom the claim is made.

**Rule 296 (1) Procedure for dealing with time-barred claims.**

Even a time barred claim of a Government servant, shall be entertained by the concerned authority provided that the concerned authority is satisfied that the claimant was prevented from submitting his claim within the prescribed time limit on account of causes and circumstance beyond his control.

**Rule 296 (2)** A time barred claim referred to in Rule 296 (1) shall be paid with the express

sanction of the Government issued with the previous consent of the Internal Finance Wing of the Ministry or Department concerned.

**Rule 297 Time barred claims of persons not in Government service.** The provisions of Rule 289 to Rule 296 shall apply mutatis mutandis to arrear claims preferred against Government by persons not in Government service.

**Rule 298 Retrospective sanctions.** Retrospective effect shall not be given by competent authorities to sanctions relating to revision of pay or grant of concessions to Government servants, except in very special circumstances with the previous consent of the Ministry of Finance.

**Rule 299 Currency of sanction of Provident Fund advance/withdrawal.** A sanction to an advance or a non-refundable part withdrawal from Provident Fund shall, unless it is specifically renewed, lapse on the expiry of a period of three month. This will, however, not apply to withdrawals effected in instalments. In such cases the sanction accorded for non-refundable withdrawals from Provident Fund will remain valid up to a particular date to be specified by the sanctioning authority in the sanction order itself.

## II. REFUND OF REVENUE

**Rule 300 Sanctions of refunds of revenue.** All sanctions to refunds of revenue shall be regulated by the orders of an Administrator or of the departmental authority, as the case may be, according to the provisions of the rules and orders contained in the departmental manuals etc.

**Rule 301 (1) Communication of refund sanctions to audit.** The sanction to a refund of revenue may either be given on the bill itself or quoted therein and a certified copy of the same attached to the bill in the latter case.

**Rule 301 (2) Suitable note of refund to be made in original Cash Book entry and other documents.** Before a refund of revenue is made, the original demand or realization, as the case may be, must be linked and a reference to the refund should be recorded against the original entry in the Cash Book



or other documents so as to make the entertainment of a double or erroneous claim impossible.

**Rule 301 (3) Remission of revenue before collection is not refund.** Remissions of revenue allowed before collection are to be treated as reduction of demands and not as refunds.

**Rule 301 (4) Refunds not regarded as expenditure for allotment.** Refunds of revenues are not regarded as expenditure for purposes of grants or appropriation.

**Rule 301 (5) Competent authority in case of credits wrongly classified.** In cases where revenue is credited to a wrong head of account or credited wrongly under some misapprehension, the authority competent to order refund of revenue shall, in such cases, be the authority to whom the original receipts correctly pertain.

**Rule 302 Compensation for accidental loss of property.** No compensation for accidental loss of property shall be paid to an officer except with the approval of the Ministry of Finance. Compensation will not ordinarily be granted to an officer for any loss to his property which is caused by floods, cyclone, earthquake or any other natural calamity or which is due to an ordinary accident, which may occur to any citizen, for example, loss by theft or as a result of a railway accident or fire etc. The mere fact that at the time of the accident, the Government servant is technically on duty or is living in Government quarters in which he is forced to reside for the performance of his duties will not be considered as a sufficient ground for the grant of compensation.

### III. DEBT AND MISCELLANEOUS OBLIGATIONS OF GOVERNMENT

**Rule 303 Public Debt.** The public debt raised by government by issue of securities shall be managed by the Reserve Bank. The Reserve Bank shall also manage securities created and issued under any other law or rule having the force of law, provided such law or rule provides specifically for their management by the Reserve Bank.

**Rule 304 (1) Provident Funds.** The procedure relating to the recovery of, subscriptions to

and withdrawals from, the Provident Funds established under accordance with the provisions of the respective Provident Fund Rules. Following instructions should be carefully observed by the Head of the Offices for correct preparation of the Provident Fund schedules:-

- (i) A complete list of subscribers to each fund should be maintained in each disbursing office in the form of the schedule.
- (ii) Each new subscriber should be brought on this list and any subsequent changes resulting from his transfer or in the rate of subscription etc. clearly indicated in the schedule.
- (iii) When a subscriber dies, quits service or is transferred to another office, full particulars should be duly recorded in the list.
- (iv) In the case of transfer of a subscriber to another office, the necessary note of transfer should be made in the list of both the offices.
- (v) From this list the monthly schedule to be appended to the pay bill should be prepared and tallied with recoveries made before the submission of the bill for payment.

Similar provisions shall also be made towards subscribers to New Pension System(NPS).

**Rule 304 (2) Crediting of Interest.** The deposit accounts of these funds on the Government book will be credited with interest at such rates and at such intervals as may be prescribed by Ministry of Finance in each case.

**Rule 305 (1) Maintenance of a register for recovery of Postal Life Insurance Premia.** All drawing officers should maintain in Form (GFR 20) record of Postal Life Insurance policy (PLI) holders.

**Rule 305 (2)** The register should be kept upto date, the names of the policy holders should be noted in alphabetical order according to surnames, leaving sufficient space between two entries to enable newcomers names being inserted in the right place.

- (i) A separate entry should be made in the register for each policy in the case of a policy holder having more than one policy.





- (ii) On receipt of an intimation from the Director, Postal Life Insurance, Kolkata, about the issue of a policy in favour of a subscriber authorizing the Drawing Officer to commence recovery from pay, or on receipt of a Last Pay Certificate in respect of the subscriber transferred from another office, the Drawing Officer should make a note of the particulars of the policy in the register. The name of the office from which the subscriber has been transferred should invariably be noted in the remarks column. Wherever a subscriber is transferred to another office or his policy is discharged, his name should be scored out from the register giving necessary remarks.
- (iii) After the preparation of the monthly pay bill, the amount of recovery on account of PLI premium shown in the bill should be posted in the monthly column in the register with proper reference to the bills or the vouchers. The fact of excess or non-recovery should be briefly noted in the remarks column. Extracts should be attached to the relevant bills in support of the recoveries. While taking extracts it should be seen that the names of those insurants from whom recoveries were made in previous months but no recoveries have been made during the current month either on account of transfer or discharge of that policy or on account of leave salary being not drawn or the official being on leave without pay, should be included in the current month's schedule and necessary remarks noted against their names.
- (iv) Similarly, the remarks 'New Policy' or Transferred from..... Office should be given in the schedule against the names of insurant entered for the first time in current month. Reasons for short or excess recovery should be noted briefly in the remarks column. In short, schedule of Postal Life Insurance recoveries to be attached to the bills, would be a record not only of those from whom the recovery has actually been affected but also of those from whom

recovery was being affected previously but has not been affected.

#### **IV. SECURITY DEPOSITS**

##### **Rule 306 (1) Furnishing of security by Government servants handling cash.**

Subject to any general or special instructions prescribed by Government in this behalf, every Government servant, who actually handles cash or stores shall be required to furnish security, for such amount and in such form as Central Government or an Administrator may prescribe according to circumstances and local conditions in each case, and to execute a security bond setting forth the conditions under which Government will hold the security and may ultimately refund or appropriate it.

**Rule 306 (2)** The amount of security to be obtained from a Government servant shall be determined on the basis of actual cash handled which shall not include account payee cheques and drafts.

**Rule 306 (3)** Security should be furnished in the form of a Fidelity Bond in GFR 17, the security bond should be executed in Form GFR 14. The Administration shall see that the government servant pays the premia necessary to keep the Bond alive, for which the government servant shall submit premium receipt in time. If the government servant fails to submit the premium receipt he shall not be allowed to perform the duties of his post and he shall be dealt with in accordance with the terms of his appointment.

**Rule 306 (4)** A Government servant who is officiating against the post of another cash or store handling Government servant shall be required to furnish the full amount of the security prescribed for the post. The Ministry or Department of Central Government, Administrators and the Comptroller and Auditor General in respect of persons serving in Indian Audit and Accounts Department may, however, exempt a Government servant officiating in such a short-term vacancy from furnishing security if the circumstances warrant such exemption provided that -

- (i) they are satisfied that there is no risk involved;



- (ii) such exemption is granted only in the case of a permanent Government servant; and
- (iii) the period of officiating arrangement does not exceed four months.

**Rule 307** Notwithstanding anything contained in **Rule 275**, security need not be furnished in cases of –

- (a) Government servants who are entrusted with the custody of stores, which in the opinion of the competent authority are not considerable.
- (b) Government servants, who are entrusted with the custody of office furniture, stationery and other articles required for office management, if the Head of Office is satisfied about the safeguards against loss through pilferage.
- (c) Librarian and Library Staff.
- (d) Drivers of Government vehicles.

**Rule 308** **Retention of Security.** A security deposit taken from Government servant shall be retained for at least six months from the date he vacates his post, but a security bond shall be retained permanently or until it is certain there is no further necessity for keeping it.

## V. TRANSFER OF LAND AND BUILDINGS

**Rule 309** Save as otherwise provided in any law, rule or order relating to the transfer of Government land, no land belonging to the Government or any of its bodies, including autonomous bodies, PSUs, etc. shall be sold without previous sanction of the Government.

**Rule 310** **(1) Transfer of Land.** Transfer of land from a Union Territory to a Central Government Department (i.e. Ministry or Department of the Union Government including Defence, Railways, and Posts and Telegraphs) or vice versa shall be on 'no profit no loss' basis.

**Rule 310** **(2)** Transfer of land from one Department of the Government (as defined in Rule 309) to another shall be on 'no profit no loss' basis.  
'No profit no loss' as indicated at rules 310(1) and 310(2) above does not necessarily mean transfer being effected with 'zero cost'. Transfer can be on the

basis of mutually agreeable terms and conditions or in exchange for equal value land or payment of value of land or cost of acquisition.

**Rule 310** **(3)** Transfer of buildings and superstructures on land shall be treated similar to transfer of land. Transfer of buildings and superstructures on land vide above shall be at the present day cost minus depreciation of these structure(s) standing on the land. Valuation for this purpose shall be obtained from the Central Public Works Department at the time of transfer.

**Rule 310** **(4)** The allotment of land to, and recovery of cost of buildings from the Public Sector Undertakings shall be at 'market value' as defined in paragraph - 2 of Appendix - 7.

**Rule 310** **(5)** The transfer of land and building between the Union and State Governments shall be regulated by the provisions of Articles 294, 295, 298 and 299 of the Constitution and subsidiary instructions issued by the Union Government which are reproduced as Appendix - 7.

## VI. CHARITABLE ENDOWMENTS AND OTHER TRUSTS

**Rule 311** Detailed instructions relating to Charitable Endowments and other Trusts are embodied in Appendix -8.

## VII. LOCAL BODIES

**Rule 312** **(1) Financial arrangements between Central Government and Local Bodies.** Unless any one of the following arrangements is authorized by specific orders of Government, a local body will be required to pay, in advance, the estimated amount of charges to be incurred or cost of services to be rendered, by Government on account of the fund:-

- (i) payments made by Government are debited to the balances of the deposits of the local fund with government; or
- (ii) payments are made as advances from public funds in the first instance pending recovery from the local funds.

**Rule 312** **(2)** Notwithstanding the provision contained in Rule 281 (1) in case of



emergency such as epidemics pre-payment will not be insisted upon from local bodies for supply of medicines from Medical Stores Depots of the Ministry of Health.

**Rule 313** Any amount or loan not paid on due date to Government by a local body, may be adjusted from any non-statutory grant sanctioned for payment to it.

**Rule 314 Taxes etc. collected by Government on behalf of Local Bodies.** Proceeds of taxes, fines or other revenues levied or collected by Government for or on behalf of local bodies shall not be appropriated direct to a local fund without passing them through the Consolidated Fund unless expressly authorised by law.

**Rule 315 Payments to Local Bodies.** Subject to provision of relevant act and rules, payments to local bodies in respect of revenue and other moneys raised or received by Government on their behalf will be made in such manner and on such date, as may be authorized by general or special orders of Government.

**Rule 316 Audit of Account of Local Bodies.** Subject to the provisions of any law made under Article 149 of the Constitution, the accounts of local bodies, other non-Government bodies, or institutions will be audited by the Indian Audit and Accounts Department under such terms and conditions as may be agreed upon between the Government and the Comptroller and Auditor General of India.

**Rule 317 Audit Fees.** Audit fees on the basis of daily rates prescribed by Government in consultation with the Comptroller and Auditor General of India from time to time shall be charged by the Indian Audit and Accounts Department for the audit of local and other non-Government funds, excluding funds for the audit of which the rates of fees recoverable are prescribed by law or by rules having the force of law.

Provided that nothing contained in this rule shall be held to override any special instructions of Government exempting any particular local body or institution wholly or partially from the payment of audit fees.

**Rule 318** In the case of Government Companies, the recovery of the cost of Supplementary Audit conducted under Section 143(6) of Companies Act, 2013 as amended from

time to time, should be waived in those cases where the audit is done by the Comptroller and Auditor General through his own departmental staff but should be enforced in cases where the Comptroller and Auditor General employs professional auditors for the Supplementary Audit.

**Rule 319** Financial transactions between Government and local bodies shall be rounded off to the nearest Rupee.

## VIII. MAINTENANCE OF RECORDS

**Rule 320 (1) Destruction of Records.** Subject to any general or special rules or orders applicable to particular departments as prescribed in their departmental manuals, no Government record connected with accounts shall be destroyed except in accordance with the provisions of Appendix -9.

**Rule 320 (2)** All the records prescribed for retention in Appendix - 9, if maintained in electronic form should mandatorily have a back up and adhere strictly to the retention period and the prescribed formats. The responsibility for verification and certification on a monthly/annual basis as prescribed under relevant rules should also be ensured.

## IX. CONTINGENT & MISCELLANEOUS EXPENDITURE

**Rule 321** Rules relating to contingent expenditure are available at Rule 13 of the Delegation of the Financial Powers Rules and Rules 96 to 98 of the Government of India (Receipts and Payments) Rules, 1983.

**Rule 322 Permanent Advance or Imprest.** Permanent advance or Imprest for meeting day to day contingent and emergent expenditure may be granted to a government servant by the Head of the Department in consultation with Internal Finance Wing, keeping the amount of advance to the minimum required for smooth functioning. Procedures for maintenance of permanent advance or Imprest are available in para 10.12 of the Civil Accounts Manual.

**Rule 323 (1) Advances for Contingent and Miscellaneous purpose.** The Head of the



Office may sanction advances to a Government Servant for purchase of goods or services or any other special purpose needed for the management of the office, subject to the following conditions:-

- (i) The amount of expenditure being higher than the Permanent Advance available, cannot be met out of it.
- (ii) The purchase or other purpose cannot be managed under the normal procedures, envisaging post-procurement payment system.
- (iii) The amount of advance should not be more than the power delegated to the Head of the Office for the purpose.
- (iv) The Head of the Office shall be responsible for timely recovery or adjustment of the advance.

**Rule 323** (2) The adjustment bill, along with balance if any, shall be submitted by the government servant within fifteen days of the drawal of advance, failing which the advance or balance shall be recovered from his next salary(ies).

**Rule 324** The Ministry or Department may sanction the grant of an advance to a Government Pleader in connection with law suits, to which Government is a party, up to the maximum limit of Rupees twenty-five thousand at a time. The amount so advanced should be adjusted at the time of settlement of Counsel's fee bills.



## **APPENDIX– 1**

[See Rule 37 ]

### **INSTRUCTIONS FOR REGULATING THE ENFORCEMENT OF RESPONSIBILITY FOR LOSSES, ETC.**

1. The cardinal principle governing the assessment of responsibility is that, every Government officer should exercise the same vigilance in respect of expenditure from public fund generally as a person of ordinary prudence would exercise in respect of the expenditure and the custody of his own money. While, the competent authority may, in special cases, condone an officer's honest errors of judgement involving financial loss if the officer can show that he has acted in good faith and done his best up to the limits of his ability and experience, personal liability shall be strictly enforced against all officers who are dishonest, careless or negligent in the duties entrusted to them.
2. In cases where loss is due to delinquencies of subordinate officials and where it appears that this has been facilitated by laxity of supervision on the part of a superior officer, the latter shall also be called strictly to account and his personal liability in the matter carefully assessed.
3. (a) The question of enforcing pecuniary liability shall always be considered as well as the question of other forms of disciplinary action. In deciding the degree of an officer's pecuniary liability, it will be necessary to look not only to the circumstances of the case but also to the financial circumstances of the officer, since it should be recognized that the penalty should not be such as to impair his future efficiency.  
(b) In particular if the loss has occurred through fraud, every endeavour should be made to recover the whole amount lost from the guilty persons and if laxity of supervision has facilitated the fraud, the supervising officer at fault may properly be penalized either directly by requiring him to make good in money a sufficient proportion of the loss or indirectly by reduction or stoppage of his increments of pay.  
(c) It should always be considered whether the depreciated value of the Government property or equipment lost, damaged or destroyed by the carelessness of individuals entrusted with their care should be recovered from the delinquent official. The depreciated value of the stores may be calculated by applying the 20% of depreciation in the case of vehicles, including cycles, and 15% in the case of calculating machines, on the reduced balance every year. The amount to be recovered may be limited to the Government servant's capacity to pay.
4. When a pensionable Government servant is concerned in any irregularity or loss, the authority investigating the case shall bear in mind the provisions contained in Central Civil Services (Pension) Rules 1972 as amended from time to time and immediately inform the Audit Officer and/or the Accounts Officer, as the case may be, responsible for reporting on his title to Pension or Death-Cum-Retirement Gratuity, and the authority competent to sanction Pension or Death-Cum-Retirement Gratuity and it will be the duty of the latter to make a note of the information and see that the Gratuity or Death-Cum-Retirement Gratuity is not paid before a conclusion is arrived at as regards the Government servant's culpability and final orders are issued thereon.
5. The fact that Government servants who were guilty of frauds or irregularities have been demobilized or have retired and have thus escaped punishment, should not be made a justification for absolving those who are also guilty but who still remain in service.
6. It is of the greatest importance to avoid delay in the investigation of any loss due to fraud, negligence, financial irregularity, etc. Should the administrative authority require the assistance of the Audit Officer and/or the Accounts Officer, as the case may be, in pursuing the investigation, he may call on that officer for all vouchers and other documents that may be relevant to the investigation; and if the investigation is complex and he needs the assistance of an expert Audit Officer/ Accounts Officer to unravel it, he should apply forthwith for that assistance to Government which will then negotiate with Audit Officer and/or the Accounts Officer concerned for the services of an investigating staff. Thereafter, the administrative authority and the Audit /Accounts authority shall be personally responsible within their respective spheres, for the expeditious conduct of the enquiry. In any case in which it appears that recourse to judicial proceedings is likely, the Special Police Establishment or the State Police should be associated with the investigation.
7. Depending upon the results of the inquiry, departmental proceedings and/or prosecution shall be instituted at the earliest moment against the delinquent officials concerned and conducted with strict adherence to the Central Civil Services (Classification, Control and Appeal) Rules, 1957, and other instructions prescribed in this regard by Government.





## APPENDIX– 2

[See Rule 52 ]

PROCEDURE FOR PREPARATION OF  
DETAILED ESTIMATES OF RECEIPTS

1. **Revenue receipts.** - These comprise (i) Central taxes, duties and cesses administered by the Central Board of Direct Taxes and the Central Board of Excise and Customs; (ii) local taxes and duties and other receipts in relation to the Union Territories without Legislature; (iii) interest receipts of loans and advances by the Central Government as also interest charged to commercial departments, etc., (iv) notional receipts from adjustments based on principles of accounting like grant assistance from foreign Governments or International institutions; and (v) all other revenue receipts including dividends on equity investments of the Central Government, cesses collected by the Ministries and Departments, etc.
2. **Capital Receipts.** These comprise (i) Internal debt (market loan, treasury bills, etc.); (ii) External debt; (iii) Repayment of loans and advances made by the Central Government; (iv) Disinvestment Receipts (v) Other Liabilities.
3. (1) Estimates of receipts of Central Taxes and Duties and External Aid receipts are prepared within the Ministry of Finance by the Central Board of Direct Taxes, the Central Board of Excise and Customs and the Controller of Aid Accounts and Audit. Estimates of internal debt (market loans) receipts are framed by the Budget Division.
3. (2) Estimates of revenue receipts of the Union Territory Administrations will be furnished to the Ministry of Finance by the concerned Audit Officer / Accounts Officer wherever departmentalization of accounts has not taken place and by the Controller of Accounts of the Union Territory Administrations where departmentalization of accounts has been introduced.
3. (3) Estimates of receipts in all other cases will be prepared by Controller of Accounts of each Department after obtaining necessary data by the 30th November from the various organizations / field units and such scrutiny as may be necessary in the light of policy decisions and other post Budget developments.
4. Estimates will be furnished to the Ministry of Finance in prescribed forms (GFR 2, 2-A and 2-B) by the prescribed date, each year for the ensuing Budget.
5. (1) In preparing the Revised Estimates, while previous year's actuals and current year's trends will be material factors to review the original Budget Estimates, special attention should be devoted to making as realistic an estimate as possible of receipts which are likely to materialize during the rest of the financial year.
5. (2) In framing the Budget Estimates for the ensuing year, the estimating authorities should exercise utmost care. While all receipts which can be foreseen in the light of latest trends, decisions and developments must be provided for, care should be taken to ensure that undue optimism does not influence these estimates. Similarly, where the receipts have a seasonal character, due note should be taken thereof in preparing the estimates.
5. (3) Receipts by way of recoveries from Central Government Ministries / Departments, are to be excluded in preparing Receipt Estimates. Other recoveries (from the State and Union Territory Governments, foreign Governments, companies and statutory bodies, individuals, etc.) will, however, be included in the Receipt Estimates.
5. (4) Estimates of receipts by way of interest on loans and advances will be based on the terms of the loans sanctioned, as entered in the Loan Registers, including defaults, if any. The estimates should be realistic; that is to say, that the estimates should reflect not merely what is due but what is likely to be realized during the year together with the reasons for non-recovery of the difference between receipts due and assumed in the estimates. In the case of Public Sector Units, interest receipts expected from their internal resources should be distinguished from notional recoveries offset by corresponding expenditure provisions in the form of subsidies and loans. Similarly, where repayments due are refinanced by further loans or by conversion of past loans into equity, the details should be furnished.
5. (5) In reporting estimates of receipts by way of foreign grant assistance in cash or in kind, care should be taken to classify foreign grant receipts in cash under the Major Head '1605 External Grant Assistance' and those in the form of commodities under the Major Head '1606 Aid Materials and Equipment'. In the case of commodities grants, identical provision will be made in expenditure estimates under the Major head '3606 Aid Materials and



Equipment's' (both as debits to represent the notional payment therefor and as credits - recoveries in reductions of expenditure - to reflect the counter-balancing entries), as well as under the final functional Head of Account showing the final destination and use of the aid materials and equipment. **(Refer to Form GFR 2A)**

**NOTE.** For utilization of cash grants, provision in expenditure estimates under the final functional Heads of Account will be necessary.

5. **(6)** In reporting the estimates, the estimating authorities should confine their estimates to those items of receipts which are to be accounted for finally in their own accounts and ultimately in the accounts of the Ministry/ Department to which they are subordinate. All other receipts/recoveries entering the accounts of another Ministry/ Department should be communicated to the concerned Ministry/Department for consolidation in their estimates (e.g., receipts of CGHS contributions and rent recoveries in respect of Government accommodation).



## APPENDIX– 3

[ Rule 52]

INSTRUCTIONS FOR PREPARATION OF DETAILED  
ESTIMATES OF EXPENDITURE FROM THE CONSOLIDATED FUND

- For purpose of Budget Estimates, expenditure from the Consolidated Fund –with the merger of Plan and Non-Plan from Budget 2017-18 will comprise of expenditure on revenue account and on capital account including loans and advances, and shown in the separate categories as applicable, comprising of I. Central Expenditure: (i) Secretariat Expenditure; (ii) Central Sector Schemes and (iii) Other Central Expenditure and II. Transfers: (i) Centrally Sponsored Schemes (ii) Finance Commission Transfers and (iii) Other Transfers.

**A. GENERAL GUIDELINES FOR PREPARING EXPENDITURE ESTIMATES**

- To facilitate appropriate scrutiny and consolidation of Expenditure Estimates for reporting to the Ministry of Finance, the Financial Adviser in each Ministry / Department will obtain detailed estimates and other supporting data from each of the estimating authorities under the control of the Ministry / Department, in appropriate forms, sufficiently in advance.
- The framing of the Revised Estimates for the current year should always precede estimation for the ensuing year. The Revised Estimates should be framed with great care to include only those items which are likely to materialize for payment during the current year, in the light of (i) actuals so far recorded during the current year, compared with the actuals for corresponding period of the last and previous years, (ii) seasonal character or otherwise of the nature of expenditure, (iii) sanctions for expenditure and orders of appropriation or re- appropriation already issued or contemplated and (iv) any other relevant factor, decision or development.

The Budget Estimate for the ensuing year should likewise be prepared on the basis of what is expected to be paid, under proper sanction, during the ensuing year, including arrears of previous years, if any. Due attention to considerations of economy must be paid and while all inescapable and foreseeable expenditures should be provided for, care should be taken that the estimate is not influenced by undue optimism.

- No lump sum provision will be made in the Budget except where urgent measures are to be provided for meeting emergent situations or for meeting preliminary expenses on a project/scheme which has been accepted in principle for being taken up in the financial year. In latter cases Budget provision will be limited to the requirements of preliminary expenses and for such initial outlay, as, for example, on collection of material, recruitment of skeleton staff, etc.

Provision for a 'token' demand should not be made in the Budget Estimates for the purpose of seeking approval in principle for big schemes without the full financial implications being worked out and got approved by the appropriate authorities. In accordance with instructions contained in Paragraph (viii) of Appendix (5), a 'token' demand can be made during the course of a year for a project / scheme when the details thereof are ready and funds are also available for undertaking it but it cannot be started without Parliament's approval, it being in the nature of a 'New Service/New Instrument of Services'.

- All estimates should be prepared on gross basis and 'voted' and 'charged' portions must be shown separately; even expenditure met partly or fully from receipts taken in reduction of such expenditure or those counterbalanced by receipts credited as revenue to the Consolidated Fund, must be reported in such estimates on gross basis. Care should also be taken to ensure that all notional receipts reported in 'Receipt Estimates' (such as interest receipts fully or partly subsidized, loan repayment receipts partly or fully refinanced through further loans or conversions into equity, receipts of foreign grant assistance in the form of commodities or material, etc.) are properly matched by adequate provisions in expenditure estimates.
- The estimates of expenditure should include all items which are fully accounted for in the accounts of the Ministry/Departments to which the estimating authority is subordinate; they shall also cover expenditure, if any, in Union Territories without Legislature, whether provided for in the demands of the said Ministry / Department or in the 'Area' demand of the concerned Union Territory. Estimates of 'Works Expenditure', if any, against the provisions in the demands of the Ministry of Urban Development, as well as expenditure on pensions (including commutation payments, gratuity payments, pension contributions, etc.) interest payments, loans and advances



to Government servants, etc., which are provided for in the centralized Grants/Appropriations controlled by the Ministry of Finance should be furnished to the Ministry of Urban Development and the Ministry of Finance.

7. The estimate of establishment charges should be framed taking into account the trends over preceding three years and other relevant factors like changes in rates of pay, allowances, number of posts and their filling and the economy instructions issued by the Ministry of Finance from time to time.
8. Expenditure estimates will be prepared with full accounts classification, i.e., Major/Sub-Major Head, Minor Head, Sub-Head, Detailed Head and Object Head of Account. The correctness of accounts classification must be ensured by the Principal Chief Controller / Chief Controller/ Controller of Accounts in each case. Doubts, if any, may be clarified beforehand in consultation with the Ministry of Finance, Budget Division and Controller General of Accounts. The relevant Grant number and title of Appropriation should also be mentioned to facilitate identification of the provision in Budget Estimates for the current year.
9. Unless otherwise indicated by the Ministry of Finance, estimates (both Revised Estimates for the current year and Budget Estimates for the ensuing year) should reach the Ministry of Finance, Department of Economic Affairs, Budget Division, by the date prescribed by the Ministry of Finance, each year, in triplicate in Form GFR 4, a separate form being used for each Major Head of Account.
10. To facilitate appreciation and scrutiny of the estimates, any major variations between the Budget and Revised Estimates for the current year and also between the Revised Estimates for the current year and Budget Estimates for the ensuing year should be explained cogently. In particular, all provisions for subsidy, capital investment or loan to a Public Sector Undertaking, must be explained by indicating their purpose and the extent to which they are intended to cover losses, working capital needs, debt or interest liabilities of the undertaking.
11. Wherever the proposed estimates attract the limitations of 'New Service/New Instrument of Service', the fact must be specifically highlighted. The guidelines to be followed in this regard are indicated in Annexure - I to this Appendix. For all 'new' schemes, other than purely 'works' projects, the estimates proposed should be supported by details set out in Annexure - II to this Appendix. In the case of provisions of 'Grants-in-aid' to non-Government entities, the full purpose thereof and the nature of the grants, whether recurring or non-recurring, should also be indicated.
12. All provisions for transfer of Government assets to Public Sector Undertaking and other non-Government entities must also be highlighted, indicating whether the transfer is by way of grants or by way of equity investment or loan. Similarly, in the case of nationalization or take-over of any private sector assets, the related provisions in estimates must be supported by full details, such as the effective date of take-over, the agreed compensation amount and the manner of its payment, etc. In cases of takeover, where the assets are simultaneously transferred to a Public Sector Undertaking, it must be ensured that the estimates provide for (i) payment of compensation for the take-over, (ii) for transfer of assets to the Public Sector Undertaking, by means of recovery of compensation payment to be taken in reduction of expenditure, and (iii) provisions for equity or loan to the Public Sector Undertaking.

## **B. SCHEME RELATED EXPENDITURE ESTIMATES**

13. The Budget Division through the yearly Budget Circular will prescribe the form and the manner in which proposals are required to be submitted to them for determining the scheme allocations, (both Central Sector Schemes and Centrally Sponsored Schemes) for the ensuing year. The Financial Adviser in each Ministry / Department of the Central Government will accordingly call for requisite data from the estimating authorities, public sector and other enterprises under the control of the Ministry / Department, etc. The approved allocations for Central Sector and Centrally Sponsored Schemes will be communicated by the Ministry of Finance to the



Central Ministries / Department. Ministries/ Departments will finalize the Statement of Budget Estimates, indicating the total outlay approved for each scheme / organization and the extent to which it is to be met from extra-budget resources and from provisions in the Demands for Grants.

14. Subject to such directions as may be issued by the Ministry of Finance from time to time, the Revised Estimates for the current year and Budget Estimates of the ensuing year, in respect of Scheme provisions, are to be sent to the Ministry of Finance in Form GFR 7. For furnishing these estimates, instructions for preparation and submission of Other than scheme Expenditure Estimates will apply to the extent relevant; in addition, the following points should also be borne in mind :-
- (i) Such part of the approved budgetary support for Scheme outlay as relates to 'works expenditure' and has been accepted by the Ministry of Urban Development for inclusion in their Demands for Grants should be excluded by the other Ministries / Departments in reporting the estimates to the Ministry of Finance in Form GFR 4.
  - (ii) In the case of, provisions for equity investments and loans to public sector and other enterprises, as well as those for grants-in-aid, specific schemes, for which the outlay is provided and the extent for each of them is also to be indicated clearly.
  - (iii) Provisions for Scheme expenditure on Central Sector Schemes and Centrally Sponsored Schemes, including such expenditures in Union Territories, are to be included in the relevant demand of the Administrative Ministry/ Department and not in 'Area' Demand of the concerned Union Territory.





## **ANNEXURE –I TO APPENDIX-3**

(Refer: Ministry of Finance, Budget Division's OM No. F.1(23)-B(AC)/2005 dated 25.05.2006  
[ See Paragraph 11 of Appendix – 3/Rule 63 ]

### **FINANCIAL LIMITS TO BE OBSERVED DETERMINING CASES RELATING TO “NEW SERVICE”/NEW INSTRUMENT OF SERVICE**

Nature of Transaction	Limits upto which expenditure can be met by re-appropriation of savings in a Grant subject to report to Parliament	Limits beyond which prior approval of Parliament is required for expenditure from the Consolidated Fund
1	2	3
<b>I. CAPITAL EXPENDITURE</b>		
<b>A. Departmental Undertakings</b>		
(i) Setting up a new undertaking, or taking up a new activity by an existing undertaking.	---	All cases
(ii) Additional Investment in an existing undertaking	Above Rs.2.50 crore but not exceeding Rs. 5 crore.	Above Rs. 5 crore
<b>B. Public Sector Companies/Corporations</b>		
(i) Setting up of a new Company or splitting up of an existing Company, or amalgamation of two or more Companies, or taking up a new activity by an existing Company	---	All cases
(ii) Additional investment in/ loans to an existing company		
a) Where there is no Budget Provision	Above Rs.50 lakhs but not exceeding Rs.1 crore	Above Rs. 1 crore
b) Where Budget Provision exists for investment and/or loans Paid up capital of the Company		
(i) Upto Rs. 50 crore	20% of appropriation already voted or Rs.10 crore, whichever is less	Above 20% of appropriation already voted or Rs.10 crore, whichever is less.
(ii) Above Rs.50 crore	20% of appropriation already voted or Rs.20 crore, whichever is less	Above 20% of appropriation already voted or Rs.20 crore, whichever is less.



<b>C. All bodies or authorities within the administrative control/management of Central Government or substantially financed by the Central Government.</b>		
Loans	Upto 10% of the appropriation already voted or Rs. 10 crore, whichever is less	More than 10% over the appropriation already voted by Parliament or Rs.10 crore. whichever is less
Note: Where a lumpsum provision is made for providing 'Loans' under a particular scheme, the details of substantial apportionment (10% of lumpsum or Rs. 1 crore, whichever is higher) should be reported to Parliament. In the case of lumpsum provision of loans to States, the State-wise distribution should be reported to Parliament.		
Nature of transaction	Limits upto which expenditure can be met by re-appropriation of savings in a Grant subject to report to Parliament	Limits beyond which prior approval of Parliament is required for expenditure from the Consolidated Fund
<b>D. Expenditure on new Works (Land, Buildings and/or Machinery)</b>	Above Rs.50 lakhs but not exceeding Rs. 2.5 crore or not exceeding 10% of the appropriation already voted, whichever is less.	Above Rs.2.5 crore or above 10% of the appropriation already voted.
<b>II REVENUE EXPENDITURE</b>		
<b>E. Grants-in-aid to any body or authority</b>	---	All cases
Note: Where a lumpsum provision is made for providing grants-in-aid under a particular scheme, the details of substantial apportionment (10% of lumpsum or Rs. 1 crore, whichever is higher) should be reported to Parliament. In the case of lumpsum provision of grants to States, the State-wise distribution should be reported to Parliament.		
<b>F. Subsidies</b>		
(i) New Cases	–	All cases
(ii) Enhancement or provision in the existing appropriation	Upto 10% of the appropriation already approved by the Parliament or Rs.10 crore, whichever is less.	More than 10 % of the appropriation already voted by Parliament or Rs.10 crore, whichever is less.
Payments against cess collections	Limits as applicable to grants-in-aid to statutory or public institutions will apply	All cases
New Commissions or Committees of Enquiry	–	Above Rs.20 lakhs (total expenditure)



<b>G. Write off of Government loans</b>	Above Rs 50,000 but not exceeding Rs. 1 Lakh (individual cases)	Above Rs.1 lakh (individual cases)
<b>H. Other cases of Government expenditure</b>	Each case to be considered on merits.	
I. Posts Railways Defence	The aforesaid limits, including those relating to Works expenditure, will also apply to these Departments subject to considerations of security in the case of Defence	The aforesaid limits, including those relating to Works expenditure, will also apply to these Departments subject to considerations of security in the case of Defence Services Estimates.
<p>Note 1: For investment in Ordnance Factories, the limit of Rs.5 crore mentioned in item A (ii) will be applicable with reference to investment in all the factories as a whole.</p> <p>Note 2: Civil Works, which do not form part of any project of the departmental undertakings (Ordnance Factories) should be treated as ordinary Defence works. As such, prior approval of Parliament will be necessary if the cost of individual works exceeds Rs.2.5 crore and in cases where the individual works cost Rs.50 lakhs or more but not exceeding Rs.2.5 crore, a report to Parliament will be required. A list of such works should, however, be supplied to Director of Audit, Defence Services.</p>		

**ANNEXURE - II TO APPENDIX - 3**

[ See Paragraph 11 of Appendix - 3/Rule 63 ]

**MEMORANDUM FOR PROPOSALS INVOLVING  
EXPENDITURE ON NEW SERVICE OR NEW INSTRUMENT OF SERVICE**

Government of India  
Ministry of.....  
Department of.....  
New Delhi, the.....

**MEMORANDUM****1. Statement of proposal :**

- (a) Title of the proposal / scheme.
- (b) Description of the proposal / scheme and its objects.
- (c) Justification for the proposal / scheme and what alternatives have been considered.
- (d) Description of the manner in which the proposal / scheme is proposed to be implemented including mention of agency through which the scheme will be executed.
- (e) Schedule of programme and target date of completion.

**2. Financial implications of the proposal:**

- (a) Nature of the scheme (Central Sector Scheme or Centrally Sponsored – or Others.)
- (b) Total outlay (recurring and non-recurring separately), its broad details and its year-wise phasing.
- (c) (i) Budget allocation, in a scheme; and  
(ii) Budget provision in the current financial year;  
if no Budget provision exists, how is the expenditure proposed to be met?
- (d) Foreign exchange component of the outlay and how it is proposed to be met.
- (e) Component of grant, loan and subsidy, if any, in the total outlay involved and their proposed terms. (f) Number of posts, their pay scales and the basis adopted for staffing (Statement attached).
- (g) Broad details of construction works, their justification and basis of estimates (Statement attached). (h) Requirement of stores and equipment together with justification and cost (Statement attached).
- (i) Achievement / return expected and other economic implications, if any.

**3. (a) Comments, if any, of the NITI Aayog (for Schemes only).**

- (b) Comments, if any, of other Ministries / Departments which may have been consulted.

**4. Supplementary information, if any.****5. Points on which decision / sanctions are required.**

Secretary to the Government of India.

Ministry of.....  
Department of.....



## **APPENDIX – 4**

[See Note below Rule 52]

### **PROCEDURE FOR COMPILATION OF DETAILED DEMANDS FOR GRANTS**

1. The Demand for Grants are presented to Parliament at two levels. The Main Demands for Grants are presented to Parliament by the Ministry of Finance along with the Annual Financial Statement while the Detailed Demands for Grants are laid on the Table of the Lok Sabha by the concerned Ministries a few days in advance of the discussion of the respective Ministries Demands in that House.

Both the Main Demands for Grants as also the Detailed Demands for Grants comprise three parts each, viz. -

Part - I shows the Service for which the Demand (or Appropriation) is intended and the estimates of the gross amount, separately for Voted and Charged Expenditure, under Revenue and Capital (including Loan) sections required in the ensuing year in respect of that Service.

Part - II shows break up of the estimates separately. In the Main Demands for Grants, the break up is exhibited up to the level of Major Heads of Account which correspond to functions of the Government.

In the Detailed Demands for Grants the break up in respect of activities/schemes/organization up to the object head level is given.

The Detailed Demands for Grants also exhibit actuals of the previous year in Part - II.

Both in the Main Demands for Grants as well as in the Detailed Demands for Grants, the details of recoveries taken in reduction of expenditure provided for in the Demand or Appropriation are also depicted.

2. All Detailed Demands for Grants of a Ministry / Department are consolidated in a single volume and presented to Lok Sabha by the concerned Ministry / Department. The Detailed Demands show 'actual expenditure' as per accounts in the previous year, Budget and Revised Estimates for the current years and Budget Estimates for the ensuing year.
  - (i) The process of compilation should start in July / August with the preparation of a manuscript skeleton. Manuscript skeletons of Detailed Demands for the ensuing year should be prepared by using the printed Detailed Demands for the current year by making necessary alterations therein. New sub-heads sanctioned by the Ministry of Finance, if any, and those expected to be required should also be added in the manuscript at appropriate places. The manuscript should then be sent to the designated press for a proof. Where necessary, a second proof may be obtained. The printed skeletons should be available with the Ministries/ Departments preferably by the 15th October each year.
  - (ii) Two copies of the Demand skeleton may then be sent to the Principal Accounts Officer, as the case may be, for filling the 'Actuals' column for the previous year and to return one copy duly filled in.
  - (iii) In the master copy of the Demand, the Ministry / Department will then post (1) the figures of actuals as reported by the Principal Accounts Officer / Accountant-General; (2) Revised Estimates for the current year and the Budget Estimates for the ensuing year from the office copy of the SBEs / Demands for Grants sent to Ministry of Finance. While posting these entries, care should be taken to ensure that –
    - (a) "Charged" items are shown in italics and are not mixed up with "Voted" provisions;
    - (b) posting is done accurately against the proper item / head of account including "recoveries", if any, taken as reduction of expenditure;
    - (c) new items are inserted at the proper place under the relevant minor head;
    - (d) totals of sub-heads, minor heads, major heads, etc., are correctly worked out and posted; that totals of Revenue section and Capital section as well as the grand totals are correct and show "Charged" and "Voted" figures distinctly; and
    - (e) new sub-head (opened through Supplementary Demands) or otherwise or any change in the numbering and nomenclature sanctioned by the Budget Division since the proof of the skeleton should also be incorporated in the Master Copy.



NOTE :-A sub-head should appear in the Demand only when there is provision thereunder, either in the current year(Budget or Revised) or the ensuing year. Wherever only actuals of the previous year pertaining to a sub-head are to be exhibited, this should be done by inserting suitable footnote on the relevant page.

(iv) The process of compilation and printing of the Demands should be undertaken in stages.

3. The first proof of individual Demands may be obtained after posting actuals of previous year and other than Scheme estimates (by 15th December). The second proof may be similarly obtained (by 15th January) after "Scheme" Revised estimates are posted in the first proof. As soon as "Scheme "provisions for the ensuing year are finalized and communicated by the Ministry of Finance, they should be posted in the second proof. Before obtaining the third proof, the following material may also be added.

**(A) Main Demands for Grants :**

- (i) Notes on the Demands for Grants highlighting the following :-
  - (a) The objectives of the concerned Ministry / Department, how the programmes undertaken or contemplated contribute towards attainment of such objectives and the agencies entrusted with the execution of such programmes;
  - (b) Details of important provisions included in Demands for Grants with particular emphasis on Scheme provisions and new items of expenditure;
  - (c) Cogent reasons for significant variations between the Budget Estimates and Revised Estimates for the current year and between the Revised Estimates, for the current year and the Budget Estimates for the ensuing year;
  - (d) Provisions for subsidy in lieu of interest on loans by the Government or token provisions for concessional rate of interest along with number of likely cases involved and financial implications, if determinable; and
  - (e) Complete details of the estimated cost of a project together with its economics and financial implications (whenever these estimates are revised and the cost of escalation exceeds 20 per cent of the sanctioned cost or Rs. 3 crores, whichever is more, full reasons therefor and the effect thereof on the economics of the projects should also be included in the Notes on Demands).
- (ii) A statement giving details of provisions in the Budget which attract limitations of "New Service"/"New Instrument of Service".

**(B) Detailed Demands for Grants :**

The Detailed Demands for Grants will be accompanied by the following schedules/ statements:-

- (i) Schedule showing the estimated strength of establishment and provision therefor.
- (ii) Statement showing project-wise provision for expenditure on externally aided projects in the Central Schemes.
- (iii) Schedule showing provision for payment of grants in aid to non-Government bodies.
- (iv) Statement showing details of individual works and projects costing Rs. 5 crore or above.
- (v) Statement showing revised cost estimates of projects of public sector enterprises and departmental undertakings.
- (vi) Statement showing transfer or gift of Government properties of value exceeding Rs. 5 lakhs to non-Government bodies.
- (vii) Statement showing contributions to International bodies. This statement will include only items of contribution, membership fees to international bodies, which constitute revenue expenditure. Subscriptions to international bodies, which represent investments and are accounted for in the Capital section, are to be excluded from it.





- (viii) Statement showing guarantees given by the Central Government and outstanding as on 31st March of the preceding year.
- (ix) Statement showing grants-in-aid exceeding Rs. 5 lakhs (recurring ) or Rs. 10 lakhs (non-recurring) actually sanctioned to private institutions/organizations/ individuals.
4. In addition the Detailed Demands for Grants will also include where necessary, "Notes on Important Projects and Schemes", e.g., where the Ministry / Department do not bring out performance Budgets.
  5. The third proof on receipt from the press should be thoroughly checked for accuracy of all estimates and other data, as these must necessarily conform with the main Demands for Grants. Therefore for obtaining page proof, all pages should be serially numbered and table of contents prepared. The page proof received from the Press should be fully scrutinized.
  6. A sample printed copy of the Demands should be scrutinized on receipt from Press and where necessary an errata may be prepared, got printed and pasted by the Press in individual copies of the Printed Demands.
  7. The Demands of smaller Departments like Lok Sabha, Rajya Sabha, Department of Parliamentary Affairs, Staff, Household and Allowances of the President, Secretariat of the Vice-President and Union Public Service Commission which are clubbed in a single volume are to be prepared and presented by the Ministry of Finance.



## APPENDIX – 5

[Rule 66]

PROCEDURE TO BE FOLLOWED IN CONNECTION  
WITH THE DEMANDS FOR SUPPLEMENTARY GRANTS

An excess over the sanctioned Grant or Appropriation may arise owing to either –

- (a) an unforeseen emergency; or
- (b) under-estimated or insufficient allowance for factors leading to the growth of expenditure. In the case of an excess of either type the Head of the Department or the Controlling Officer concerned should proceed as follows :-
  - (i) He should, in the first place, examine the allotments given to other Disbursing Officers under the same detailed head within the unit of appropriation, and transfer to the Disbursing Officer who requires an additional allotment such sum as can be permanently or temporarily spared. Since appropriation audit is ordinarily conducted against total allotments for a unit, reappropriation in the technical sense of the word is not involved in such cases. The process amounts only to redistribution which the Controlling Officer can ordinarily effect without reference to any other authority.
  - (ii) Should he find such redistribution impossible he should examine the allotments against other detailed heads inside the primary units of appropriation, with the object of discovering probable savings and effecting a transfer. Where such redistribution is feasible, he should if he has been vested with the necessary powers, carry it out. Otherwise, he should obtain the sanction of the competent authority.
  - (iii) If the provision of funds from within the primary units proves to be impossible, an examination of the whole grant should be undertaken to see whether there are likely to be savings under any of the other units of grant or appropriation which can be utilized to meet it. If so, he should proceed as indicated in Clause (ii) above.
  - (iv) If such savings are not available, it should be seen whether special economies can be effected under other primary units of appropriation. If funds cannot be provided by either of these methods, it will have to be considered whether the excess should be met by postponement of expenditure or whether an application for supplementary grant or appropriation should be made.
  - (v) The Supplementary Demand for Grants shall be presented to the Parliament in a number of batches as decided by the Ministry of Finance, Department of Economic Affairs. The first batch shall normally consist of requirements of the following nature :-
    - (a) Cases where advances from Contingency Fund of India have been granted, which are required to be recouped to the Fund.
    - (b) Payment against a court decree, which cannot be postponed; and
    - (c) Cases of additional requirement of funds for making immediate payments, which can be met by re-appropriation of savings in the Grant but attract the limitation of New Service / New Instrument of Service.
  - (vi) All applications for supplementary grants or appropriations should be submitted by the Department of the Central Government administratively concerned to the Ministry of Finance on such dates and in such forms / batches as may be prescribed by the latter from time to time.
  - (vii) On receipt of an application for a supplementary grant, the Ministry of Finance will review the position of the grant of appropriation as a whole with reference to the known actuals of the year to date and the actuals and estimates for previous years. If after this examination, the Ministry of Finance comes to the conclusion that it should be possible for the Administrative Department to meet the expenditure from within the sanctioned grant either from normal savings or by special economies or in the last resort by judicious postponement of other expenditure or in the last resort by judicious postponement of other expenditure, the Administrative Department will be so informed and no supplementary demand will be presented to Parliament. If, on the other hand, the Ministry of Finance considers that a supplementary grant will be necessary, a demand will be placed before Parliament.



(viii) If during the course of the year it is found necessary to incur expenditure on a 'New Service' not provided for in the annual budget the Administrative Department shall explain to the Ministry of Finance why the expenditure was not provided for in the original budget and why it cannot be postponed for consideration in connection with the next budget. The Ministry of Finance, if satisfied on these points, will consider whether it would not be reasonable to ask the department concerned to curtail its other expenditure so as to keep the total within the grant. Ordinarily, no "new service" or item will be accepted by the Ministry of Finance, unless the department concerned can guarantee that the extra expenditure will be met from normal savings or by special economies within the grant. Cases which involve additional grant will normally be accepted by the Ministry of Finance only if they relate to matters of real imperative necessity or to the earning or safeguarding of revenue. The demand for a supplementary grant of appropriation or a token vote in respect of a "new service" will be presented to Parliament as soon as practicable after the need arises.

NOTE. –The expression 'New Service' wherever used in this Appendix includes – 'New Instrument of Service'.



## APPENDIX – 6

[Rule 67. (4)]

## THE CONTINGENCY FUND OF INDIA RULES

**SRO 1358.** - In exercise of the powers conferred by Section 4 of the Contingency Fund of India Act, 1950 (XLIX of 1950), the Central Government hereby makes the following rules:-

## CONTINGENCY FUND OF INDIA RULES

1. These rules may be called the Contingency Fund of India Rules.
2. The Contingency Fund of India shall be held on behalf of the President by the Secretary to the Government of India, Ministry of Finance, Department of Economic Affairs.
3. From out of the Balance in the Fund, such amounts as may be agreed upon from time to time shall be placed at the disposal of the Financial Commissioner of Railways for the purpose of meeting the unforeseen expenditure of the Railways.
4. Subject to the provisions of Rule 5 below, all applications for advances from the Fund shall be made to the Secretary to the Government of India, Ministry of Finance, Department of Economic Affairs. The applications shall give -
  - (i) brief particulars of the additional expenditure involved,
  - (ii) the circumstances in which provision could not be included in the budget,
  - (iii) why its postponement is not possible,
  - (iv) the amount required to be advanced from the Fund with full cost of the proposal for the year or part of the year, as the case may be, and
  - (v) the grant or appropriation under which supplementary provision will eventually have to be obtained.
5. Applications for advances required by Railways shall be made to the Financial Commissioner of Railways in the manner provided for in Rule 4.
6. Advances from the Fund shall be made for the purpose of meeting unforeseen expenditure including expenditure on a new service not contemplated in the annual financial statement.
7. A copy of the order sanctioning the advance, which shall specify the amount, the grant or appropriation to which it relates and give brief particulars by sub-heads and units of appropriation of the expenditure for meeting which it is made, shall be forwarded by the Ministry of Finance or the Financial Commissioner of Railways, as the case may be, to the Audit and Accounts Officers concerned. In addition, the Ministry of Finance and the Financial Commissioner of Railways shall forward copies of such orders to the Accountant- General, Central Revenues and the Director of Railway Audit respectively.
8. (1) Supplementary Estimates for all expenditure so financed shall be presented to Parliament at the first session meeting immediately after the advance is sanctioned unless such advance has been resumed to the Contingency Fund in accordance with the provisions of sub-rule (2).

**NOTE 1.** -While presenting to Parliament Estimates for expenditure financed from the Contingency Fund, a note to the following effect shall be appended to such Estimates :-

'A sum of Rs. .... has been advanced from the Contingency Fund in ..... and an equivalent amount is required to enable repayment to be made to that Fund.'

**NOTE 2.** -If the expenditure on a new service not contemplated in the Annual Financial Statement can be met, 'wholly or partly' from savings available within the authorized appropriation, the note appended to the Estimates submitted shall be in the following form :-

'The expenditure is on a new service. A sum of Rs. .... has been advanced from Contingency Fund in ..... and an equivalent amount is required to enable repayment to be made to that Fund.' The amount, viz., Rs. .... can be found by re-appropriation.



'A part of that amount, viz., Rs. .... of savings within the grant and a token vote only is now required, viz., Rs. .... only.

a vote is required for the balance

- (2) As soon as Parliament has authorized additional expenditure by means of a Supplementary Appropriation Act, the advance or advances made from the Contingency Fund, whether for meeting the expenditure incurred before the Supplementary Estimates were presented to the Parliament or after they were so presented, shall be resumed to the Fund to the full extent of the appropriation made in Act.
  8. A. If in any case, after the order sanctioning an advance from the Contingency Fund has been issued in accordance with Rule 7 and before action is taken in accordance with Rule 8, it is found that the advance sanctioned will remain wholly or partly unutilized, an application shall be made to the sanctioning authority for cancelling or modifying the sanction, as the case may be.
  8. B. All advances sanctioned from the Contingency Fund to meet expenditure in excess of the provision for the service included in an Appropriation (Vote on Accounts) Act shall be resumed to the Contingency Fund as soon as the Appropriation Act in respect of the expenditure on the service for the whole year, including the excess met from the advances from the Contingency Fund has been passed.
  8. C. If during an Election year, two Budgets are presented to the Parliament, all advances, sanctioned from the Contingency Fund of India during the period between the presentation of first and second Budgets or during the period between the presentation of the second Budget and the passing of the connected Appropriation Act to meet expenditure on a service not included in an Appropriation (Vote on Account) Act and the advances outstanding at the end of the preceding financial year being advances the estimates for which are included in the second Budget, shall be resumed to the Contingency Fund as soon as the Appropriation Act in respect of the expenditure on the service for the whole year has been passed.
- NOTE.** -A suitable explanation regarding the advance and the recoupment thereof shall be incorporated in the "Notes on Demands for Grants". Wherever required, such a case will be included in the statement of 'New Service' / 'New Instrument of Service' appended at the end of the demands.
9. A copy of the order resuming the advance, which shall give a reference to the number and date of the order in which the original advance was made and to the Supplementary Appropriation Act referred to in Rule 8, shall be forwarded by the Ministry of Finance and the Financial Officers concerned, in addition, to the Audit and Accounts Officers concerned. In addition, the Ministry of Finance shall forward copies of such orders to the Accountant General, Central Revenues, and the Director of Railways Audit if pertaining to the Railways.
  10. An account of the transactions of the Fund shall be maintained by the Ministry of Finance in Form 'A' annexed to these rules.
  11. Actual expenditure incurred against advances from the Contingency Fund shall be recorded in the account relating to the Contingency Fund in the same details as it would have been shown if it had been paid out of the Consolidated Fund.



## ANNEXURE FORM 'A'

[See Paragraph 10 of Appendix-6 ]

### CONTINGENCY FUND OF INDIA

Amount of the Fund

Rs.....

Sl. No.	Date of transaction	Number and name of Grant of appropriation	Number and date of the application for advance	Number and date of the order making the advance	Amount of advance resumed	Supplementary Appropriation act providing for the Additional Expenditure	Amount of advance resumed	Balance after each transaction	Initials of Officer-in-charge	Remarks
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)

**NOTE1.-** The balance should be struck after each transaction.

**NOTE2.-** The amount of the advances should be entered in black ink when made and in red ink when resumed.





## **APPENDIX - 7**

[See Rule 310 (4) and 310 (5) ]

### **TRANSFER OF LAND AND BUILDINGS BETWEEN THE UNION AND STATE GOVERNMENTS**

1. These rules apply to the transfer of land and buildings between the Union and the State Governments and also to the surrender to the State Governments of land belonging to Railways.  
The general position under Article 294 of the Constitution is that as from the commencement of the Constitution -
  - (a) all property and assets which immediately before such commencement were vested in His Majesty for the purposes of the Government of the Dominion of India and all property and assets which immediately before such commencement were vested in His Majesty for the purpose of the Government of each Governor's Province, shall vest respectively in the Union and the corresponding State; and all rights, liabilities and obligations of the Government of the Dominion of India and of the Government of each Governor's Province, whether arising out of any contract or otherwise, shall be the rights, liabilities and obligations respectively of the Government of India and the Government of each corresponding State subject to any adjustment made or to be made by reason of the creation before the commencement of the construction of the Dominion of Pakistan or of the Province, of West Bengal, West Punjab and East Punjab. Article 294, as is evident, relates to succession to property, assets, rights, liabilities and obligations in certain cases only; Article 295 of the Constitution which relate to succession to property, assets, rights, liabilities and obligations in other cases, provides that -
    - (i) As from the commencement of the Constitution :
      - (a) all property and assets which immediately before such commencement were vested in any Indian State corresponding to a State specified in Part -B of the First Schedule shall vest in the Union if specified in Part - B of the First Schedule shall vest in the Union if the purpose for which such property and assets were held immediately before such commencement will thereafter be purposes of the Union relating to any of the matters enumerated in the Union List; and
      - (b) all rights, liabilities and obligations of the Government of any Indian State corresponding to a State specified in Part -B of the First Schedule, whether arising out of any contract or otherwise, shall be the rights, liabilities and obligations of the Union Government, if the purposes for which such rights were acquired or liabilities or obligations were incurred before such commencement will thereafter be purposes of the Union Government relating to any of the matters enumerated in the Union List: subject to any agreement entered into in that behalf by the Union Government with the Government of that State.
    - (ii) Subject as aforesaid, the Government of each State specified in Part 'B' of the First Schedule shall, as from the commencement of the Constitution, be the successor of the Government of the corresponding Indian State as regards all property and assets and all rights, liabilities and obligations, whether arising out of any contract or otherwise, other than those referred to in Clause (1).  
All property and assets, which include land and buildings, and which vest in the State Government under Articles 294 and 295 of the Constitution or otherwise shall be at the disposal of the respective State Governments, who will be at liberty to dispose them of by sale, mortgage, etc., and the proceeds thereof shall be credited to the revenues of the respective State Governments.  
From the commencement of the Constitution, the transfer of land between the Union and the State Government shall be regulated by mutual agreement except when they are acquired under some Act. The Union Government have laid down the following principles to be observed in regard to certain points :-
      - (i) (a) When land belonging to a private party has to be acquired on behalf of the Union Government acquisition shall be at the expense of that Government.
      - (b) In cases where the Union Government require any land, which is in occupation of the State Government, to be transferred to them, the amount payable by the Union



Government will ordinarily be the market value of the land and buildings, if any, thereon.

- (c) The amount payable will include the capitalized value of land revenue assessable on the land when the transfer causes actual loss of land revenue to the State Government.
- (d) Solatium of 15 per cent payable under the Land Acquisition Act will not apply to such transfers.
- (ii) *Land surplus to the requirements of the Union Government :-* When the Union Government no longer required land in their possession, the Government of the State in which it is situated will be given the option of assuming possession of the whole or any portion thereof subject to the following conditions :-
  - (a) the Union government themselves shall be the judges of whether they require to retain any particular land or not;
  - (b) if the State Government desire to assume possession of the land, the option to do so shall be exercised within six months of the date on which the Union Government signify their intention of surrendering the land;
  - (c) the amount payable for the land will in all cases be its market value at the date of transfer;
  - (d) when the State Government desire to assume possession of only a portion of the land surrendered, they shall be entitled to do so only if the value of the land as a whole is not materially reduced by the division; and
  - (e) if the State Government do not desire to assume possession of any land on the foregoing terms, the Union Government will be free to dispose it of to a third party. Before, however, so disposing of the land, the Union Government will consult the State Government as to the levy of ground rent or assessment and the conditions, if any, subject to which it should be sold and they will, as far as possible, dispose of the land subject to the conditions which the State Government may desire to impose. The Union Government are not, however, bound to obtain the concurrence of the State Government in all cases, and in cases of disagreement the Union Government shall be the sole judge of the terms and conditions to be imposed.
- (iii) *Determination of Disputes as to Titles.* - Disputes as to title between the Union Government and a State Government shall be determined by the Supreme Court.
- 2. *Market value defined.* -Market value when applied to land may be defined as the price which the land would fetch if sold in the open market subject to the ground rent or assessment shown against it in the revenue registers, or, if no ground rent or assessment shown against it in the revenue registers, subject to a ground rent or assessment levied at the rate at which ground rent or assessment is actually being levied on similar lands in the neighbourhood excluding all cases in which such similar lands in the neighbourhood are held free of ground rent or assessment at favourable or unfavourable rates of ground or assessment. This is the market value which has to be credited or debited, as the case may be, in the case of all transactions between the State Governments and the Union Government or between the Union Government and State Governments or the Railways.



## **APPENDIX - 8**

[ See Rule 286. (3) and Rule 311 ]

### **CHARITABLE ENDOWMENTS AND OTHER TRUSTS**

#### **I. CHARITABLE ENDOWMENTS**

1. The duties of the Treasurer of Charitable Endowments for India are prescribed in the Charitable Endowments Act, 1890 (Act VI of 1890), and the rules framed thereunder, which are printed as an Annexure hereto.
2. Under sub-section (1) of Section 3 of the Charitable Endowments Act, the Deputy Secretary/Director (Budget) in the Ministry of Finance, Department of Economic Affairs, nominated for the purpose, has been appointed ex officio to be the Treasurer of Charitable Endowments for India with effect from the 1st April, 1954. All the property of Charitable Endowments, the objects of which extend beyond a single State or which are objects to which the executive authority of the Central Government extend, vest in him.

The Treasurer of Charitable Endowments for India is authorized to employ the agency of the Treasurer of Charitable Endowments of a State, with the consent of the State Governments, for discharging any of the functions assigned to him under the rules referred to in Paragraph 1 above.

3. When a copy of a vesting order is received by the Treasurer of Charitable Endowments for India, he should at once place himself in communication with the persons who appear from the order to be the holders of the documents of title relating to the property or of the securities mentioned in the order, and request them to forward the Title Deeds, or securities in a registered cover and to insure the cover for Rs. 100. These do not require to be endorsed, as the vesting order operates to transfer the securities to the Treasurer.
4. At every change of Office of the Deputy Secretary/Director (Budget) in the Ministry of Finance, Department of Economic Affairs nominated for the purpose, a formal transfer of charge of the Treasurer of Charitable Endowments for India should also take place and as separate charge report, supported by a statement of the total of the balances of the Funds vested in the Treasurer, duly signed by the relieved and the relieving Treasurers should be sent to Government.

A list of receipts granted by the Reserve Bank in acknowledgement of the securities forwarded to it for safe custody as also of the securities kept in the custody of the Treasurer should also be prepared and signed by the relieved and the relieving Treasurers, and sent to Government along with the charge report.

**NOTE.** -Whenever there is a change in the Office of a Treasurer of Charitable Endowments of a State who has been acting as an agent of the treasurer of Charitable Endowments for India, a charge report prepared in the manner indicated in this paragraph should be furnished to the latter.

#### **II. MISCELLANEOUS TRUST ACCOUNTS**

5. If, under any general or special orders of Government, an Audit Officer / Accounts Officer or any other Government officer is required to act in his official capacity as a Trustee or Depository of any public or quasi-public fund, which does come within the scope of the accounts of Government, or of any Charitable Endowment and is not a Government security held in trust under the rules in Chapter IX of the Government Securities Manual, such an officer should endeavour to have the trust vested, if possible, in the Treasurer of Charitable Endowments for India; but, if that course is not possible, he should open an account with the State Bank of India, or with any other approved Bank, for the deposit of moneys received by him on account of Trust. Full and clear record of all transactions relating to the trust fund should be kept in the books of accounts in his personal custody in a form complying with the terms and conditions of the Trust. The securities, if any, deposited with him should be dealt with in accordance with the instructions contained in Chapter IX of the Government Securities Manual.
6. The books of accounts should be supported by a short statement descriptive of the nature and obligation of the Trust, with reference to the documents bearing upon it, so that any other Government officer on receiving charge may know by reference to it exactly what his obligations are in the matter.



**NOTE.** -The receipt and disposal of interest should be recorded in these accounts which are meant for the principal of the Trusts only.

7. The accounts should be balanced and closed every 31st day of March. They should also be balanced and closed when the Government officer acting as the Trustee makes over charge of his office to a successor or substitute, a balance sheet being appended to the charge report and signed both by the officer receiving and the officer giving over charge.
8. The accounts will be subject to such audit check as may be prescribed by Government.



## **ANNEXURE**

[ See Paragraph 1 of Appendix -8 ]

In exercise of the powers conferred by Section 13 of the Charitable Endowments Act, 1890 (VI of 1890), and in supersession of the late Home Department Notification No. 1569 - Judicial, dated the 24th October, 1890, the Central Government is pleased to make the following rules and forms :-

### **THE CHARITABLE ENDOWMENTS (CENTRAL) RULES, 1942**

#### **1. Short Title. -**

- (1) These rules may be called the Charitable Endowments (Central) Rules, 1942.
- (2) They apply to charitable endowments the objects of which extend beyond a single State or are objects, to which the executive authority of the Central Government extends.

#### **2. Interpretation.- In these rules -**

- (a) "the Act" means the Charitable Endowments Act, 1890;
- (b) "Treasurer" means the Treasurer of Charitable Endowments for India for the time being, appointed under sub-section (1) of Section 3 of the Act, and includes such other officer as the Treasurer may appoint to discharge any of the functions assigned to him under these rules;
- (c) "Form" means a form appended to these rules.

#### **3. Previous publication of vesting orders and schemes.-**On cases in which private persons apply for a vesting order or a scheme or modification of a scheme, and in all cases in which it is proposed to depart in any respect from the ascertained wishes or presumable intentions of the founder of an endowment, there shall ordinarily, and unless the Central Government otherwise directs, be previous publication of the proposed vesting order or scheme or modification.

#### **4. Mode of previous publication.**

- (1) Unless the Central Government is of opinion that a proposed vesting order or proposed scheme or modification of a scheme may be made or settled without previous publication, it shall publish a draft of the proposed order, scheme or modification or a sufficient abstract thereof, for the information of persons likely to be affected thereby.
- (2) The publication shall be made in the Official Gazette and in such other manner as the Central Government may direct.
- (3) A notice specifying a date on or after which the proposed order, scheme or modification will be taken into consideration by the Central Government should be published with the draft or abstract.
- (4) The Central Government shall consider any objection or suggestion which it may receive from any person with respect to the proposed order, scheme or modification thereof before the date specified in the notice under sub-rule (3).

#### **5. Costs.** The cost of the previous publication under Rule 4 of any proposed order, scheme or modification of a scheme, and any other costs incurred or which may be incurred in the making of the orders or in the settlement of a scheme or modification of a scheme, shall be paid by the applicant for the order, scheme or modification, as the case may be, and, if the Central Government so directs may be paid by him out of any money in his possession pertaining to the trust to which his application relates.

#### **6. Securities which may vest in the Treasurer.-**No securities for money except the securities mentioned in Clauses (a), (b), (bb), (c) and (d) of Section 20 of the Indian Trusts Act, 1882 (II of 1882), shall be vested in the Treasurer.

#### **7. Accounts of trusts consisting of immovable property.-**In the case of property vested in the Treasurer other than securities for money, the person acting in the administration of the trust and having, under sub-section (3) of Section 8 of the Act, the possession, management and control of the property and the application of the income thereof, shall in books to be kept by him, regularly enter or cause to be entered full and true accounts of all moneys received and paid respectively on account of the trust, and shall, on the demand of the Central Government, submit annually to such public servant as the Central Government may appoint in this behalf, in such form and at such time as the Central Government may prescribe, an abstract of those accounts and such returns as to other matters relating to the administration of the trust as the Central Government may from time to time see fit to require.

**8. Fees.**

- (1) The following are prescribed as the fees to be paid to the Central Government in respect of any property vested under the Act in the Treasurer :-
  - (i) In the case of property other than securities for money, the actual charge incurred by the Treasurer in the discharge of his functions in respect of the property.
  - (ii) In the case of securities for money, at the rate of one Paisa for every rupee of interest collected.  
The fee shall be charged on interest by rounding off the amount to the nearest rupee, fractions of a rupee below fifty Paisa or more being reckoned as one rupee.
- (2) The Treasurer may deduct any fees payable to the Central Government under this rule on account of any endowment from any money in his hands on account of such endowment. If he holds no such moneys the amount shall be claimed from the administrators of the endowment.

**9. Vesting orders how filed.** - All copies of vesting orders received by the Treasurer shall be filed together and shall be numbered in consecutive order of their receipt; when a sufficient number have been received they shall be bound in volumes. A note shall be made on each vesting order of any entries in the registers prescribed under these rules relating to the property vesting in the Treasurer under the order.

**10. Registers of securities.** - On the receipt of any securities for money, or on their purchase by himself, the Treasurer shall record their receipt in a register in Form 1. He shall also keep a separate account for each endowment in Form 2, in which he shall record all receipts including any amount sent for investment, and all disbursements. In the cash account in Part - II of Form 2 the Treasurer shall record only his own transactions (such as the payment of the money to the administrator), and not the transactions of the administrators of the endowment fund.

**11. Stock Disposal Register.** - The Treasurer shall enter all securities returned or sold by him in a register in Form 3. Returns shall also be entered in Form 2, where the amount returned will be deducted from the capital of the endowment concerned.

**12. Custody of Securities.** - On the issue of a vesting order under Section 4 of the Act in respect of any securities for money, the person authorized under Section 6 of the Act to make the application for such vesting order shall, as soon as practicable, forward to the Treasurer the said securities. The Treasurer shall, after recording the receipt of the said securities in the registers kept under Rule 10, take steps, as soon as practicable, to have them converted into stock and keep the stock certificate in his custody. After conversion, entries shall be made in the Treasurer's Stock Register in Form 7. A consolidated register showing the securities (e.g., Promissory Notes and the Stock Certificates) in the custody of the Treasurer shall also be maintained in Form 8.

**13. Accounting of Interest.** - The Treasurer, on receipt of any interest securities, shall pass it through his General Trust Interest Account under a special Sub-Head "Interests on Charitable Endowments under Act VI of 1890". The interest will then be distributed to the various ledger accounts in the register in Form 2, in which the gross amounts shall be shown, any deductions for fees, etc., being shown as a charge, and the payment of the balance to the administrators being shown as a disbursement. The Treasurer shall maintain personal, ledger account in the Reserve Bank and shall make payment to the administrators by cheques. The entries in the ledger of interest received shall be taken out and agreed annually with the total amount of the interest drawn.

**14. Balance Sheet.** - The registers in Form 1 shall show all securities vested in the Treasurer as such. In order to prove the balance actually held by the Treasurer in his own hands, a balance sheet in Form 4 shall be made out actually and agreed with the actual securities in the Treasurer's possession. Such agreement shall be certified on the balance sheet.

**15. Publication of accounts.** - A list of all properties vested in the Treasurer and an abstract of the accounts of the interest and the annual agreement of balance shall be published in the Official Gazette on the 15th June of each year.

**16. Register of property other than securities.** - The Treasurer shall enter in a register in Form 5 any property other than securities which becomes vested in him, and shall record in the same register against the original entry a note of any property of which he is divested.

**17. Form of publication of list and abstract.** - The list of properties vested in the Treasurer to be published annually under Rule 15 shall be in Form 6. Part - I will relate to properties other than securities; Part - III will relate to securities and will also contain the abstract of accounts required by the Act to be published. The Treasurer shall demand and receive acknowledgements of the correctness of the balances when so published, from the administrators of endowment funds or from any one or more of their body who may have been authorized by the administrators to give such acknowledgements and such acknowledgements shall be furnished within 3 months from the date of publication of accounts in the Official Gazette.

**18. Audit.** - Arrangements for annual audit of the Treasurer's accounts shall be made by the Comptroller and Auditor General.





**FORM 1**

**REGISTER OF SECURITIES HELD UNDER ACT VI OF 1890**

Sl. No.	Date of Receipt	Number or brief description of Charitable Endowments	Particulars of Securities received						Ledger Folio	Remarks
			From whom received	No. and date of forwarding letter	Nature of Securities, e.g. Government securities 3 ½ per cent Loan of 1865, Guaranteed Railway Debentures, etc.	Distinguishing number of each security	Nominal value of each security	Total nominal value of each separate endowment		
1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.



## FORM 2

## LEDGER ACCOUNT OF SECURITIES HELD UNDER ACT VI OF 1890.

- 1.Name of Endowment.....
- 2.Particulars of vesting order.....
- 3.When vested in Treasurer.....
- 4.Name of Administrators.....
- 5.To whom interest is to be sent.....

## PART - I - Account of Capital

Sl. No. Form 1	Particulars (e.g. received or returned)	Details of securities (distinguishing number, etc.)	Value of each security (separate column for each kind)					Amount of half yearly interest	Date to which interest has been paid on receipt	Initials of Treasurer or Assistant-in- Charge
			3 ½ per cent Loan of 1865	Guaranteed Railway Deben-tures						
1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.

NOTE.- The balance of the value columns must be worked out on every day on which there is a new entry.



## PART-II-CASH ACCOUNT

## RECEIPTS

Date	Particulars	Amount

## EXPENDITURE

Date	Particulars	Amount

NOTE. To be closed annually to balance. The transactions will not be numerous. A few pages of the ledger (rule only for the Cash Account) may be left for each account, so that the account may be carried on for several years without opening a fresh Ledger Account.



## FORM 3

## STOCK DISPOSAL REGISTER

Sl. No.	Date of entry	Name of the Fund or Trust	No. of entries in Stock Register	Amounts disposed of	How disposed of	GO's initials	Official Designation of Officer



**FORM 4**

**BALANCE SHEET OF SECURITIES HELD UNDER ACT VI OF 1890**

Particulars	3 ½ per cent Loan of 1865		(A pair of columns for each different kind of security held)	Total	
	No.	Value		No.	Value
Opening Balance (from last year)					
.....Securities received.....					
.....Stock Certificates received .....					
.....					
<b>GRAND TOTAL</b>					
Deduct -					
Sent to the PDO Reserve Bank of India for conversion into stock.....					
<b>BALANCE</b>					
Deduct -					
Returned or sold.....					
<b>BALANCE</b>					
Add -					
Sent for conversion out of which stock certificates have not been received					
.....					
<b>CLOSING BALANCE</b>					

Certified that the above closing balance has been compared with the Securities in Treasurer's possession and has been found to be agree both as to number and value.



## FORM 5

REGISTER OF PROPERTIES OTHER THAN SECURITIES  
HELD UNDER ACT VI OF 1890

Sl. No.	Particulars of vesting order		Name of endowment	Administrators of property	Property held		
	No.	Date			Description	Value	Annual income if known
1	2	3	4	5	6	7	8

Description	Title Deeds held					Initials of Treasurer or Assistant-in-Charge	Remarks
	Date of receipt	Where deposited	Date of return	To whom returned	Authority for return		
9	10	11	12	13	14	15	16





**FORM 6**

**LIST AND ABSTRACT ACCOUNT OF  
PROPERTIES HELD UNDER ACT VI OF 1890**

**PART - I - LIST OF PROPERTIES, OTHER THAN SECURITIES**

Sl. No.	Particulars of vesting order		Name of endowment	Administrators of property	Property held			Remarks
	No.	Date			Descri- ption	Value	Annual income if known	
1	2	3	4	5	6	7	8	9

**LIST OF ABSTRACT PART ACCOUNT-II-OF SECURITIES**

Case No.	Name of endow- ment	Persons in whose behalf held	Particulars of Securities	Total of Securities	Cash Receipts			Cash expenditure Payments*	Balance in cash	Remarks
					Interest or dividend realised	Other Cash Receipts*	Total cash Receipts			
1	2	3	4	5	6	7	8	9	10	11

\* Enter details in these columns



# FORM 7

**TREASURER'S STOCK REGISTER OF**

per cent loan of

No. of Case in Form No.	Serial No.	Date of entry	To what fund or trust the investment belongs	To whom interest is to be remitted	Amount of investment	Amount of half-yearly interest	(Pair of columns for noting interest payment order)	Remarks
1	2	3	4	5	6	7	8	9
					Rs. P.	Rs. P.	Rs. P.	



**FORM 8**

**REGISTER OF CLEAN GOVERNMENT PROMISSORY NOTES AND  
STOCK CERTIFICATES HELD BY THE TREASURER  
OF CHARITABLE ENDOWMENTS FOR INDIA**

Sl. No.	Date of entry	In conversion of	Particulars				A pair of columns for noting interest for half-year ending	Remarks
			Receipts		Disposals			
			No.	Amounts	No.	Amounts		
1	2	3	4	5	6	7	8	9

**APPENDIX - 9**

[ See Rule320]

**DESTRUCTION OF OFFICE RECORDS CONNECTED WITH ACCOUNTS**

The destruction of records (including correspondence) connected with accounts shall be governed by the following Rules and such other subsidiary rules consistent therewith as may be prescribed by Government in this behalf with the concurrence of the Comptroller and Auditor-General.

1. The following shall on no account be destroyed :-

- (i) Records connected with expenditure, which is within the period of limitation fixed by law.
- (ii) Records connected with expenditure on projects, schemes or works not completed, although beyond the period of limitation.
- (iii) Records connected with claims to service and personal matters affecting persons in the service except as indicated in the Annexure to this Appendix.
- (iv) Orders and sanctions of a permanent character, until revised.
- (v) Records in respect of which an audit objection is outstanding.

2. The following shall be preserved for not less than the period specified against them :-

		Description of records		
Sl. No.	Main-Head	Sub-Head	Retention Period	Remarks
(1)	(2)	(3)	(4)	(5)
1.	Payments and recoveries.	(I) Expenditure Sanctions not covered by Paragraph 1 above (including sanctions relating to grants-in-aid) (ii) Cash Books maintained by the Drawing and Disbursing Officers under Central Government Account (Receipts and Payments) Rules, 1983. (iii) Contingent expenditure.  (iv) Arrear claims (including sanction for investigation, where necessary). Papers relating to : (v) GPF Membership. (vi) GPF Nomination.  (vii) Adjustment of missing credits in GPF Accounts.	2 years, or one year after completion of audit, whichever is later.  10 years.  3 years, or one year after completion of audit, whichever is later. 3 years, or 1 year after completion of audit, whichever is later.  1 year. 1 year - after final settlement of GPF Account. 1 year.	Subject to: (a) Original nomination being placed in Vol. II of the Service Book of Group 'D' Government servants; and (b) Nomination in original or an authenticated copy thereof being placed in Vol. II of the Service Book/Personal File in case of other Government servants. Subject to an authenticated copy of the sanction being placed on the personal file.



		Description of records		
Sl. No.	Main-Head	Sub-Head	Retention Period	Remarks
(1)	(2)	(3)	(4)	(5)
2.	Budget Estimates / Revised Estimates.	(viii) Final withdrawal from GPF, e.g., for house building, higher technical education of children, etc. (ix) GPF annual statements. (x) T.A./Transfer T.A. claims	1 year.	The retention period here related to the Budget / Revised Estimates as compiled by the Budget / Accounts Section for the Department as a whole.
3.	Service Books of:		1 year.	
	(a) Officials entitled to retirement / terminal benefits.		3 years, or one year after completion of audit, whichever is later.	
	(b) Other employees.		3 years.	
4.	Leave Account of:		3 years after issue of final pension/ gratuity payment order.	
	(a) Officials entitled to retirement / terminal benefits.		3 years after they have ceased to be in service.	Subject to the nomination in original or an authenticated copy thereof (where original kept with the audit) as the may be being placed in Vol. II of the Service Book/ Personal File.
	(b) Other employees.		3 years after issue of final pension/ gratuity payment order.	
5.	Service records.	(a) Nomination relating to family pension in and DCR gratuity.	3 years after they have ceased to be in service.	
		(b) Civil List Gradation/ Seniority list-	1 year - after settlement of benefits.	
		(i) in the case of Departments preparing bringing out the compilation.	3 years.	
		(ii) In the case of other Departments (i.e., those supplying information for such compilation)	1 year after issue of relevant compilation.	



		Description of records		
Sl. No.	Main-Head	Sub-Head	Retention Period	Remarks
(1)	(2)	(3)	(4)	(5)
6.	Expenditure statements.	(c) Alteration in the date of birth.  (d) Admission of previous service not supported by authenticated service record, e.g., through collateral evidence. (e) Verification of service. (a) In respect of lower formations. (b) In respect of Department itself. (c) Register of monthly expenditure (Form GFR 9)	3 years.  3 years; or 1 year after completion of audit, whichever is later  5 years. To be weeded out at the end of financial year. To be weeded out after the Appropriation Accounts for the year have been finalized To be weeded out the Appropriation Accounts for the year have been finalized.	Subject to suitable entry being made in the appropriate service record and an authenticated copy of the order being kept in Vol. II of Service Book/Personal file – do –  Subject to a suitable record being kept somewhere, e.g., in the Service Book or History Sheet.
7.	Surety Bonds executed in be favour of a temporary or a retiring Government servant.		3 years after the Bond ceases to enforceable.	
8.	(a) Pay Bill register. (b) Office copies of Establishment pay bills and related schedules (in respect of period for which pay bill register is not maintained). (c) Schedules to the Establishment pay bills for the period for which pay bill register is maintained. (d) Acquaintance Roll.		35 years 35 years  3 years, or one year after the completion of audit, whichever is later  3 years, or one year after the completion of audit, whichever is later.	





Sl. No.	Main-Head	Description of records		Retention Period	Remarks
		Sub-Head			
(1)	(2)	(3)		(4)	(5)
9.	Muster Rolls.			Such period as may be prescribed in this behalf in the departmental regulations subject to a minimum of three financial years of payment excluding the financial year of payment	
10.	Bill Register maintained in Form TR-28-A			5 years.	
11.	Paid cheques returned by the Bank to the Audit/Accounts Office.			5 years	The counter foils of paid cheques should be preserved for the same period as prescribed for preservation of paid cheques, viz., 5 years. However, in cases where the counter foils are required to be preserved in connection with settlement of some enquiry, etc., these should not be destroyed unless otherwise advised by the authorities conducting the enquiry. The other instructions contained in this Appendix will continue to be applicable in this case before the counterfoils which are more than five years old are actually destroyed.
12.	Files, papers and documents relating to contracts, agreements, etc.			5 years after the contract/ agreement is fulfilled or terminated. In cases where audit objections have been raised, however, the relevant files and documents shall not, under any circumstances, be allowed to be destroyed till such time as the objections have been cleared to the satisfaction of the audit authorities or have been reviewed by the Public Accounts Committee.	
13.	Sub-vouchers relating to the Secret Service Expenditure.			3 years after the expiry of the financial year in which the expenditure was incurred, subject to completion of administrative audit and issue of audit certificate by the nominated Controlling Officer.	

**INSTRUCTIONS**

1. The retention period specified in Column (4), in the case of a file, is to be reckoned from the year in which the file is closed (i.e., action thereon has been completed) and not necessarily from the year in which it is recorded.
2. In the case of records other than files, e.g., registers, the prescribed retention period will be counted from the year in which it has ceased to be current.
3. In exceptional cases, a record may be retained for a period longer than that specified in the schedule, if it has certain special features or such a course is warranted by the peculiar needs of the department. In no case, however, will a record be retained for a period shorter than that prescribed in the schedule.
4. If a record is required in connection with the disposal of another record, the former will not be weeded out until after all the issues raised in the latter have been finally decided, even though the retention period marked on the former may have expired in the meantime. In fact, the retention periods initially marked on such records should be consciously reviewed and, where necessary, revised suitably.

**NOTES.-**

- (1) Before any pay bills/pay registers are destroyed, the service of the Government servants concerned should be verified under Rule 257 in accordance (1) with .
- (2) The periods of preservation of account records in Public Works Offices are prescribed separately by Government.
- (3) Where a minimum period after which any record may be destroyed has been prescribed, the Head of a Department or any other authority empowered by him to do so, may order in writing the destruction of such record in their own and subordinate offices on the expiry of that period counting from the last day of the latest financial year covered by the record.
- (4) Heads of Departments shall be competent to sanction the destruction of such other records in their own and subordinate offices as may be considered useless, but a list of such records as property appertain to the accounts audited by the Indian Audit and Accounts Departments shall be forwarded to the Audit Officer and or the Accounts Officers, as the case may be, for his concurrence in their destruction before the destruction is ordered by the Head of Department.
- (5) Full details shall be maintained permanently, in each office, of all records destroyed from time to time.



## ANNEXURE TO APPENDIX – 9

### Destruction of records referred to in Para. 1 (iii) of this Appendix

Description of records				
Sl. No.	Main-Head	Sub-Head	Retention Period	Remarks
(1)	(2)	(3)	(4)	(5)
1.	Creation & Classification of posts.	(I) Continuance / revival of posts.  (ii) Conversion of temporary posts. (iii) Creation of posts. (iv) Revision of scales of pay.  (v) Upgrading of posts.	1 year  10 years  10 years Permanent in the case of Departments issuing orders and Departments concerned; other Departments need keep only the standing orders, weeding out superseded ones as and when they become obsolete. 10 years	Subject to particulars of sanction being noted in Establishment/ Sanction Register. – do –  – do – – do –  – do –
2.	Review for determining suitability of employees for continuance in service.	Establishment / Sanction Register.	Permanent.	Where, for any reason the register is re-written, the old volume will be kept for 3 years.
3.	Arbitration and litigation cases.		3 years	Subject to: (a) the file not being closed until the award/ judgment become final in all respects by limitation or final decision in appeal/ revision; and (b) cases involving important issues or containing material of a high precedent / reference value being retained for an appropriately longer period either initially or at the time of review.



Description of records				
Sl. No.	Main-Head	Sub-Head	Retention Period	Remarks
(1)	(2)	(3)	(4)	(5)
4.	Notices under Section 80 of Civil Procedure Code.		1 year	If such a notice is followed up by a civil suit, it would become arbitration/ litigation case and would, therefore, need to be retained for 3 years.
5.	Recruitment.	Condonation of break in service.	5 years	Subject to a suitable entry being made in the appropriate service record and an authenticated copy of the order being kept in Vol. II of Service Book Personal File.
6.	Advance. house building	(i) Car Advance Rules (ii) Conveyance Advance Rules. (iii) Cycle Advance Rules (iv) Festival Advance Rules (v) GPF Advance Rules (vi) House Building Advance Rules (vii) Motor Cycle / Scooter Advance Rules (viii) Pay Advance Rules (ix) T. A. Advance Rules (x) Travel Concession Rules (xi) Other Advance Rules (xii) Grant of car Advance (xiii) Grant of conveyance allowance	<div>Permanent in the case of Departments issuing the rules, orders and instructions; other Departments need keep only the standing rules, etc., weeding out the superseded ones as and when they become obsolete.</div> <div>1 year</div>	Subject to : (i) suitable entries being made in pay bill register; and (ii) in case of motor car/motor cycle / scooter and house building advances.



Description of records				
Sl. No.	Main-Head	Sub-Head	Retention Period	Remarks
(1)	(2)	(3)	(4)	(5)
		(xiv) Grant of cycle advance (xv) Grant of festival advance (xvi) Grant of GPF advance advance (xvii) Grant of (xviii) Grant of motor cycle/scooter advance (xix) Grant of pay advance (xx) Grant of T. A. advance (xxi) Grant of LTC advance (xxii) Grant of other advance	<div>1 year</div> <div>1 year</div>	(a) copies of sanction being placed on personal files; and (b) mortgage deeds and other agreements executed being kept separately in safe custody for the period they are valid.
7.	Surety Bonds executed in favor of a temporary or a retiring Government servant.		3 years after the Bond ceases to be enforceable.	
8.	Pension / retirement.	(i) Rules and Orders (general aspects.)  (ii) In respect of Groups 'A', 'B' and 'C' Government servants.  (a) Pre-verification of pension cases. (b) Invalid pension (c) Family pension (d) Other pensions  (e) Gratuity (f) Commutation of pension after the Bond ceases to be enforceable.	Permanent in the case of Departments issuing the rules, orders and instructions; other Departments need keep only the standing rules and orders weeding out the superseded ones as and when they become obsolete. 3 years  <div>Till one year after the last beneficiary of the family pension ceases to be entitled to receive or 5 years whichever is later.</div> 5 years  15 years	



**Note** – The principle to be adopted in respect of files having financial implications and hence liable to be called by audit for inspection is that such files should be retained for a period of five years after they have been recorded. If, at any time during the period of five years, an audit objection having reference to the transaction dealt with in that file arises, is received, the file will not be destroyed until after the audit objection has been settled to the satisfaction of the audit. Also, if local audit does not take place within the period of five years, the Head of the Office should ascertain from the audit authorities whether they have any objection to the files relating to the earlier years, due for weeding out by the application of the five year formula, being destroyed or retained for a further period for scrutiny by the audit party and, if so, for what period.

While records may be reviewed and weeded out at periodical intervals in the light of the retention periods prescribed to avoid their build-up, the attempt should be to make a continuous and conscious effort throughout the year to weed out unnecessary records. In other words, the working rules should be “weed as you go”.

#### INSTRUCTIONS:

1. The retention period specified in Column (4) in the case of a file, is to be reckoned from the year in which the file is closed (i.e., action thereon has been completed) and not necessarily from the year in which it is recorded.
2. In the case of records other than files, e.g., registers, the prescribed retention period will be counted from the year in which it has ceased to be current.
3. In exceptional cases, a record may be retained for a period longer than that specified in the Schedule, if it has certain special features or such a course is warranted by the peculiar needs of the Department. In no case, however, will a record be retained for a period shorter than that prescribed in the schedule.
4. If a record is required in connection with the disposal of another record, the former will not be weeded out until after all the issues raised on the latter have been finally decided, even though the retention period marked on the former may have expired in the meantime. In fact, the retention periods initially marked on such records should be consciously “reviewed and where necessary revised suitably”.





## **APPENDIX - 10**

[See Rule 61 and Rule 69]

### **“CHECK AGAINST PROVISION OF FUNDS”**

The pre-check to be applied to all payments by the departmentalized Accounts Officers includes a check against provision of funds also. It is an important part of the functions of the Accounts Office to see that no payment is made in excess of the budget allotment. In order to exercise an effective check in this behalf, a separate register (DDO-wise Bill Passing-cum-Expenditure Control Register –Form CAM –9) should be maintained in the Accounts Officer for each Drawing Officer and by sub-heads and units of appropriation so as to ensure at the time of passing each bill that the amount of the bill under check is covered by Budget allotment. If the amount of any bill leads to excess over the Budget allotment or is not covered by an advance from the Contingency Fund, the Accounts Officer should decline payment under advice to the authority controlling the grant so that the latter could arrange for additional funds. An Appropriation Audit Register (Form CAM – 62) shall be maintained.

NOTE. – In cases where payment of a bill/claim would lead to excess over the provision under any unit of appropriation the payment may be made by the Pay and Accounts Office only on receipt of an assurance in writing from the Ministry/Head of Department controlling the grant that the expenditure involved is not on a New Service, or New Instrument of Service; that necessary funds to accommodate the expenditure will be provided for in time by issue of re- appropriation order, etc., that a note to the effect has been kept for further action, and that the grant as a whole (i.e., separately under Revenue and Capital Sections) is not likely to be exceeded. This applies in respect of any new item of expenditure, provision for which does not exist in the Budget (as distinct from expenditure on “New Service” or “New Instrument Service” not provided in the Budget) as well as in cases where the existing provisions is not sufficient to cover the payments. **In case of an urgent requirement of expenditure attracting the provisions of New Service/New Instruments of Service and thereby supplementary demands through the approval of Parliament, the same should be referred to Ministry of Finance. The excess expenditure in such cases can be allowed by the concerned Financial Advisers only on the specific approval of Secretary (Expenditure) that the necessary funds will be made available through the next batch of supplementary demands for grant.**

If such a contingency in regard to inevitable payment of a bill should arise towards the close of financial year and the grant as a whole is likely to get exceeded thereby, order of the FA on behalf of the Chief Accounting Authority would have to be sought.

In case the additional funds required are to be made available merely by reallocation (and not by re- appropriation) of savings, if any, under the same sub-head of appropriation, the related claim will be passed for payment only after additional funds therefor are allocated in writing by the Controlling Officer.

**APPENDIX - 11**

[ See Rule 225 (viii) (b) ]

**FORMULA FOR PRICE VARIATION CLAUSE**

The formula for Price Variation should ordinarily include a fixed element, a material element and a labour element. The figures representing the material element and the labour element should reflect the corresponding proportion of input costs, while the fixed element may range from 10 to 25%. That portion of the price represented by the fixed element will not be subject to variation. The portions of the price represented by the material element and labour element alone will attract Price variation. The formula for Price variation will thus be :

$$P1 = P0 \left[ F + a \left[ \frac{M1}{M0} \right] + b \left[ \frac{L1}{L0} \right] \right] - P0$$

Where P1 is the adjustment amount payable to the supplier (a minus figure will indicate a reduction in the Contract Price)

P0 is the Contract Price at the base level.

F is the Fixed element not subject to Price variation.

a is the assigned percentage to the material element in the Contract price.

b is the assigned percentage to the labour element in the Contract Price.

L0 and L1 are the wage indices at the base month and year and at the month and year of calculation respectively. M0 and M1 are the material indices at the base month and year and at the month and year of calculation respectively.

If more than one major item of material is involved, the material element can be broken up into two or three components such as Mx, My & Mz. Where price variation clause has to be provided for services (with insignificant inputs of materials) as for example in getting Technical assistance normally paid in the form of per diem rates, the price variation formula should have only two elements viz. a high fixed element and a labour element. The fixed element can in such cases be 50% or more, depending on the mark-up by the supplier of the Periderm rate vis-à-vis the wage rates.



## **APPENDIX - 12**

[See Rule 279 (1).]

### **RATES OF GUARANTEE FEE**

<b>S. No.</b>	<b>Type of Borrowing</b>	<b>Rate of Fee (Per Annum)</b>
1.	Borrowing under the market borrowing programme approved by the RBI	0.25 %
2.	Borrowing under inter corporate transfers envisaged in the Annual Plan	0.25 %
3.	Other Domestic Borrowings : (i) Public Sector including the cooperative sector. (ii) Other sectors	1.00 % 2.50 %
4.	External borrowings	1.20 %



## FORM GFR 1

[ Rule 65 (4) ]

APPLICATION FOR AN ADDITIONAL APPROPRIATION,  
YEAR ..... FOR DEPARTMENT

Budget Head Major and Minor Heads of Account and Primary unit of Appropriation	Original Appropriation as years modified by competent authority	Expenditure		Additional appropriation applied for	Expenditure during the past three			
		Amount up to the month	Necessary for remaining month		20	20	20	20
Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.

No....., dated ..... 20.

Explanation of insufficiency of grant, recommendations and proposals for re-appropriation by -

- (1) Disbursing Officer :  
 (2) Controlling Officer :  
 (3) Head of Department :  
 (4) Secretary to Government in Administrative Department. No....., dated  
 ..... 20.

Order of sanction with details

Additional appropriation of Rs. ....of source of appropriation Sanctioned.

The amount will be met by re-appropriation form .....

Signature .....

Designation .....



[ See Paragraph 4 of Appendix - 2 ]

## REVENUE RECEIPTS

Major Head :

(In thousands of Rupees)

ACCOUNTS		First Month		Last Month		Total
		Eight	Seven	Five	Four	
Third Last year						
Second Last year						
Last year						
Current Year	<div style="display: inline-block; vertical-align: middle;"> <div style="border-left: 1px solid black; height: 100%;"></div> </div> Budget Revised					
Ensuing Year	<div style="display: inline-block; vertical-align: middle;"> <div style="border-left: 1px solid black; height: 100%;"></div> </div> Budget					

[illegible]

Explanation for increase / decrease (Minor Headwise)

Signature .....

Designation .....

Date .....

**FORM GFR 2-A**

[ See Paragraph 4 of Appendix - 2 ]

**ESTIMATES OF FOREIGN GRANTS CONCERNING  
THE MINISTRY / DEPARTMENT .....**

(In thousands of Rupees )

Name of the grant or country/ body	Date of aid agreement	Particulars of assistance to be received	Total assistance expected	Receipt Major Head	Amounts to be provided in			Manner of utilization of aid*
					Current Year BE	Current Year RE	Ensuring Year BE	
1	2	3	4	5	6	7	8	9

Signature .....

Designation .....

Date .....

\* A brief note may be added indicating the project on which aid is to be utilized. In the case of material and equipment, the relevant grant and expenditure Heads of Account under which (i) utilization of material by Central Government Departments / Projects, (ii) transfer of material to States, Union Territories and other Bodies will be adjusted and also whether the utilization on transfer will be on Central Sector Scheme or Centrally Sponsored Schemes should also be indicated. In cases where the aid material is proposed to be sold the Receipt Major Head under which the proceeds will be credited should be indicated.

NOTE : Cash grants and assistance in the form of material and equipment should be indicated separately in Columns 3 to 8.





## FORM GFR 2 - B

[ See Paragraph 4 of Appendix - 2 ]

### ESTIMATES OF INTEREST RECEIPTS AND LOAN REPAYMENTS

Ministry / Department .....

(In thousands of Rupees)

	Interest Receipts			Loan Repayments		
	BE Current Year	RE Current Year	BE Ensuing Year	BE Current Year	RE Current Year	BE Current Year
1. State Governments*. 2. Union Territory Governments*. 3. Interest on Capital Outlay in departmental commercial undertakings. 4. Foreign Governments*. 5. Industrial/Commercial/Financial undertakings (undertaking-wise details to be given) : (a) Public Sector Undertakings. (b) Private Sector Undertakings. 6. Statutory Bodies (Port Trusts, Municipalities, KVIC, Tea/Coffee Boards, etc.) 7. Railways / P&T Reserve Funds. 8. Other parties (Co-operatives, Educational Institutions, displaced persons and other individual loanees except Governments servants)* 9. Government servants.						
Total						

\* Estimates for each State / Union Territory / Foreign Government / Statutory Body or Institution should be separately appended to the Annexure.

No.....

Ministry / Department .....

Date the .....

Forwarded in duplicate to the Ministry of Finance, Budget Division.

Signature .....

Designation.....

**FORM GFR 3**

[ See Rule 58 and Rule 64(1) ]

Office of .....

Grant No .....

**LIABILITY REGISTER FOR THE YEAR .....**

Sl. No.	Designation of Disbursing Officer	Month of Report	Serial number in Liability Statement	Nature of Liability	No. & date of indent or connected letter	Agency on which indent is placed	Estimated Cost	Permissible excess over the estimated cost, in any	Total Liability (Cols. 8+9)
1	2	3	4	5	6	7	8	9	10



Probable month and year in which the expenditure will be accounted for in the departmental expenditure statement		Initials of the Branch Officer	Record of Payment		Balance commitments [Col. 10 minus Col. 14(b)]		Initials of the Branch Officer	Remarks
			(a) Month and year	(b) Amount	(a) Amount	(b)* Year(s) in which it is likely to be discharged		
Month and year	Amount of expenditure to be incurred							
11	12	13	14	15	16	17	18	19

NOTE :- Cols. 2, 3 and 4 will be operated upon only in the Register of Liabilities maintained by the Controlling Officers in respect of the case reported by their Disbursing Officers.

\* If the balance of commitment is to be discharged during more than one financial year, the year-wise break-up of the amount should be indicated.

**FORM GFR 3-A**

[See Rule 58]

Office of .....

Grant No .....

**LIABILITY STATEMENT FOR THE MONTH OF .....****Part - I - Statement of Liabilities incurred during the month of report**

Sl. No.	Nature of liability	No. and date of indent or connected letter	Agency on which indent is placed or demand is made	Estimated cost	Permissible excess over the estimated cost, if any	Total liability (Col. 5 + Col. 6)	Probable month in which the expenditure will be accounted for in the departmental expenditure statement		Remarks
							Month	Expenditure likely to be incurred	
1	2	3	4	5	6	7	8	9	10



**Part - II - Payments made against Liabilities and Liabilities  
cancelled or finally paid off**

Month in which Liability was reported	Serial No.	Record of payment		Balance commitment		Remarks
		(a)	(b)	(a)	(b)*	
		Month and year	Amount	Amount	Year(s) in which the balance of Commitments is likely to be discharged.	
1	2	3	4	5	6	7

**NOTE 1 -** In Col. 2, the number to be entered will be the serial number of the liability in the Liability Statement in which is was first reported.

**NOTE 2 -** In the Remarks column, the following information should also be given :-

- If payment against a liability is likely to be made, not in the month originally indicated, but in some other month, the latter should be indicated. If change in the month of payment is the only information to be given in respect of a liability, the Columns to be used will be 1, 2 and 5.
- Similarly, if the whole or part of a liability has been cancelled or otherwise extinguished, the fact may be mentioned and brief reasons given.

\* If the balance of commitments is to be discharged during more than one financial year, the year -wise break- up of the amount should be indicated.



## Part - III - Progressive amount of outstanding

Month in which liability was reported	Serial No.	Balance commitments	
		(a)	(b)*
		Amount	Year(s) in which the balance of commitments is likely to be discharged
1	2	3	4
Total			

**NOTE. 1** - This is a list of liabilities which are pending, that is, those which have not been paid off or otherwise extinguished or cancelled.

**NOTE. 2** - In Column 2, the number to be entered will be the serial number of the liability in the Liability Statement in which it was first reported.

\* If the balance of commitments is to be discharged during more than one financial year, the year -wise break- up of the amount should be indicated.





**FORM GFR 4**

[ See Paragraph 9 of Appendix - 3 ]

**STATEMENT OF PROPOSALS FOR PRE-BUDGET DISCUSSION**

**STATEMENT OF BUDGET ESTIMATES**

**Demand No.**  
**(in crores of Rupees)**

Sl. No.	Description as shown in the Exp.Bud.Vol.2 (SBE)	Actuals For the last two Preceding years	Actuals	B.E. current year	Actuals upto September of current year	R.E. current year	B.E current year
1	2	3	4	5	6	7	8

**APPENDIX I**  
**(See Paragraph 3.5)**

**Expenditure SBE**

**Ministry/ Department**

**Demand No.**  
**(Rs.in crore)**

	Actuals		BE		RE		BE	
	For the last two Preceding years		(current year)		(current year)		(next year)	
	Revenue	Capital	Revenue	Capital	Revenue	Capital	Revenue	Capital
A CENTRE'S EXPENDITURE								
I. Establishment Expenditure								
II. Central Sector Schemes								
III. Other Central Expenditure								
B. TRANSFERS TO STATES								
IV. Centrally Sponsored Schemes								
V. Finance Commission Transfers								
VI. Other Transfers to States								

**FORM GFR 4**

[ See Paragraph 3.5 ]

**OBJECT HEAD WISE SUMMARY EXPENDITURE****PART C-OBJECT HEADWISE SUMMARY****Demand No.**  
**(Rs.in crore)**

Object Head Code	Object Head Name	Actual 2015-16	BE		Actual Expenditure till September		RE		BE
			Revenue	Capital	Revenue	Capital	Revenue	Capital	



**FORM GFR 5**

[ See Rule 57 (4) (ii) and Rule 57 (5) (iii)]

**REGISTER SHOWING EXPENSES BY HEADS OF ACCOUNT**

Office of .....

Head of Account.....

Major Head.....

Minor Head.....

Sub-Head .....

Month

Year

(Unit of Appropriation)

	Allotment	Sub-Head of Grants					Deduction, if any	Net amount of the bill
Sl. No.	Voucher No./Token No. & Date/Serial No. in Bill Register*							
1.								
2.								
3.								
4.								
Add adjustment communicated by PAO								
Total for the month								
Total from 1st April Balance of the appropriation								

NOTE 1. If an allotment is changed, necessary correction in the register should be made in red ink.

NOTE 2. Allotment of expenditure under 'Charged' portion should be indicated distinctly.

NOTE 3.- This account should be despatched on the 3rd of the following month.

\* Serial No. in Bill Register to be entered only in respect of bills passed by Cheque Drawing DDOs under their cheque-drawing powers.

Signature.....

Designation.....

Date.....

**FORM GFR 6**

[ See Rule 57 (4) (iv) ]

**BROADSHEET FOR WATCHING RECEIPT OF  
ACCOUNT FROM DISBURSING OFFICERS**

Office of .....

Major Head.....

Minor Head .....

Sub-Head .....

Serial No.	Names of Disbursing Officers	District	Date of receipt of account		
			March	April	May

NOTE 1. Districts are to be arranged according to alphabetical order.

NOTE 2. Dates of receipts should be noted in monthly columns. Reminder should be sent if not received by the 7th of the month.



**FORM GFR 7**

[ See Rule 57 (4) (vi) ]

**COMPILATION SHEET**

Major Head.....

Minor Head.....

Sub-Head.....

Month	Serial No. of the Disbursing Officers						Total for each officer	Remarks
	Total expenditure ..... Add Adjustment communicated by Accounts Officer and not reckoned by DDOs ..... ..... Grand Total.....  Add Total up to previous month..... ..... Progressive Total up-to-date ..... .....							

**FORM GFR 8**

[ See Rule 57 (4) (viii), (5) (iv) &amp; (6)]

**CONSOLIDATED ACCOUNTS**

Name of Office..... Grant No.....  
 Appropriation.....  
 Financial Year.....

Units of appropriation (Part -III of Demands for Grants)	Grants sanctioned		Grants distributed		Proportionate Grant from April to date		Actual Expenditure April	
1	2		3		4		5	
(i) Salaries	Charged	Voted	Charged	Voted	Charged	Voted	Charged	Voted
(ii) Total of all units of appropriation								

Units of appropriation (Part -III of Demands for Grants)	Actual Expenditure							
	May		Progressive expenditure upto end of May		June		Progressive expenditure	
	6		7		8		9	
(i) Salaries	Charged	Voted	Charged	Voted	Charged	Voted	Charged	Voted
(ii) Total of all units of appropriation								

NOTE 1. Subsequent charges, if any, under Column 2 are to be made in red ink.

NOTE 2. Figures under Column 4 may be entered in pencil for facility of updating from month to month.

NOTE 3. Wherever variations between actual expenditure and proportion grant are large, suitable explanations should be given in a "Remarks" column.





**FORM GFR 9**

[ See Rule 57 (8) ]

**BROADSHEET FOR WATCHING RECEIPT OF THE RETURNS FROM THE HEADS OF DEPARTMENTS UNDER A DEPARTMENT OF THE CENTRAL GOVERNMENT**

Sl. No.	Grant No.	Date of receipt of returns											
		April	May	June	July	August	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	March

NOTE 1. Dates of receipt should be noted in monthly columns. Reminders should be sent if returns are not received by the prescribed date.

NOTE 2. Returns relating to the Secretariat proper should also be maintained in the above form.

**FORM GFR 10**

[ See Rule 217 (iii) ]

**REPORT OF SURPLUS, OBSOLETE AND  
UNSERVICEABLE STORES FOR DISPOSAL**

Item No.	Particulars of stores	Quantity/ Weight	Book Value/ Original purchase price	Condition and year of purchase	Mode of disposal (sale, public auction or otherwise)	Remarks
1	2	3	4	5	6	7

Signature.....

Designation.....

Date.....



## FORM GFR 11

[ See Rule 222 ]

### SALE ACCOUNT

Item No.	Particulars of Stores	Quantity/Weight	Name and full address of purchaser	Highest bid accepted	Highest bid rejected	Earnest money realized on the spot	Date on which the complete amount is realized and credited into treasury	Whether the articles were actually handed over on the spot. If not, the actual date of handing over of the articles with quantities	Auctioneer's Commission and acknowledgement for its payment
1	2	3	4	5	6	7	8	9	10

Signature.....

Designation.....

Date.....

**GFR 12 – A**

[(See Rule 238 (1))]

**FORM OF UTILIZATION CERTIFICATE  
FOR AUTONOMOUS BODIES OF THE GRANTEE ORGANIZATION**

UTILIZATION CERTIFICATE FOR THE YEAR..... in respect  
of recurring/non-recurring  
GRANTS-IN-AID/SALARIES/CREATION OF CAPITAL ASSETS

1. Name of the Scheme.....
2. Whether recurring or non-recurring grants.....
3. Grants position at the beginning of the Financial year
  - (i) Cash in Hand/Bank
  - (ii) Unadjusted advances
  - (iii) Total
4. Details of grants received, expenditure incurred and closing balances: (Actuals)

Unspent Balances of Grants received years [figure as at Sl. No. 3 (iii)]	Interest Earned thereon	Interest deposited back to the Govern- ment	Grant received during the year			Total Available funds (1+2- 3+4)	Expenditure incurred	Closing Balances (5-6)
1	2	3	4			5	6	7
			Sanction No. (i)	Date (ii)	Amount (iii)			

Component wise utilization of grants:

Grant-in-aid– General	Grant-in-aid– Salary	Grant-in-aid–creation of capital assets	Total

Details of grants position at the end of the year

- (i) Cash in Hand/Bank
- (ii) Unadjusted Advances
- (iii) Total



Certified that I have satisfied myself that the conditions on which grants were sanctioned have been duly fulfilled/are being fulfilled and that I have exercised following checks to see that the money has been actually utilized for the purpose for which it was sanctioned:

- (i) The main accounts and other subsidiary accounts and registers (including assets registers) are maintained as prescribed in the relevant Act/Rules/Standing instructions (mention the Act/Rules) and have been duly audited by designated auditors. The figures depicted above tally with the audited figures mentioned in financial statements/accounts.
- (ii) There exist internal controls for safeguarding public funds/assets, watching outcomes and achievements of physical targets against the financial inputs, ensuring quality in asset creation etc. & the periodic evaluation of internal controls is exercised to ensure their effectiveness.
- (iii) To the best of our knowledge and belief, no transactions have been entered that are in violation of relevant Act/Rules/standing instructions and scheme guidelines.
- (iv) The responsibilities among the key functionaries for execution of the scheme have been assigned in clear terms and are not general in nature.
- (v) The benefits were extended to the intended beneficiaries and only such areas/districts were covered where the scheme was intended to operate.
- (vi) The expenditure on various components of the scheme was in the proportions authorized as per the scheme guidelines and terms and conditions of the grants-in-aid.
- (vii) It has been ensured that the physical and financial performance under..... (name of the scheme has been according to the requirements, as prescribed in the guidelines issued by Govt. of India and the performance/targets achieved statement for the year to which the utilization of the fund resulted in outcomes given at Annexure – I duly enclosed.
- (viii) The utilization of the fund resulted in outcomes given at Annexure – II duly enclosed (to be formulated by the Ministry/Department concerned as per their requirements/specifications.)
- (ix) Details of various schemes executed by the agency through grants-in-aid received from the same Ministry or from other Ministries is enclosed at Annexure –II (to be formulated by the Ministry/Department concerned as per their requirements/specifications).

Date:

Place:

Signature

Signature

Name.....

Name.....

Chief Finance Officer

Head of the Organisation

(Head of the Finance)

(Strike out inapplicable terms)

**GFR 12 – B**

[ See Rule 256 (2) ]

**FORM OF UTILIZATION CERTIFICATE**

(1) Certified that out of the Loan of Rs. .... SANCTIONED under ....., dated....., in favour of ..... during the year ..... an amount of Rs. .... has been utilized for the purpose for which it was sanctioned, and that the balance of Rs. .... remaining unutilized at the end of the year ..... has been surrendered to the Government (vide No. ...., dated..... ) / will be adjusted towards the loan payable during the next financial year.

(2) Certified that I have satisfied myself that the conditions on which the loan was sanctioned have been duly fulfilled/are being fulfilled and that I have exercised the following checks to see that the money was actually spent for the purpose for which the loan was made.

Kinds of checks exercised

- 1.
- 2.
- 3.
- 4.

Signature.....  
Designation .....  
Date .....



## **GFR 12 – C**

[(See Rule 239)]

### **FORM OF UTILIZATION CERTIFICATE (FOR STATE GOVERNMENTS)** **(Where expenditure incurred by Govt. bodies only)**

Sl. No.	Letter No. and date	Amount	Certified that out of Rs.....Of grants sanctioned during the year.....in favour of .....under the Ministry/Department Letter No. given in the margin and Rs.....on account of unspent balance of the previous year, a sum of Rs.....has been utilized for the propose of .....for which it was sanctioned and that the balance of Rs.....remaining unutilized at the end of the year has been surrendered to Government (vide No. ....dated.....)/will be adjusted towards the grants payable during the next year.....
	Total		

2. Certified that I have satisfied myself that the conditions on which the grants-in-aid was sanctioned have been duly fulfilled/ are being fulfilled and that I have exercised the following checks to see that the money was actually utilized for the propose for which it was sanctioned.

Kinds of checks exercised

- 1.
- 2.
- 3.
- 4.
- 5.

Signature.....

Designation.....

Date.....

**PS:** The UC shall disclose separately the actual expenditure incurred and loans and advances given to suppliers of stores and assets, to construction agencies and like in accordance with scheme guidelines and in furtherance to the scheme objectives, which do not constitute expenditure at the stage. These shall be treated as utilized grants but allowed to be carried forward.





## FORM GFR 13

[ See Rule 262]

STATEMENT OF AGGREGATE BALANCE OF LOAN(S) OUTSTANDING AS  
ON 31ST MARCH, 20... AND DETAILS OF DEFAULTS

PAO / Pr. AO

Ministry of .....Major Head.....

Sl. No.	Sub-Major Head	Name of the borrower	Aggregate outstanding balance of loan(s)	Details of defaults		Amount of default		Earliest date to which the default pertains
	Minor Head of Account			Original letter No(s). and Date(s) sanctioning the loan(s)	Amount of loan(s) sanctioned Rs.	Principal Rs.	Interest Rs.	
1	2	3	4	5	6	7	8	9

**NOTE.** - Statements may be prepared on separate sheets for each Major Head, with Minor Head-wise break-up. Parties having aggregate outstanding balances of less than Rs. 5 lakhs each and which are not defaulters may be grouped together with a common descriptive head such as "Regional Engineering Colleges", etc., if possible or "parties with small outstanding balance" under Column 3.



## FORM GFR 14

[ See Rule 306. (3) ]

### FORM OF SECURITY BOND (FIDELITY BOND DEPOSITED AS SECURITY)

KNOW ALL MEN BY these presents that I, A.B..... of ..... and held and firmly bound unto the President of India, his successors and assigns (hereinafter referred to as "Government") in the sum of Rs.....(Rupees.....) to be paid to the Government for which payment, well and truly to be made, I bind myself, my heirs, executors, administrators, and legal representatives by these presents. Signed and dated this ..... day of ..... 20

2. WHEREAS the above bounden A.B..... was on the day of ..... 20..... appointed to and now holds the office of ..... in the office of ..... AND WHEREAS the said A.B..... by virtue of holding such office is bound to collect ..... (here describe the nature of Cashier's/ Storekeeper's/Sub-storekeeper's/Sub-ordinate's duties) ..... and to keep and render true and faithful accounts of his dealings with all property and money which may come into his hands or possession under his control such accounts to be kept in the form and manner that may, from time to time, be prescribed by duly constituted authority, and also to prepare and submit such returns, accounts and other documents as may from time to time be required of him.
3. AND WHEREAS the said A.B..... has, in pursuance of Rule 270 of the General Financial Rules, 1963, delivered to and deposited with ..... a Fidelity Bond issued by ..... Company for the sum of Rs..... (Rupees .....) as Security for the due and faithful performance by the said A.B..... of the duties of his said office and of any other office requiring security to which he may be appointed at any time and of other duties which may be required of him while holding any office as aforesaid and for the purpose of securing and indemnifying the Government against all loss, injury, damage, costs, or expenses which the Government may, in any way, suffer, sustain or pay by reason of misconduct, neglect, oversight or any other act of omission of the said A.B..... or of any person or persons acting under him or for whom he may be responsible.
4. AND WHEREAS the said A.B..... has entered into the above Bond in the sum of ..... conditioned for the due performance by him the said A.B..... of the duties of the said office and of other duties appertaining thereto or which may lawfully be required of him and to indemnify the Government against loss from or by reason of the acts or defaults of the said A.B..... and of all and every person and persons aforesaid.
5. NOW THE CONDITION of the above written Bond is such that of the said A.B..... has whilst he has held the said office of ..... as aforesaid always duly performed and fulfilled the duties of his said office and if he shall, whilst he shall hold the said office or any other office requiring security to which he may be appointed, or in which he may act, always duly perform and fulfil all and every duties thereof respectively and other duties which may from time to time be required of him while holding any such office as aforesaid, and shall duly pay into the Government Treasury at ..... all such money and securities for money as are payable or deliverable to Government and shall come into his possession or control by reason of the said office and shall duly account for and deliver up all moneys, papers and other property which shall come into his possession or control by reason of the said office and if the said A.B..... his heirs, executors, administrators or legal representatives shall pay or cause to be paid unto the Government the amount of any loss and /or defalcation in the accounts of the said ..... within 24 hours after the amount of such loss and /or defalcation shall have been demanded from the said A.B..... by the ..... such demand to be in writing and left at the office or last known place of residence of the said A.B..... and shall also at all times indemnify and save, and keep harmless the Government from all and every loss, injury, damage, actions, suits, proceedings, costs, charges and expenses which has been or shall or may at any time or times hereafter during the service or employment of the said A.B..... in such office as aforesaid, or any such offices aforesaid, be sustained, incurred, suffered brought, sued or commenced or paid by the Government by reason of any act,



embezzlement, defalcation, mismanagement, neglect, failure, misconduct, default, disobedience, omission, or insolvency of the said A.B..... or of any person or persons acting under him or for whom he may be responsible, then the above written Bond shall be void and of no effect, otherwise the same shall be and remain in full force.

6. PROVIDED ALWAYS and it is hereby declared and agreed by and between the parties hereto that the said Fidelity Bond No..... delivered and deposited as aforesaid shall be and remain at the disposal of the said officer for the time being or the Government as and for part and additional security over and above the above written Bond to the Government, for the indemnity and other purposes aforesaid with full power to the Government or an officer duly authorized in that behalf to obtain and receive payment of the sum or sums of money recoverable or to be received, upon or by virtue of the said Fidelity Bond or a sufficient portion thereof and all benefits and advantages thereof and to apply the same in and towards the indemnity as aforesaid of the Government.
7. AND it is hereby further agreed and declared by and between the parties hereto that the said A.B..... shall keep the said Fidelity Bond issued by the said company in full force by payment of the premia and as when they fall due and by otherwise conforming to the rules of the said company relating thereto.
8. PROVIDED ALWAYS that cancellation or lapse at any time of the said Fidelity Bond shall not be deemed to affect or prejudice the right of the Government to take proceedings upon or under this said Bond against the said ..... in case any breach of the condition of this Bond shall be discovered after the cancellation or lapse of the said Fidelity Bond but the responsibility of the A.B. .... shall at all times continue and but the Government shall be fully indemnified against all such loss or damage as aforesaid at any time.
9. PROVIDED FURTHER that nothing herein contained nor in the Fidelity Bond so deposited shall be deemed to limit the liability of the said A.B..... in respect of matters aforesaid to the forfeiture of the said sum of Rupees..... or part or parts thereof and that if the said sum be found insufficient to indemnify the Government in full for any loss or damage sustained by them in respect of matters aforesaid or any of them the said A.B..... shall pay to Government on demand such further sum as shall be deemed by..... to be necessary in addition to the said Fidelity Bond of Rs..... to cover such loss or damage as aforesaid and that the Government shall be entitled to recover such further sum payable as aforesaid in any manner open to them.
10. The stamp duty, if any, on this Bond shall be borne by the Government.

Signature

1. Signed and delivered by the above named A.B..... in the presence of .....
2. Signed for and on behalf of the President of India by ..... the ..... being the person directed or authorized by him in that behalf in the presence of .....



## FORM GFR 15

[ See Rule 253 (2) (ii) ]

### FORM OF WRITTEN UNDERTAKING TO BE EXECUTED BY AN UNDERTAKING / CORPORATION WHOLLY OWNED BY THE CENTRAL GOVERNMENT AT THE TIME OF SANCTIONING OF A LOAN

Memorandum of written undertaking given on the ..... day of ..... two thousand and ..... by a company incorporated under the Indian Companies Act, 1913 /the Companies Act, 1956,/ the Companies Act, 2013, having its registered office ..... a body corporate incorporated under the same name and style and by under ..... (Act No..... of .....) having its office at ..... a society registered under the Societies Registration Act (21 of 1860) having its office at ..... (hereinafter called 'the Company / Corporation' which expression shall include its successors and assigns) to the President of India (hereinafter called 'the President' which expression shall include his successors and assigns).

WHEREAS the said Company / Corporation, etc., applied to the President for a loan of Rs..... (Rupees.....) only. AND WHEREAS the President has agreed to lend an amount of Rs..... (Rupees..... only) to the said Company / Corporation, etc., on the terms and conditions prescribed in the Government of India, Ministry of ..... (Department of ..... ) Letter / Office Memorandum No....., dated..... (annexed).

Now IT IS HEREBY AGREED by the said Company / Corporation, etc., that, in consideration of the sum of Rs..... (Rupees..... only) lent by the President to the Company / Corporation etc., the Company / Corporation, etc., hereby agree in accordance with the said terms and conditions –

- (i) To repay the loan in ..... annual equal instalments the first instalment repayable from the ..... anniversary of the date of drawal;
- (ii) To pay interest at the rate or .....% per annum on the principal payable on each anniversary; and
- (iii) In case of default in the payment of the instalment of the loan in accordance with (i) above and / or interest in accordance with (ii) above, pay interest at penal rate of .....% per annum on such overdue payments.

IT IS HEREBY FURTHER AGREED AND DECLARED that the said Company / Corporation, etc., shall not, without the written consent of the President, encumber or alienate, create, any mortgage lien or charge by way of hypothecation, pledge otherwise, or create other encumbrances of any kind whatsoever any part of its land or buildings or other structure, and / or plant, machinery or any other fixed assets owned by them.

AND IT IS HEREBY AGREED that the said principal amount lent by the President as aforesaid shall be used by the Company / Corporation, etc., only for the purpose or purposes for which the aforesaid amount was sanctioned and for no other purpose whatsoever.

IN WITNESS WHEREOF these presents have been executed by the said Company / Corporation the day and year first above written.

THE PRESIDENT of India has agreed to bear the stamp duty, if any, chargeable on this document. Signed for and on behalf of.....Company / Corporation, etc., by

Shri. .... (Name and Designation) in the presence of

1. .... Seal of the Company / Corporation

2. ....

**FORM GFR 16**

[ see Rule 286 (1) ]

**CERTIFICATE OF TRANSFER OF CHARGE**

Certified that I /we have in the forenoon / afternoon of this day respectively made over and received charge of the Office..... in pursuance of Order No..... dated .....

Received Officer .....  
Signature .....  
(Name in Block Letters)  
Designation.....  
Station .....  
Date .....

Relieving Officer .....  
Signature .....  
(Name in Block Letters)  
Designation.....  
Station .....  
Date .....

**(For use in Audit Office / PAO only)**

Noted in A/R at page .....

SO/AAO/AO/PAO

Noted in A/R at page.....

SO/AAO/AO/PAO

Forwarded .....

NOTE :- Separate certificate (as per Form appended) also to be used where transfer / assumption of charge involves responsibilities for Cash, Stores etc.



**FORM GFR 16 (APPENDIX)**

[ See Rule 286(1) ]

**CERTIFICATE OF TRANSFER OF CHARGE IN RESPECT OF TRANSFER /  
ASSUMPTION OF RESPONSIBILITIES FOR CASH, STORES, ETC.**

Certified that I/we have in the forenoon / afternoon of this day ..... [date to be indicated] respectively made over and assumed charge and responsibility of the following :-

Cash Rs.....

Permanent advance Rs.....

Others.....

Relieved Officer.....

Reliving Officer.....

**FORM GFR 16A**

"Ministry / Department of .....

**JOINING REPORT**

I hereby report myself for duty this day..... forenoon / afternoon after availing of leave from  
..... to ..... sanctioned vide Ministry / Department of ..... Order  
No....., dated .....

Signature .....  
(Name in Block Letters)

Designation.....





## FORM GFR 17

[ See Rule 306. (3) ]

### GENERAL INSURANCE CORPORATION OF INDIA AND ITS SUBSIDIARIES FIDELITY GUARANTEE POLICY

POLICY No.

IN CONSIDERATION OF the first premium shown in the First Schedule and subject to the terms and conditions contained herein or endorsed herein which are to be deemed conditions precedent to any liability on the part of the Life Insurance Corporation of India (hereinafter called "Corporation") so far as they relate to anything to be done or complied with by the Employer, the Corporation agrees and binds itself to make good and reimburse to the Employer all such direct pecuniary loss not exceeding the amount of guarantee, as the Employer shall sustain by any act or acts of dishonesty, default or negligence committed by the employed / any of the employed (a) during the currency of this insurance and (b) during the uninterrupted continuance of employment of such employed and (c) in connection with his occupation and duties AND DISCOVERED during the currency of this insurance or within a reasonable time thereafter or within twelve months after determination of such employment whichever event shall first happen.

The proposal for this insurance made by or on behalf of the Employer together with any correspondence relative thereto shall be incorporated herein and be the basis of this contract and of every renewal.

#### THE FIRST SCHEDULE

The Employer	N a m e	THE PRESIDENT OF INDIA
The Employed :	Business	
The amount of Guarantee Rs.	Address	through
Occupation and duties:		
The first premium Rs.		
The renewal date		The .....day of ..... in each year.

The currency of this insurance: The period or periods from the date written against the respective names of the Employed to the then next renewal date and any year thereafter in respect to which the Corporation shall agree to accept and Employer or Employed shall pay the annual premium specified in the Second Schedule hereto.

#### THE SECOND SCHEDULE

Period of Risk	Name	Occupation and duties	Amount of Guarantee Rs.	Annual Premium Rs. P.	Actual Premium Rs. P.
----------------	------	-----------------------	-------------------------	-----------------------	-----------------------

In witness whereof this Bond has been signed at ..... this day of .....20.....

For1 .....

Prepared by .....

Examined by.....

N.B.-For your own protection it is incumbent upon you to read your policy and its conditions to ascertain that it is made out in accordance with your intentions.

1 The name of the Company to be inserted in ink at the time of execution of this form.



## CONDITIONS

In this policy the expression shall bear the respective meanings attached to them in the First Schedule hereto

1. The Corporation shall not be liable to make any payment hereunder if the nature of the business of the Employer of the duties or conditions of service shall be changed or the remuneration or any of the Employed reduced without the sanction of the Corporation or if the precautions and checks for securing accuracy of accounts shall not be duly observed.
2. Notice in writing shall be given to the Corporation's office as soon as possible after any act or acts of dishonesty, default or negligence on the part of any of the employed or of reasonable cause of suspicion thereof or any improper conduct shall have come to the knowledge of the Employer or of any representatives of the employer to whom is entrusted the duty of superintendence over any of the Employed and no amount shall be payable under this policy in respect of that Employed by reason of any act committed after such knowledge shall have come to the Employer or his said representatives. Within three months after such notice the Employer shall deliver to the Corporation full details of his claim and shall furnish proof of the correctness of such claim. All books of accounts of the Employer or any Accountant's report thereon shall be open to the inspection of the Corporation and the Employer shall give all information and assistance to enable the Corporation to sue for and obtain reimbursement by any one of the Employed or by his estate of any moneys which the Corporation shall have paid or become liable to pay under this Policy. Provided always that the Corporation shall not be entitled to the disclosure of any record or information in respect of which the Employer is entitled to claim privilege in a Court of Law under Sections 123 and 124 of the Indian Evidence Act.
3. Any moneys of any one of the Employed in respect of whom a claim is made in the hands of the Employer and any money which but for any act of fraud or dishonesty committed by such one of Employed would have been due to that Employed from the Employer shall be deducted from the amount otherwise payable under the Policy. Provided that the Employee is entitled under the law to make such deduction. Provided further that in cases in which the loss to the Employer is in excess of the maximum amount payable under the policy, the moneys aforesaid will be applied in the first place to make good the amount of such excess and the balance, if any, shall be deducted as herein provided. The Employer and the Corporation shall share any other recovery (excluding insurance and reinsurance and any counter security taken by Corporation) made by either on account of any loss in the proportions that the amount of the loss borne by each bears to the total amount of the loss.
4. Notwithstanding anything herein contained to the contrary it is also agreed that the Corporation guarantees to the Employer that the Employed shall honestly and faithfully account to the Employer for all moneys or valuables or property which they shall receive or be entrusted with on account of the Employer either in their personal or individual capacity or as member of group working conjointly with other members and that the Corporation will make good and reimburse to the Employer such loss not exceeding the amount of guarantee as the Employer may sustain by any act or acts of default or dishonesty or negligence of the Employed in the capacity and employment aforesaid and that when individual liability cannot be brought home to the Employed the amount to be made good shall be that which falls to the share of the Employed calculating from the total number of men forming such group, i.e., the total loss divided by the total number of men employed on the particular work.
5. The Corporation also agrees that during the period in which the guarantee shall be in force the particulars contained in the Second Schedule shall be with the consent of Employer and on previous notice to and on payment to the Corporation of any additional proportionate premium that may become payable in consequence of any change in the employed by reason of promotion or otherwise be varied as circumstances may require and such additional persona as may be taken into the employment of the employer referred to in the Schedule hereof during such period shall with such consent aforesaid and on previous notice to and on payment to the Corporation of a further proportionate premium at the rate for the time being applicable be



added to and included in the said Schedule and the expression Employed used throughout this policy shall as from the respective date on which the names shall be included in the said schedule be deemed to include all persons whether previously named in the said Schedule or subsequently added thereto as aforesaid.

6. If any question or difference shall arise between the parties hereto or their respective representatives touching these presents or the construction hereof or as to the rights, duties or obligations of any persons hereunder or as to any other matter in anywise arising out of or connected with the subject-matter of these presents, the same shall be referred to a single Arbitrator to be named by the Government of India. The Arbitrator so named shall be an officer of Government and shall have all the powers conferred on Arbitrators under the Indian Arbitration Act. The costs of the reference and award shall be in the discretion of the Arbitrator. The making of an award in such reference shall be a condition precedent to any liability of the Corporation or any right of action against the Corporation in respect of such difference. If the Corporation shall disclaim liability for any claim hereunder and such claim shall not within twelve calendar months from the date of such disclaimer have been referred to arbitration under the provision herein contained then the claim shall for all purpose be deemed to have been abandoned and shall not thereafter be recoverable hereunder.
7. The expression "Government of India" for the purpose of Clause 6 above shall mean the Secretary to the Government of India in the Administrative Ministry/ Head of Department under which the employed is working.

**FORM GFR 18**

[ See Rule 211. (ii) (c) ]

**ACCESSION REGISTER**

Date	Accession Number	Author	Title	Vol.	Place and Publisher	Year of Publication	Pages	Source	Class No.	Book No.	Cost	Bill No. and date	With drawn date	Re- marks
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)



## FORM GFR 19

[ See Rule 250. (1) (viii) ]

### NOTICE TO BORROWER ABOUT THE DUE DATE FOR REPAYMENT OF LOAN AND INTEREST THEREON

No.....

Office of the Controller of Accounts, Ministry / Department of ..... New Delhi, dated the .....

To .....

.....

Subject :- **Repayment of loan and payment of interest thereon.**

Dear Sir,

According to the terms of the loan of Rs..... sanctioned to you, vide the Ministry / Department ..... Letter No....., dated..... the annual repayment instalment and / or interest thereon, detailed below, will become due on.....

(i) Repayment ..... Rs..... (in words and figures)

(ii) Interest ..... Rs..... (in words and figures)

2. Please arrange the payment by the due date. It should be noted that the amount of interest has been calculated on the assumption that payment will be arranged promptly; otherwise it will be revised upwards in accordance with the terms of the loan.

3. The amounts due should be tendered, on or before the due date at the ..... (New Delhi Head Office / Main Office of the Public Sector Bank (PSB) accredited to the Ministry / Department in cash or by cheque or draft drawn on any Scheduled Bank / New Delhi, in favour of the aforesaid PSB Branch. The payment should be accompanied by a memorandum or challan, in duplicate, giving the following details :-

(I) Name of the Ministry / Department.....

(ii) Name of the Borrower .....

(iii) No. and date of loan sanction letter with the loan amount sanctioned .....

(iv) Amount due for payment, separately for interest and payment.....

(v) Due date of payment.....

(vi) The head of the account indicated below, to which the amounts will be adjusted in Government accounts, should be included in the challan:

(i) Instalment of Principal.

Head of Account

(ii) Interest.

4. Separate cheque / draft and challans should be submitted for payment of principal and interest.

5. For outstation loanes, payment of dues together with memorandum / challans is to be arranged through their Bank to the aforesaid PSB Branch in New Delhi by the due date.

Yours faithfully

Accounts Officer

**FORM GFR 20**

[See Rule 305 (1) ]

**REGISTER OF POLICY HOLDER**

1	SI No	
2	Policy .No	
3	Name of Policy holder	
4	Designation	
5	Monthly Premium rate	
6	April	Amount actually recovered
7	May	
8	June	
9	July	
10	August	
11	September	
12	October	
13	November	
14	December	
15	January	
16	February	
17	March	
18	Remarks	



## **FORM GFR 21**

[ See Rule 234 }

### **REGISTER OF GRANTS TO BE MAINTAINED BY THE SANCTIONING AUTHORITY**

- (i) Serial Number.
- (ii) Number and date of sanction letter.
- (iii) Purpose of grant.
- (iv) Conditions, if any, attached to the grant.
- (v) Amount sanctioned.
- (vi) Amount of the Bill.
- (vii) Whether conditions attached to the grant have been accepted by the grantee without reservation. (viii) Dated initials of the sanctioning authority.
- (ix) Date by which statements of accounts along with utilization certificate, etc., are required to be furnished by the grantee.
- (x) Date by which utilization certificate is required to be furnished by sanctioning authority to the Accounts Officer, as the case may be.
- (xi) Date by which the statements of accounts, etc., are actually received. (In case there has been delay in the receipt of these statements, the reasons therefor as well as efforts made by the sanctioning authority to expedite submission of such statements may be clearly indicated).
- (xii) Date of submission of utilization certificate to PAO (in case there has been delay in submission of utilization certificate, the reasons therefor may be clearly indicated).
- (xiii) Unspent balance, if any, also indicating whether the unspent balance has been surrendered by the grantee Institution / Organisation.





**FORM GFR - 22**

[ See Rule211 (ii) (a) ]

## REGISTER OF FIXED ASSETS

**Name and description of the Fixed Assets .....**

[illegible]

NOTE : The items of similar nature but having significant distinctive features (e.g. study table, office table, computer table, etc.) should be accounted for separately in stock.



[ See Rule211 (ii) (b) ]

**Name of Article.....**      **Unit of Accounts .....**

[illegible]

NOTE : User's indent in original shall be treated as issue voucher. Issue voucher number shall be in consecutive order, financial year wise and it should be noted on each indent.

**FORM GFR 24**

[ See Rule 211 (ii) (d) ]

**REGISTER OF ASSETS OF HISTORICAL / ARTISTIC VALUE**

Name of Asset.....

Date of acquisition	Source of acquisition	Cost price, if any	Particulars which make it an asset of historic /artistic value	Particulars of the custodian of the asset	Location of the asset	Remarks

NOTE 1 : The custodian shall take appropriate measures for preservation of the assets.

NOTE 2 : The present value of the asset should be ascertained by obtaining appropriate valuation from an expert agency and the same is indicated in Column 3, every five years.



**FORM GFR 25**

[ See Rule 281. (2) & (3) ]

**GOVERNMENT GUARANTEES**

Name of Ministry /  
Department

[ Rs. In crore ]

Sl. No.	Beneficiary [Name of the PSU etc in whose favour guarantee is given]	Loan Holder / Entity giving Loan	Authority for Guarantee [MoF approval No. & Date]	Period of validity [ MOF ID No., & date through which the guarantee was last extended]	Purpose of Loan	Class	Sector	Details of Reschedule	Details of Securities pledged	Amount of Loan
1	2	3	4	5	6	7	8	9	10	11

Extent of Guarantee			Additions	Deletions	Invoked		Outstanding Principal, interest etc at the end of the period	Rate of Guarantee Fee/ Commission	Guarantee Fee/ Commission		Other conditions & compliance
Principal	Interest	Total			Dis-charged	Not dis-charged			Receivable	Received	
12	13	14	15	16	17	18	19	20	21	22	23

NOTES - 1 : For the purpose of Column - 8 the sectors are as under :-

(i) Power (ii) Cooperative (iii) Irrigation (iv) Roads & Transport (v) Urban Development & Housing (vi) Other Infrastructure (vii) Any other. 2 : For the purpose of Column - 7 the classification is indicated in Rule 281 (4).

**FORM GFR 26**

[ See Rule 277(v). ]

**FURNISHING OF DATA REGARDING GUARANTEES TO  
MINISTRY OF FINANCE****Name of the Ministry/Department :****Name of Public Sector Undertaking / entity :**

Year	Turnover	Profit After tax	Sundry Debtors	Current Ratio	If audited by CAG, profit after tax, taking into account the comments of CAG	In case of targets set by BIFR the same for Turnover and Profit.
X-2						
X-1						
X*						

Where 'X' is the immediate preceding financial year.

2. In case of proposal seeking extension of guarantee it may specifically be indicated whether the guarantee fee for the preceding financial year has been paid or not. The amount paid and date of payment should be indicated. In case of default in payment it may be indicated whether default fee in terms of Rule 279 (3) has been levied



## CONCORDANCE TABLE

GFR 2005	GFR 2017
<b>Chapter - 1 (Introduction)</b>	
1 (1)	1
1 (2)	1
2	2
3	3
4	4
5	5
6 (1)	6 (1)
6 (2)	6 (2)
<b>Chapter – 2 (General System of Financial Management)</b>	
7	7
8 (1)	8 (1)
8 (2)	8 (2)
9	9
10	10
11 (1)	11 (1)
11 (2)	11 (2)
12	12
13	13
14	14
15 (1)	15 (1)
15 (2)	15 (2)
15 (3)	15 (3)
16 (1)	16 (1)
16 (2)	16 (2)
17	17
18	18
19 (1)	19 (1)
19 (2)	19 (2)
20	20
21	21
22	22
23	23
24	24
25 (1)	25 (1)
25 (2)	25 (2)
25 (3)	25 (3)
26	26
27 (1)	27 (1)
27 (2)	27 (2)
28	28
29	29



<b>GFR 2005</b>	<b>GFR 2017</b>
30	30
31	31
32	32
33 (1)	33 (1)
33 (2)	33 (2)
33 (3)	33 (3)
33 (4)	33 (4)
33 (5)	33 (5)
33 (6)	33 (6)
33 (7)	33 (7)
34	34
35	35
36	36
37	37
38	38
39	39
40	40
41	41
<b>Chapter - 3 (Budget Formulation and Implementation)</b>	
42	42
43 (1)	43 (1)
43 (2)	43 (2)
43 (3)	43 (3)
43 (4)	43 (4)
44	44
45	45
	46
	47
	48
	49
46 (1)	50(1)
46 (2)	50 (2)
46 (3)	50 (3)
46 (4)	50 (4)
46 (5)	50 (5)
47 (1)	51 (1)
47 (2)	51 (2)
47 (3)	51 (3)
48 (1)	52(1)
48 (2)	52 (2)
	52(3)
49 (1)	53 (1)





<b>GFR 2005</b>	<b>GFR 2017</b>
49 (2)	53 (2)
	54
50 (1)	55(1)
50 (2)	55 (2)
51	56
52 (1)	57 (1)
52 (2)	57(2)
52 (3)	57 (3)
52 (4)	57 (4)
52 (5)	57 (5)
52 (6)	57 (6)
52 (7)	57 (7)
52 (8)	57 (8)
53	58
54	59
55	60
	61
56 (1)	62 (1)
56 (2)	62 (2)
56 (3)	62 (3)
	62(4)
57	63
58 (1)	64 (1)
58 (2)	64 (2)
59 (1)	65(1)
59 (2)	65 (2)
59 (3)	65 (3)
59 (4)	65 (4)
60	66
61 (1)	67 (1)
61 (2)	67 (2)
61 (3)	67 (3)
61 (4)	67 (4)
62	68
63	69
64	70
<b>Chapter – 4 (Government Accounts)</b>	
65	71
66	72
67	73
68	74
69	75



<b>GFR 2005</b>	<b>GFR 2017</b>
70	76
71	77
72	78
73	79
74	80
75	81
76	82
77	83
78	Deleted
79	84
80	85
	86
	87
81	88
82	89
83	90
	91
84	92
85	93
86	94
87	95
88	96
89 (1)	97(1)
89 (2)	97(2)
90	98
91	99
92	100
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98 (1)	105(1)
98 (2)	105(2)
98 (3)	Deleted
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<b>GFR 2005</b>	<b>GFR 2017</b>
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<b>Chapter - 5 (Works)</b>	
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124	131
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126 (1)	133(1)
126 (2)	133(2)
126 (3)	133(3)
126 (4)	Deleted
127	134
128	135(1)
	135(2)
129 (1)	136(1)
129 (2)	136(2)
129 (3)	136(3)
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134	141
<b>Chapter – 6 (Procurement of goods and services)</b>	
135	142
136	143
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<b>GFR 2005</b>	<b>GFR 2017</b>
140	147
141	148
141 A (1)	149 (1)
	149(2)
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146	155
147(1)	156(1)
147 (2)	156(2)
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159 (1)	172(1)
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GFR 2005	GFR 2017
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<b>Chapter – 7 (Inventory Management)</b>	
186	207
187 (1)	208(1)
187 (2)	208(2)
187 (3)	208(3)
188 (1)	209(1)
188 (2)	209(2)
188 (3)	209(3)
188 (4)	209(4)
189	210
190 (1)	211(i)
190 (2)	211(ii)
191	212
192 (1)	213(1)
192 (2)	213(2)
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<b>GFR 2005</b>	<b>GFR 2017</b>
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202 (1)	223(1)
202 (2)	223(2)
202 (3)	223(3)
<b>Chapter – 8 (Contract Management)</b>	
203 (1)	224(1)
203 (2)	224(2)
204	225
205 (1)	226(1)
205 (2)	226(2)
205 (3)	227
<b>Chapter – 9 (Grants-in-aid and Loans)</b>	
206	228
207	DELETED
208	229
209 (1)	230(1)
209 (2)	230(2)
209 (3)	230(3)
209 (4)	230(4)
209 (5)	230(5)
	230(6)
	230(7)
	230(8)
	230(9)
209 (6)	230(10)
	230(11)
	230(12)
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	230(16)
	230(17)
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<b>GFR 2005</b>	<b>GFR 2017</b>
211 (1)	236(1)
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211 (4)	236(4)
	237
212 (1)	238(1)
	238(2)
	238(3)
	238(4)
212 (2)	238(5)
212(2) (ii)	238(6)
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	242(1)
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212 (4)	(shifted as Rule 234)
212 (5)	(shifted as Rule 240)
212(6)	(shifted as 241)
213	243
214	244
215 (1)	245(1)
215 (2) (shifted as Rule 232)	
215 (3) (shifted as Rule 233)	
216	246
217	247
218	248
219 (1)	249(1)
219 (2)	249(2)
220 (1)	250(1)
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220 (3)	250(3)
220 (4)	250(4)
221 (1)	251(1)
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222 (2)	252(2)
222 (3)	252((3)
223 (1)	253(1)
223 (2)	253(2)





<b>GFR 2005</b>	<b>GFR 2017</b>
224	254
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226 (1)	256(1)
226 (2)	256(2)
227	257
228 (1)	258(1)
228 (2)	258(2)
228 (3)	258(3)
228 (4)	258(4)
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230 (1)	260((1)
230 (2)	260(2)
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232	262
233	263
<b>Chapter – 10 (Budgeting and Accounting of Externally Aided Projects)</b>	
234 (1)	264(1)
234 (2)	264(2)
234 (3)	264(3)
234 (4)	264(4)
235	265
236	266
237	267
237(1)	267(1)
237(2)	267(2)
238 (1)	268(1)
238 (2)	268(2)
238 (3)	268(3)
239	269
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241	271
242	272
243	273
244	274
<b>Chapter – 11 (Government Guarantees)</b>	
245	275(1)
	275(2)
	275(3)
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246 (1)	277
246 (2)	
247	278



<b>GFR 2005</b>	<b>GFR 2017</b>
248 (1)	279(1)
248(2)	279(2)
	279(3)
	279(4)
	279(5)
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249 (1)	281(1)
249 (2)	281(2)
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249 (4)	281(4)
250	282
251	283(1)
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	283(3)
252	Shifted to 277 (vi)
<b>Chapter – 12 (Miscellaneous Subjects)</b>	
253 (1)	284((1)
253 (2)	284(2)
253 (3)	284(3)
253 (4)	284(4)
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255 (1)	286(1)
255 (2)	286(2)
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256	287
257 (1)	288(1)
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257 (4)	288(4)
	288(5)
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263	294
264 (1)	295(1)
264 (2)	295(2)
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265 (1)	296(1)
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<b>GFR 2005</b>	<b>GFR 2017</b>
268	299
269	300
270 (1)	301(1)
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270 (5)	301(5)
271	302
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	304(2)
274 (1)	305(1)
274 (2)	305(2)
275 (1)	306(1)
275 (2)	306(2)
275 (3)	306(3)
275 (4)	306(4)
276	307
277	308
278	309
279 (1)	310(1)
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279 (5)	310(5)
280	311
281 (1)	312(1)
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289	320(1)
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292 (1)	323(1)
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293	324



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## NOTES

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## NOTES

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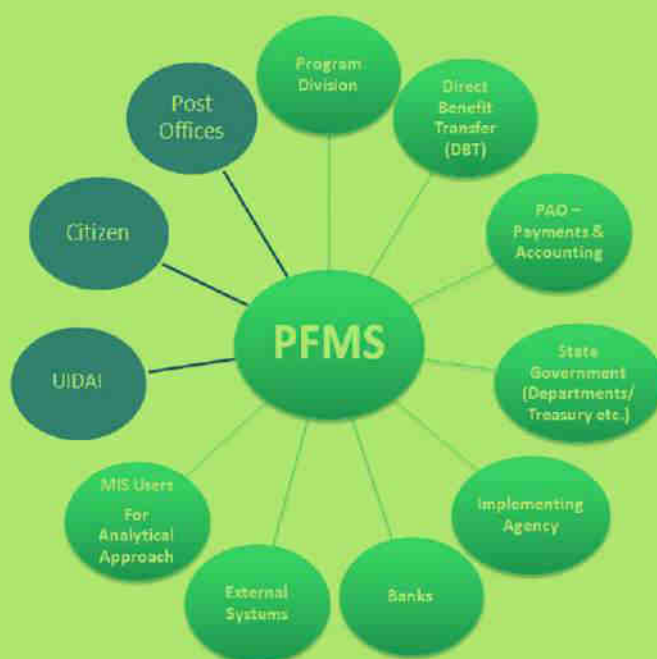
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**GeM**  
Government  
e Marketplace



**Digital India**  
Power To Empower

**Government of India  
Ministry of Finance  
Department of Expenditure**





# UNIVERSITY OF DELHI

## दिल्ली विश्वविद्यालय

No. IAUS-III/314-2/2016/417

Date: 27<sup>th</sup> May, 2016

To

The Principal  
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**Sub: Implementation of e-procurement in the Colleges of University of Delhi from the Financial Year 2016- 17.**

Sir/Madam,

This has reference to O.M. No.26/12/2014-PPC dated 21<sup>st</sup> January, 2015 issued by the Procurement Policy Division, Department of Expenditure, Ministry of Finance to introduce e-procurement in respect of all the procurements with an estimated value of Rs.2.0 lakh and above. The UGC vide D.O. No.F.75-1/2013 (E-Governance) dated 22<sup>nd</sup> April, 2015 had also stressed the need to implement the e-Governance in order to transform the quality of services provided in the field of Higher Education through a service oriented approach and deployment of ICT applications and systems.

2. In this context, it is to inform that e-procurement should be adopted both for **publication and processing of tenders for all procurements**. In order to mandate all Colleges to adopt e-procurement and to ensure maximum participation of tenders through e-procurement, all Principals/ Head of the Institutions are therefore requested to take necessary action to ensure that all procurements are mandatorily processed through Central Public Procurement Portal (CPPP) as per the instructions enclosed at Annexure 'A' (copy enclosed).

3. Services of National Informatics Center Services Incorporated (NICSI) and National Informatics Centre (NIC), CGO Complex New Delhi may also be utilized for imparting training on e-procurement at your end.

4. All relevant Government of India/MHRD/Department of Expenditure/UGC circulars, guidance instructions and other relevant documents concerning implementation through NIC/NICSI are enclosed for guidance and necessary action.

Encl: As above.

Yours Sincerely,

  
(Z.V.S. Prasad) 27/5/16  
Finance Officer

Copy to:-

- (i) Dean of Colleges, University of Delhi.
- (ii) Director, South Campus, University of Delhi, Delhi
- (iii) Registrar, University of Delhi – for information.
- (iv) Director, DUCC – with the request to upload on website of University.
- (v) Joint Registrar, (Procurement & Stores), University of Delhi.
- (vi) Finance Branch, University of Delhi.



No. 10/1/2011-PPD  
Ministry of Finance  
Department of Expenditure  
Procurement Policy Division  
\*\*\*

516, Lok Nayak Bhawan, Khan Market,  
New Delhi. Dated the 17<sup>th</sup> May, 2016

**OFFICE MEMORANDUM**

**Subject: Mandatory publication of tender enquiries on Central Public Procurement Portal**

In pursuance of decision taken in Group of Ministers constituted to consider measures to tackle corruption and ensure transparency, the Department of Expenditure has vide OM of even no. dated 30.11.2011 (copy enclosed), issued instructions for the setting up of Central Public Procurement Portal (CPPP) which is accessible at the [www.eprocure.gov.in](http://www.eprocure.gov.in).

2. It has been brought to notice of this Department that some Ministries/ Departments and other Organizations still continues to e-publish their tender enquires and other details on the NIC website [www.tenders.gov.in](http://www.tenders.gov.in). It is perhaps due to the guidelines of Central Vigilance Commission (CVC) on the use of the NIC portal i.e. (<http://govtenders.nic.in>) for this purpose.

3. In the light of instructions of CVC and to avoid any confusion to the procuring authorities that which website is to be used, the matter was referred to the CVC by this Department. Central Vigilance Commission (CVC) has conveyed their "**no objection**" to switching over from old website [www.tenders.gov.in](http://www.tenders.gov.in) to the new CPP Portal i.e. [www.eprocure.gov.in](http://www.eprocure.gov.in).

4. Accordingly, all Central Government Ministries/Departments are hereby advised to follow the instructions contained in this Department OM of even number dated 30.11.2011 regarding E-Publishing of tender enquiries, corrigenda thereto and details of contracts awarded thereon on CPPP and may discontinue use of [www.tenders.gov.in](http://www.tenders.gov.in) for this purpose. Ministries/Departments may also advice their Attached and Subordinate offices, Central Public Sector Undertakings (CPSE's), Autonomous and Statutory Bodies under their administrative control to use [eprocure.gov.in](http://www.eprocure.gov.in) website for tenders related publications.

  
(Vinayak T. Likhar)

Under Secretary to the Govt. of India

Tele: 24621305

E-mail – [vinayak.likhar@nic.in](mailto:vinayak.likhar@nic.in)

To,

All the Secretaries / Financial Advisor of Central Govt. Ministries /Departments.

Copy to:

1. Secretary, CVC with reference to CVC letter no. 006NGL/043/203799 dated 22nd Feb. 2013.
2. DG, NIC, CGO Complex, New Delhi with a request to close down [www.tenders.gov.in](http://www.tenders.gov.in)



**No. 10/1/2011-PPC  
Ministry of Finance  
Department of Expenditure  
Public Procurement Cell**

North Block, New Delhi  
Dated 30<sup>th</sup> November, 2011

**OFFICE MEMORANDUM**

**Subject: Mandatory publication of Tender Enquiries on the Central Public Procurement Portal**

Pursuant to the decisions of the Group of Ministers constituted to consider measures to tackle corruption and improve transparency, on the recommendations of the Committee on Public Procurement set up to look into various issues having an impact on public procurement policy, standards and procedures, it has been decided that:

- a. NIC will set up a portal called the Central Public Procurement Portal (hereinafter referred to as CPP Portal) with an e-publishing module (similar to NIC's website [www.tenders.gov.in](http://www.tenders.gov.in)) and an e-procurement module (similar to NIC's e-procurement sites such as [pmgsytenders.gov.in](http://pmgsytenders.gov.in) and [epro-nicsi.nic.in](http://epro-nicsi.nic.in)). The CPP Portal will be accessible at the URL **eprocure.gov.in** and will provide links to the non-NIC e-procurement sites being used at present by various Ministries/ Departments, CPSEs and autonomous/ statutory bodies.
- b. While e-publishing of tender enquiries, corrigenda thereto and details of contracts awarded thereon, on the Portal, shall be made mandatory in a phased manner w.e.f 1<sup>st</sup> January 2012, the comprehensive end-to-end e -Procurement feature would be implemented in a phased manner w.e.f. 1<sup>st</sup> April 2012, for which instructions will be issued separately. In the meantime, Digital Signature, which is essential at the e-procurement phase, may be obtained from any Certifying Authority or from NIC which is also a Certifying Authority, for the concerned officials.

**E-Publishing:**

- c. It will be mandatory for all Ministries/ Departments of the Central Government, their attached and subordinate offices, Central Public Sector Enterprises (CPSEs) and autonomous/ statutory bodies to publish their tender enquiries, corrigenda thereon and details of bid awards on the CPP Portal using e-publishing module with effect from the following dates:
  - c.i. Ministries/ Departments and their attached and subordinate offices w.e.f. 1<sup>st</sup> January 2012;
  - c.ii. CPSEs w.e.f. 1<sup>st</sup> February 2012;
  - c.iii. Autonomous/statutory bodies w.e.f. 1<sup>st</sup> April, 2012.



- d. Individual cases where confidentiality is required, for reasons of national security or to safeguard legitimate commercial interest of CPSE's, would be exempted from the mandatory e-publishing requirement. As far as Ministries/ Departments are concerned, decisions to exempt any case on the said grounds should be approved by the Secretary of the Ministry/ Department with the concurrence of the concerned Financial Advisor. In the case of CPSEs, approval of the Chairman & Managing Director with the concurrence of Director (Finance) should be obtained in each case to be exempted. In the case of autonomous bodies/ statutory bodies, approval of the head of the body with the concurrence of the head of the Finance function, should be obtained in each such case. Statistical information on the number of cases in which exemption was granted and the value of the concerned contract, may be intimated on a Quarterly basis to the Ministry of Finance, Department of Expenditure at the email id [cphp-doe@nic.in](mailto:cphp-doe@nic.in)
- e. Ministries/ Departments, CPSEs and autonomous/ statutory bodies that are already publishing their tender enquiries on [www.tenders.gov.in](http://www.tenders.gov.in) and/or on their respective websites, shall ensure that their tender enquiries are simultaneously published / mirrored on the CPP Portal also. They may also ensure that all corrigenda and details of the contract awarded as a result of the tender enquiry, are also published on the CPP Portal.
- f. Ministries/ Departments, CPSEs and autonomous/ statutory bodies that are already carrying out e-procurement through NIC or their own website or through any other service provider, shall ensure that details of all their tender enquiries, related corrigenda and details of contracts awarded thereon, including those that are issued through e-procurement, are simultaneously published / mirrored on the CPP Portal. As stated at (a) above, they should also ensure that their e-procurement website is linked to the CPP Portal.
- g. The above instructions apply to all Tender Enquiries, Requests for Proposals, Requests for Expressions of Interest, Notice for pre-Qualification/ Registration or any other notice inviting bids or proposals in any form, issued on or after the dates indicated at (c) above whether they are advertised, issued to limited number of parties or to a single party.
- h. In the case of procurements made through DGS&D Rate Contracts or through Kendriya Bhandar/ NCCF, only award details need to be published on the Portal.
- i. These instructions would not apply to procurements made in terms of provisions of Rules 145 (Purchase of goods without quotations) or 146 (Purchase of goods by purchase committee) of General Financial Rules – 2005 (or similar provisions relating to procurements by CPSEs, autonomous bodies).



2. In order to facilitate implementation of aforesaid decisions regarding e-publishing of tender details, NIC will provide detailed guidelines for using the e-Publishing module of the CPP Portal. These guidelines will also be available in the CPP Portal. **User IDs and Passwords would have to be obtained from NIC for accessing the Portal. Details in this regard will also be available in the CPP Portal.**

3. NIC will also provide the following support:

- a. NIC will make arrangements for necessary training to the concerned officials in the use of the CPP Portal for e-publishing. For this purpose, Ministries / Departments may contact NIC through email at [cppp-nic@nic.in](mailto:cppp-nic@nic.in) to work out the details.
- b. Detailed guidelines for the use of e-Publishing module will be made available in the CPP Portal and this would also be circulated separately to all Ministries/Departments.
- c. A demonstration web site, similar to the CPP Portal, would be made available for training and hands-on practice. The site will also contain necessary user manuals and presentation materials.

4. Ministries/ Departments are requested to take necessary action to ensure that e-publishing of tender details on the Portal is commenced in terms of the time lines mentioned in para 2 (c) above. **It is also requested that necessary instructions may be issued in this regard to all attached and subordinate offices as also to CPSEs, autonomous and statutory bodies under their administrative control.**

  
(Suchindra Misra)  
OSD (PPC)  
011-23092689

To,

**Secretaries of all Ministries/Departments**

Copy to

**FAs of all Ministries/Departments**

Copy also to **DG (NIC), CGO Complex, New Delhi**



No.26/12/2014-PPC  
Ministry of Finance  
Department of Expenditure  
Public Procurement Cell  
\*\*\*

Room No.168-C,  
North Block, New Delhi  
Dated the 21<sup>st</sup> January, 2015


**OFFICE MEMORANDUM**

**Subject: Implementation of comprehensive end-to-end e-procurement**

This has reference to this Department O.M. of even No. dated 30<sup>th</sup> March, 2012 and 9<sup>th</sup> January, 2014 vide which it was conveyed that the Ministries / Departments of the Central Government, their attached and subordinate offices would need to commence e-procurement in respect of all procurements with estimated value of Rs. 2.0 lakh or more in a phased manner.

2. In this context, it is now decided that apart from Ministries/Department of the Central Government, their attached and subordinate offices, Central Public Sector Enterprises (CPSEs), autonomous /Statutory bodies will also be required to commence e-procurement as per above referred threshold limits.

3. Ministries/ Departments are requested that necessary instructions may be issued to all attached/subordinate offices, CPSEs and autonomous /Statutory bodies etc., under their administrative control to commence e-procurement.

  
21.1.15  
( Sanjay Aggarwal )  
Director (PPD)  
T No.23094961  
e-mail [sanjay.aggarwal68@nic.in](mailto:sanjay.aggarwal68@nic.in)

Secretaries of all Ministries/Departments

FAs of all Ministries/Departments

Copy to :

DG (NIC), CGO Complex, New Delhi.



No. 10/3/2012-PPC  
Ministry of Finance  
Department of Expenditure  
Procurement Policy Division  
\*\*\*\*\*

North Block, New Delhi  
Dated the 9<sup>th</sup> January, 2014.

**OFFICE MEMORANDUM**

**Subject: Implementation of comprehensive end-to-end e-procurement**

This has reference to this Department's O.M. of even number dated 30<sup>th</sup> March 2012 vide which it was conveyed that the Ministries/Departments of the Central Government, their attached and subordinate offices would need to commence e-procurement in respect of all procurements with estimated value of Rs.10 lakh or more in a phased manner as per the prescribed schedule. In this regard an option was given to the procuring entities either to use the e-procurement solution developed by NIC accessible through Central Public Procurement Portal ( CPP Portal) or to continue to carry out e-procurement through other service provider/other e-procurement solutions developed in house, provided the conditions/guidelines envisaged in the O.M. referred to above are fulfilled.

2. In this context it is highlighted that, the Prime Minister's Committee on National e-Governance Plan ( NeGP) during its second meeting held on 1<sup>st</sup> July 2013 has an endorsed DeiTY proposal that e-Procurement should be adopted both for publication and processing of tenders above a prescribed cut of value. The need to mandate all Ministries/Departments to adopt end to end e-Procurement was also emphasized in the meeting of the Apex Committee on NeGP held on 5<sup>th</sup> November 2013.

3. In pursuance of the decision taken during the above meetings to promote e-Procurement further and to ensure maximum participation of tenders through e-Procurement mode, **it has been decided that the tender value limit of Rs. 10 lakh set in respect of e-Procurement is to be brought down to Rs. 5 lakh w.e.f 01.04.2015 and further down to Rs 2 lakh w.e.f 01.04.2016.** Ministries/Departments are therefore requested to ensure and follow the limits which have now been decided in respect of mandatory publishing of tenders through e-Procurement mode.

4. Ministries / Departments are therefore requested to take necessary action to **ensure** that all tenders above Rs.10 lakh are compulsorily processed through e-Procurement as per the instruction already issued by this Department vide above OM. A report in the following format in this respect is now to be intimated on a quarterly basis to the Ministry of Finance, Department of Expenditure at the email id [cppp-doe@nic.in](mailto:cppp-doe@nic.in).

Name of the Ministry/Department

Period of Report: \_\_\_\_\_ to \_\_\_\_\_ Quarter ending on \_\_\_\_\_

Number of Tenders floated amounting to Rs. 10 lakh or more	Number of Tenders Processed through e-Procurement (whether NIC or using other solution)	Number of Tenders exempted due to National security and strategic Considerations demanding confidentiality	Cases of Non –compliance with reasons
Total	Total	Total	Total

Contd./-



5. In this context it is further reiterated that;
- i. Ministries / Departments using other than NIC e-Procurement solution have to ensure that details of all their tender enquiries, related corrigenda and details of contracts awarded thereon, through e-Procurement are simultaneously published / mirrored on the CPP Portal using XML facility of NIC.
  - ii. Ministries / Departments that have not yet appointed Nodal officers and have not got User IDs and Passwords issued from NIC for accessing the portal may please ensure that the Nodal officers are appointed immediately. Action may also be taken to start acquiring Digital Signatures from NIC Certifying Authority or any other Certifying Authority, being an essential requirement for e-procurement.
  - iii. Ministries / Departments must also tie up with NIC for training and support where e-Procurement solution developed by NIC is adopted and a need in this regard is being felt by sending an e-mail to [cphp-nic@nic.in](mailto:cphp-nic@nic.in). NIC is periodically organizing training programmes on their e-Procurement Module. Action may be taken to nominate representatives to attend the ongoing training programs as per schedule published on the CPP Portal.
6. It is also requested that necessary instructions in this regard may be issued to all attached and subordinate offices under your administrative control.
7. Hindi version of this O.M. will follow.

OS  
9-1-14

(Sanjay Aggarwal)  
Director (PPD)  
Tel.No.23094961(O)

To

- (i) Secretaries of all Ministries/Departments of the Government of India.
- (ii) FAs of all Ministries/Departments of the Government of India.
- (iii) DG (NIC), CGO Complex, New Delhi.

This OM is also available on our website <http://finmin.nic.in>





# दिल्ली विश्वविद्यालय University of Delhi

वित्त अधिकारी  
FINANCE OFFICER

No.FO/IAUS-III/314-2/2016/497

Date: 31<sup>st</sup> March, 2016

## CIRCULAR

**Sub: Implementation of e-procurement in the University of Delhi from the Financial Year 2016- 17.**

This has reference to O.M. No.26/12/2014-PPC dated 21<sup>st</sup> January, 2015 issued by Procurement Policy Division, Department of Expenditure, Ministry of Finance to introduce e-procurement in respect of all procurements with an estimated value of Rs.2.0 lakh or more in a phased manner. The UGC vide D.O. No.F.75-1/2013 (E-Governance) dated 22<sup>nd</sup> April, 2015 had also stressed to introduce e-Governance in order to transform the quality of services provided in the field of Higher Education through a service oriented approach and deployment of ICT applications and systems.

2. In this context, it is to inform that e-procurement should be adopted both for publication and **processing of tenders for all procurements**. In order to mandate all Departments to adopt e-procurement and to ensure maximum participation of tenders through e-procurement, all Heads of Departments are therefore requested to take necessary action to ensure that **all procurements are compulsorily processed through Central Public Procurement (CPP)** as per the instructions enclosed at Annexure 'A' (copy enclosed).

3. Following departments have been identified for the roll-out of e-procurement in the Phase-I & II. Further, Phase- II will commence after the implementation of Phase - I:

Phase – I

- (i) Engineering department;
- (ii) General Branch;
- (iii) Cluster Innovation Centre (CIC);

Phase – II

- (iv) WUCC (Health Centre);
- (v) University Science Instrumentation Centre (USIC);
- (vi) Dr B R Ambedkar Centre for Bio-Medical Research (ACBR).

Phase-III Entire University i.e. Departments/ Centres will be implemented during 2016-17.

4. Director, DUCC will be the 'Nodal Officer' for the e-procurement process in the University of Delhi.

Encl: As above.

Copy to :

- (i) Director, South Campus, University of Delhi, Delhi
- (ii) All the Head of Departments, University of Delhi.
- (iii) All the Provosts of Halls/Hostels, University of Delhi.
- (iv) University Engineer, Engineering Department, University of Delhi
- (v) Joint Registrar, (Procurement & Stores), University of Delhi.
- (vi) Finance Branch, University of Delhi.

(Z.V.S. Prasad)



Monday, 12 October 2015

## eProcurement

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### Preliminary Information regarding eProcurement

As per the Office Memorandum (OM), no. 10/3/2012-PPC dated 30th March, 2012 and all subsequent OMs, issued by the Department of Expenditure, all Ministries / Departments of the Central Government, their attached and subordinated offices need to commence e-Procurement in respect of all procurements with estimated value of Rs. 10 lakhs or above, in a phased manner.

For facilitating User Ministries / Departments, NIC has developed an e-Procurement application, which is accessible through the Central Public Procurement (CPP) Portal (URL:<http://eprocure.gov.in>).

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### eProcurement Module Features

1. Covers the complete tendering process starting from online publishing of tender enquiries, online bid submission by the bidders, online bid opening, online bid evaluation and publication of award of Contract.
2. Under the e-Procurement module, the User Organisations will be required to define two additional roles apart from the Tender Creator and Tender Publisher, viz.
  - The role of bid opener is Critical for e-Procurement. Bid openers should be identified for each tender at the time of publishing of the tender Enquiry.
  - Bid Evaluator - authorised to upload the results of the various stages of bid Evaluation on the CPP Portal.
  - Minimum of 4 Bid openers must be configured to avoid any issues in tender opening
  - At least 5 Digital Signature Certificate is required to complete one tender cycle.
3. All authorised department users, from the User Organisations, will be required to have valid Digital Signature Certificates (DSCs), along with their user ID and password, to be able to operate the e-Procurement Module.



## Enrolment Procedure

### 1. Acquire Digital Signature Certificates(DSCs)

To carry out e-Procurement using NIC's e-Procurement Module, the authorised users of the User Organisation as well as the bidders will be required to obtain valid DSCs. DSCs may be obtained from any authorised agency registered with the Certifying Authority (CA) in India. Authorised users will be required to procure Class-II or Class- III DSCs.

### 2. Selection/ Nomination of Nodal Officer

Nodal Officer(s) can be nominated by filling up the Nodal Officer Nomination Form (available at [http://eprocure.gov.in/cppp/sites/default/files/eproc/nodal\\_datasheet\\_0.pdf](http://eprocure.gov.in/cppp/sites/default/files/eproc/nodal_datasheet_0.pdf)) and sending to NIC at [cppp-nic@nic.in](mailto:cppp-nic@nic.in). NIC will create the Nodal Officer account, with the details provided in the form and the password for the account will be automatically sent to the email address of the nominated Nodal Officer.

### 3. Setting up of Organizational Hierarchy for mapping on the CPP Portal

The Nodal Officer(s) of each User Organisation must create a mapping of its organisational structure / hierarchy in e-Publishing module of CPP Portal and for e-Procurement Module of NIC. The organisation structure as per prescribed format is to be sent via email [cppp-nic@nic.in](mailto:cppp-nic@nic.in).

### 4. Creation of User Accounts for officials of the User Organisation

The Nodal Officer/ sub-Nodal Officer(s) of each User Organisation will authorise users within the organisation for various roles such as Tender Creator, Tender Publisher, Bid Opener and Bid Evaluator who would use the e-Procurement module.

- Tender Creator - responsible for filling up and uploading the details of a tender enquiry / corrigenda / award of contract.
- Tender Publisher - responsible for publishing the tender enquiry / corrigenda / award of contract created by the Tender Creator.
- Bid Opener - authorised to decrypt and download the bids received from the bidders in response to a tender document.
- Bid Evaluator - authorised to upload the results of the various stages of bid evaluation.

Nodal Officer cannot perform any of the above roles. The Nodal Officer should create the above users and assign roles in the e-Procurement module of NIC for authorised



Monday, 12 October 2015

officials in the User Organisation. Upon creation of user accounts, the password will be automatically emailed to the respective authorised users in their mail IDs.

5. Mapping of DSCs for all user accounts created in the User Organisation

On obtaining the DSCs, the authorised users will be required to login and map their DSCs with their respective user profiles created by the Nodal Officer on the e-Procurement module.





One Week  
**LABORATORY STAFF  
TRAINING WORKSHOP**

# Laboratory Maintenance and Hands-On Training

17<sup>th</sup> - 24<sup>th</sup>  
January, 2024

Organized by:  
**Sri Venkateswara  
College**

(under the aegis of IQAC)  
University of Delhi (South Campus),  
Benito Juarez Road, Dhaula Kuan, New  
Delhi-110021

**Patron:** Prof. K. Chandramani Singh (Ag. Principal, SVC)  
Prof. Swarn Singh IQAC Co-ordinator

**Organizing Committee:**

Prof. Sharda Pasricha IQAC Co-ordinator, Criteria II  
Prof. Vartika Mathur IQAC Co-ordinator, Criteria VI

<b>Criteria II co-coordinators</b>	<b>Criteria VI co-coordinators</b>
Dr. Vinita Kapoor Dr. Rakhi Narang Dr. Manoj Thakur	Dr. Shefali Shukla, Dr. Pooja Gokhale Dr. Neelam Kumari, Dr. Anjali Nawani, Dr. Shantanu Mandal, Dr. Ajit Singh Dr. Manvi
<b>Department of Botany</b> <b>Co-ordinator:</b> Prof. Shukla Saluja <b>Co-coordinators and resource persons:</b> Dr. M. Prajna Dr. Manoj Thakur Dr. Sunita Yadav Dr. Aditi Kothari Chhajer	<b>Department of Electronics</b> <b>Co-ordinator:</b> Dr. Neeru Kumar <b>Co-coordinators and resource persons:</b> Dr. Rakhi Narang Dr. Hina Yadav
<b>Department of Biochemistry</b> <b>Co-ordinator:</b> Dr. Sarika Yadav <b>Co-coordinator:</b> Dr. Lakshay Malhotra <b>Resource persons:</b> Dr Meenakshi Kuhar Dr Anju Kaicker Dr Nandita Narayanasamy Dr Shalini Sen Dr Vandana Malhotra Dr Kameshwar Sharma Dr Nimisha Sinha Dr Ravindra Varma Dr Sarika Yadav Dr Sidhartha Taritla Dr Lakshay Malhotra	<b>Department of Chemistry</b> <b>Coordinator:</b> Dr. Vibha Saxena <b>Co-coordinator:</b> Dr. Pragya Gahlot, Dr. Vinita Kapoor, Dr. Rekha Yadav <b>Resource Persons:</b> Dr. Shefali Shukla Dr. Pragya Gahlot Dr. Vinita Kapoor Dr. Rekha Yadav Dr. Rangarajan T. M. Dr. Ramvath Jan Naik Dr. Chandrashekhar Tekuri Dr. Murali mohan Achari Dr. Ravindra Kumar Upadhayay
<b>Department of Zoology</b> <b>Coordinator:</b> Prof. Om Prakash and Dr. Mohita Bhagat <b>Resource persons:</b> Prof. Vartika Mathur Dr. Richa Misra Dr. Namita Nayyar Dr. P. Jayaraj Dr. Sumit Raj Dr. Mohita Bhagat Dr. Preeti Khandelwal Mr. Mukesh Kumar, Senior Technical Assistant Mr. V. Parthasarathi, Senior Laboratory Assistant	<b>Invited speakers:</b> Dr. Nidhi Gupta, Senior Resident, Department of Biochemistry, AIIMS Dr. Sarita Passey, Zakir Hussain Delhi College, University of Delhi Dr. Manisha Jain, Acharya Narendra Dev College, University of Delhi Mr Neeraj Bajaj, Branch Manager, Oriental Science Apparatus Workshop Mr. Mithun Das, Sales and Application Engineer, M/S Silicom Electronics Pvt. Ltd. Mr. Dalip Singh, (Redt) Senior Lab Assistant, Department of Biochemistry, SVC



# DEPARTMENT OF BIOCHEMISTRY

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## INTRODUCTION

### 1. OBJECTIVES:

- ✓ To make lab staff aware about the lab safety measures and train them about the solution and reagent preparations in the biochemistry lab.
- ✓ Provide them information about the different instruments and techniques used in the lab like spectrophotometry, electrophoresis, chromatography, microscopy etc
- ✓ Provide detailed information to laboratory staff about laboratory waste categories, segregation, treatment and disposal methods. Also train them about the biological waste management process.

### 2. METHODOLOGY:

- ✓ Practice about the solution preparations
- ✓ Hands-on sessions to explain how to use various instruments in the laboratory
- ✓ Multiple activities/exercises during the sessions to help them develop thorough understanding about the techniques learnt.
- ✓ Discuss about different types of biological waste such as Clinical waste, culture waste, sharps, gels and plastic wastes.
- ✓ Explain about the methodologies regarding the disposal of the treated waste

### 3. OUTCOMES:

- ✓ Laboratory staff will gain insight about the lab safety measures and the working in a biochemistry lab
- ✓ They will learn about the solution/ reagents preparation and storage and also record keeping.
- ✓ They will gain insight about how to use and maintain various lab instrument about the importance of biological waste segregation. Also learn about methods of management and disposal of biological waste generated in the laboratory.
- ✓ Laboratory staff will be more aware and trained to work efficiently in the biochemistry lab.

## Section 1: Lab Safety and Solution Preparation

### A. Lab Safety

Every individual entering or using the scientific laboratory must maintain and regulate the lab's safety. These responsibilities not only ensure the safety of each lab and persons therein but also facilitate the proper use of the laboratory resources.

#### ➤ Lab set up

#### 1.1.1 Post-Practical Duties of Lab Assistants:

1. Check the supply of lab materials, and prepare and refill exhausted materials before the next lab.



2. Organize the lab materials.
3. Place waste materials in the appropriate waste container.
4. Clean the work tables with a disinfectant. Clean all electronic equipment and cover them.

### **Clothing and Accessories**

1. A clean lab apron should be worn at all times in the lab. It should be disinfected before and after wear.
2. Gloves should be worn whenever required. Heating gloves should be used during autoclave operation. Latex gloves are generally used; nitrile gloves are only for those with sensitivity to latex.

#### **1.1.2 General Health/Cleanliness**

1. Do not eat, drink, or chew anything in the lab.
2. Wash your hands thoroughly with soap and hot water before and after every lab session

#### **➤ Safety and Precautions Do's**

1. Wear a clean, full sleeve cotton lab coat and fasten all the buttons.
2. Listen and follow the instructions.
3. Keep your work area clean.
4. Always read the label on the reagent bottle before using it.
5. Keep the reagent bottles back in their appropriate places after use.
6. Always use match stick or candle for lighting the burner.
7. Inform your teacher immediately in case of any accidents.
8. Throw the waste material in the notified bins.
9. Use pair of tongs while handling hot objects/ apparatus.
10. Wash your hands properly before leaving the lab.

#### **➤ Safety and Precautions Don'ts**





1. Don't use cell phones.
2. Don't accumulate unused chemicals/ equipment on work table.
3. Don't point the opened end of the test tube at yourself or at other students.
4. Don't contaminate the reagent bottles with dirty droppers (may result in violent reaction).
5. Don't neglect minute accidents or injuries.
6. Don't keep reagent bottles open and don't throw, taste or smell any chemicals.
7. Don't use sink for disposal of match stick, paper or other solid wastes.
8. Don't touch electrical appliances with wet hands.

## Labels to be checked on the chemicals



### Science Lab

# SAFETY RULES

 <p style="text-align: center;"><b>CLOTHING</b></p> <p>Wear appropriate clothing to class and always wear personal protective gear such as safety goggles, lab aprons or coats, and protective gloves.</p>	<p style="text-align: center;"><b>READ FIRST</b></p> <p>Read through the instructions first and prepare the materials needed before starting any activity.</p> 
 <p style="text-align: center;"><b>FOLLOW INSTRUCTIONS</b></p> <p>Follow verbal and written instructions carefully. If you are unsure about any part of the activity, ask your teacher before taking any action.</p>	<p style="text-align: center;"><b>MONITOR</b></p> <p>Personally monitor all experiments and do not leave them unattended.</p> 
 <p style="text-align: center;"><b>DON'T EAT OR DRINK</b></p> <p>Do not eat, drink, or chew gum in the lab. Do not bring in food or drinks and do not store or place them inside any lab glassware or equipment.</p>	<p style="text-align: center;"><b>BE CAREFUL</b></p> <p>Handle chemicals, glassware, and equipment with care.</p> 
 <p style="text-align: center;"><b>CHEMISTRY LAB</b></p> <p>Do not sniff or taste any chemicals or substances.</p>	<p style="text-align: center;"><b>TIDY UP</b></p> <p>Keep your work area neat and tidy at all times. Store bags, purses and books in appropriate areas and keep the aisles clear.</p> 
 <p style="text-align: center;"><b>SAFETY EQUIPEMENT</b></p> <p>Know where the safety equipment are located and know what to do in the event of an incident. Immediately report spills or accidents to the teacher.</p>	<p style="text-align: center;"><b>BE RESPONSIBLE</b></p> <p>Use the lab responsibly. Only conduct authorized experiments under the supervision of a teacher.</p> 

## B. Solutions/Reagents

The composition & preparation of solutions/ reagents plays an imperative role in the precision of an experiment. Therefore, for the preparation of the chemical reagents or solutions in a laboratory, a suitable proportion of chemicals and/or solvents as well as procedure is very crucial.

### Preparation of solutions

#### A. Calculation of the normality of a solution when the weight of the substance is known

$$\text{Normality} = \frac{w \times 1000}{\text{Equivalent weight}(E) \times \text{Volume (in mL)}}$$

- i. Calculate the normality of zinc sulphate solution if the salt transferred is 14.3755g in one litre solution.
- ii. Calculate the normality of potassium permanganate solution if the salt transferred is 1.5803 g in one litre of solution

#### B. Percentage composition by weight

This is expressed as the number of grams of solute per 100 g of solution.

#### C. Percentage composition by volume

This is expressed as the volume of solute and solvent, i.e. 30% ethanol solution contains 30 ml of ethanol and 70 ml of water.

#### D. Percentage strength

Number of grams of substance dissolved in 100 gm of its solution i.e. A 10% NaCl solution of sodium hydroxide means 10 g of sodium hydroxide in 100 ml of solution

#### E. Preparation of solutions by dilution for normal solutions

**Example:** Preparation of M/50 NaCl solution from M/10 NaCl solution in 250 ml standard flask.

Applying Molarity equation i.e.

$$M_1V_1 = M_2V_2$$

$$1/10 \times V_1 = 1/50 \times 250 \quad V_1 = 50 \text{ ml}$$

So, 50 ml volume of M/10 NaCl solution is required to make M/50 NaCl solution in 250 ml volumetric flask

### References/ Interesting Weblinks:

1. <https://knowledge.carolina.com/professional-growth/safety/lab-safety-dos-and-donts-for-students/>
2. [https://chem-eng.utoronto.ca/wp-content/uploads/2015/08/Lab\\_Safety\\_Dos\\_and\\_Donts.pdf](https://chem-eng.utoronto.ca/wp-content/uploads/2015/08/Lab_Safety_Dos_and_Donts.pdf)
3. <https://ehs.stonybrook.edu/programs/laboratory-safety/lab-safety-guide>

## Section 2: Handling a Spectrophotometer and quantitative biochemical assays.

### Spectrophotometer

Spectrophotometer is an instrument widely used in the laboratory for the determining the concentration of various samples based on Beer-Lamberts' law.

Beer's Law states that for a parallel beam of monochromatic radiation passing through homogeneous solution of equal path lengths, the absorbance is proportional to the concentration.

Absorbance  $\propto$  Concentration

Lambert's law states that for a parallel beam of monochromatic radiation passing through homogeneous solution of equal concentration the absorbance is proportional to the path length.

Absorbance  $\propto$  Path length

Thus, Beer-Lambert law is a combination of two laws and states that for a parallel beam of mono-chromatic radiation passing through the homogeneous solution the absorbance is proportional to the product of concentration and path length.

$$A = \epsilon_{\lambda} CL,$$

where,  $\epsilon_{\lambda}$  is molar absorbance coefficient or molar extinction coefficient for the sample (absorber) at wavelength  $\lambda$  and is constant for an organic compound at a given wavelength; C is the concentration of absorbing solution; L is the path length through the solution (or thickness)

### Components of Spectrophotometer

A spectrophotometer consists of a light source (lamp), filter, cuvette and photosensitive detector to collect the transmitted light. The solute in a cuvette can be placed between the light beam and the detector. The amount of light passing through the tube is measured by the spectrophotometer. The detector is generally a photocell whose sensitive surface receives photons and a current is generated that is proportional to intensity of the light beam reaching the surface. If development of colour is linked to the concentration of a substance in solution, then that concentration can be measured by determining the extent of absorption of light at the appropriate wavelength.

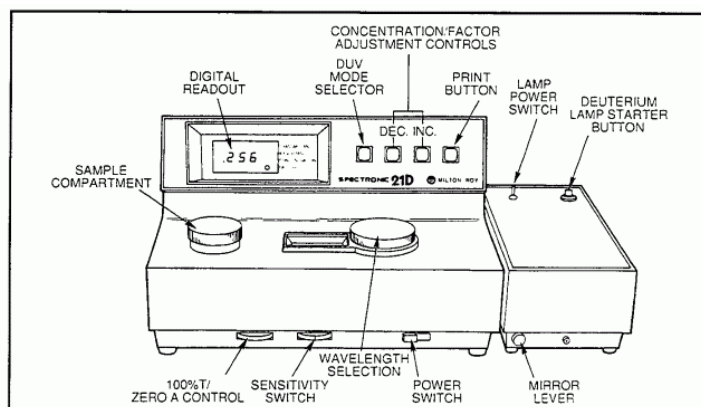
Cuvettes: Samples are typically placed in a transparent cell known as cuvette. Cuvettes are typically rectangular in shape, commonly with an internal width of 1cm. This width becomes the path length L in Beer-Lambert's law.

#### Types of cuvettes used in Spectroscopy

Glass: 380-780nm

Plastic: 380-780nm

Quartz: Below 380 nm (UV Range)



**Figure: Parts of a spectrophotometer**

### **How to determine the concentration of test protein samples using spectrophotometer**

- Various concentrations of BSA solution is prepared by diluting the working BSA standard solution with water, keeping the final volume constant. The BSA concentration range depends on the reagent selected for estimation of given protein sample
- The reagent (Biuret or Lowry's reagent) is added in equal volumes and incubate the samples for the reaction to take place.
- Similarly, reagent is added to the given test samples and incubate along with the BSA samples.
- Spectrophotometer is calibrated and specific wavelength is selected depending on colour generated by the reagent with protein samples
- Take the absorbance readings of both the standard BSA solutions and test samples by placing them in cuvette and using spectrophotometer.
- A Blank containing reagent and water (without BSA sample) is commonly used to eliminate the absorbance due to reagent or contaminants in water, thus increasing the accuracy of estimation by spectrophotometer.
- Standard graph is plotted using the reading obtained from BSA samples which is usually a straight line.
- Then the absorbance values from test samples is plotted on the standard graph and their concentration is determined.

#### **Precautions:**

- Warm up period of 15-20 mins is essential for proper working of spectrophotometer
- Cuvettes should be cleaned properly both inside and outside
- Ensure that optically polished surfaces of cuvettes are not scratched and stained with any leftover solvents
- During any measuring operation keep lid in close condition.
- If E. coli or microbial culture is used as a sample in the cuvette then it should be properly cleaned inside and outside with alcohol and should be sterilized in UV light.

#### **Applications:**

- Both Qualitative and quantitative analysis may be performed in UV/visible regions to identify certain classes of compound both in pure state and in biological mixtures. For e.g., proteins, nucleic acids, cytochromes and chlorophylls.
- It is used variedly in different branches of science as Physics, Material science. Chemistry, Biochemistry and Molecular biology.

## **Section 3: Chromatography**

Chromatography is a technique used to separate and purify molecules from a complex mixture employing a stationary phase and a mobile phase.

#### **Types of Chromatography**

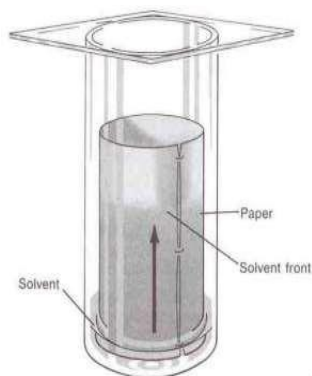
1. Paper Chromatography: Ascending and Descending Paper chromatography
2. Thin Layer Chromatography
3. Column Chromatography

## 1. Paper Chromatography

Paper chromatography can be performed in ascending or descending mode.

### Ascending Paper chromatography

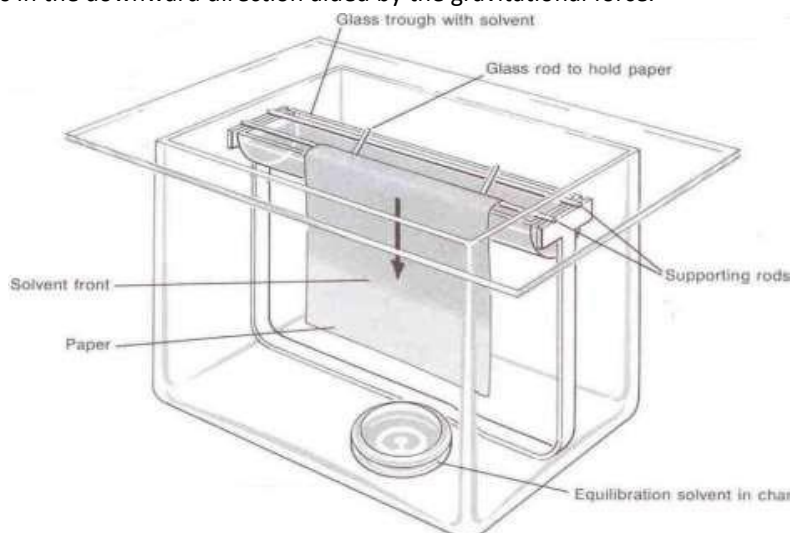
The flow of solvent is in the upward direction, against the gravitational force. The sample is loaded onto the paper or TLC plate with the help of a capillary or autopipette and developed using a mobile phase.



**Figure: Set up for Ascending Paper Chromatography (Stationary Phase- Paper, Mobile Phase-Solvent)**

### Descending Paper Chromatography

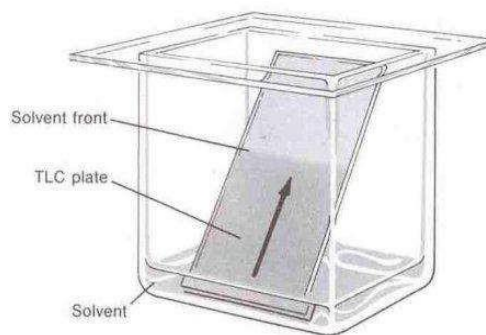
The flow of solvent is in the downward direction aided by the gravitational force.



**Figure: Set up for Descending Paper Chromatography**

## 2. Thin Layer Chromatography

Thin Layer chromatography is generally performed in ascending mode. Used for the separation of amino acids, sugars and plant pigments etc., Stationary Phase- Silica, Mobile Phase-Solvent used.



**Figure: Set up for Thin Layer Chromatography**

### 3. Column Chromatography

#### Preparation of matrix before column packing (Pretreatment of matrix)

- ✓ Gel filtration matrix need to be swollen in appropriate buffer or solvent. Adsorbents need to be activated by heat.
- ✓ Ion exchange resins to be prewashed in acid/base to obtain the required ionized form.

#### **Column Packing**

- Add glass wool and seal the bottom of column with the help of glass rod.
- Column packed by slowly adding a slurry of the material/matrix in solvent. Ensure that no air bubbles are entrapped.
- Solvent level above the material /matrix in the column is maintained at least 2 cm above packed column edge.

#### **Washing of the column**

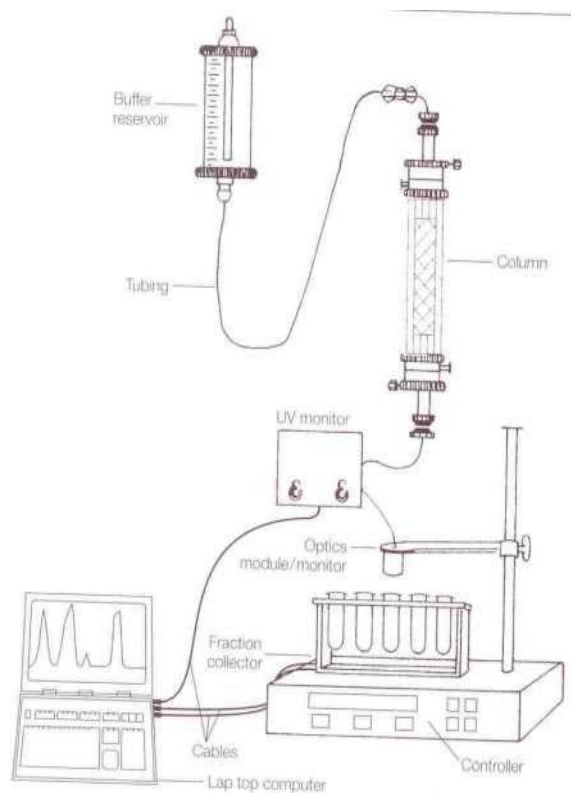
- By passing excess of mobile phase /buffer through the column.
- Regeneration of ion exchange column by washing the column with NaOH/HCl depending of the type of the matrix/material.

#### **Procedure for performing column chromatography**

- The sample is loaded on to the column
- The column is developed by passing the mobile tubes phase/buffer The fractions are collected in different
- The sample collected is detected by absorption.

**Unpacking of column:** Using glass rod, unpack slurry gently and invert into desired container using excess solvent.





**Figure: Set up for Column Chromatography**

**Chemical Stability:** Stable in all commonly used aqueous buffers and additives such as detergents (1%SDS), denaturing agents such as 8M Urea, 6 M Guanidium hydrochloride and 30% acetonitrile.

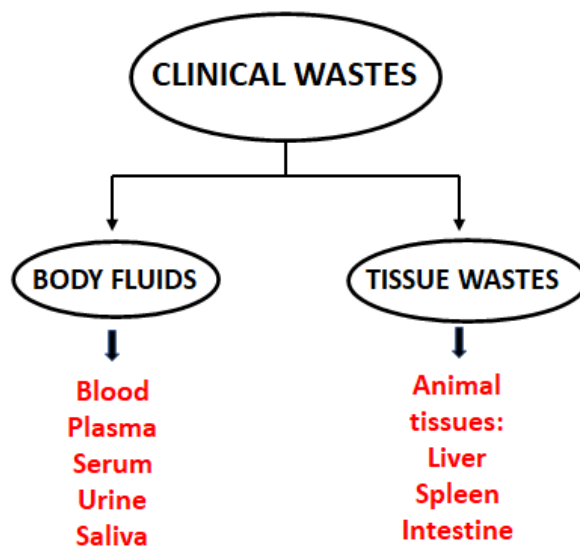
## References/ Interesting Weblinks:

1. Gel Filtration Principles and Methods (AMresham Biosciences)

## Section 4: Biological Waste Management and disposal of Lab Sharps

### ❖ What are clinical wastes in an undergraduate laboratory?

Any waste arising from medical, nursing, dental, veterinary, pharmaceutical or similar practice, investigation, treatment, care, teaching or research, or the collection of blood for transfusion is considered as a clinical waste. This waste may cause infection to any person coming in contact with it. It may also include wholly or partly of human or animal tissue, or other body fluids, excretions, or other pharmaceutical products, swabs or dressings, syringes, needles which may pose harm to others through injury or infection.



#### ❖ **Hazardous consequences of untreated clinical waste**

- ✓ Contain infectious agents;
- ✓ Be genotoxic;
- ✓ Contain toxic or hazardous chemicals or pharmaceuticals;
- ✓ Contain sharps.

##### **Immediate hazardous effects:**

Biological waste may contain pathogenic microorganisms. Pathogens in it, may enter the human body by a number of routes viz through a puncture/abrasion/ cut in the skin; through the mucous membranes; by inhalation or by ingestion.

##### **Long term hazardous effects:**

Biological waste is highly hazardous, when it is mixed with municipal solid waste and is dumped in landfills. This can also lead to environmental pollution, apart from posing serious public health risks. Animals are more susceptible to bio-medical waste ingestion and contact.

#### ❖ **Different Treatment methods for clinical waste and disposal:**

##### **Blood /Saliva/Urine Sample**

- ✓ Sample (Blood/ saliva/urine) is treated with 1% Sodium Hypochlorite or 1% Perchloric acid and then discarded in an autoclavable bag for decontamination and further placed in YELLOW color-coded bin.
- ✓ Spillage: Cover spillage with absorbent paper towels sufficient to prevent the spread of the spillage and to absorb it. Take 1% Sodium Hypochlorite or 1% Perchloric acid in paper towels and place over the spillage. Leave for 2 minutes for the released chlorine to act. Dispose of absorbent towels and gloves appropriately as biological waste in a Yellow coloured bin.
- ✓ Containers/tubes containing Blood /Saliva/Urine/any Biological Sample must be treated with 1% Sodium Hypochlorite or 1% Perchloric acid before washing or discarding.

**Animal tissues:** Frequently used animal tissues in undergraduate lab are Liver, Kidney, Spleen, intestine.

- Place all animal waste in plastic bags labeled 'ANIMAL WASTE FROM BIOSCIENCES FOR DISCARD
- Do not allow discarded animal specimens to accumulate in teaching laboratories. NEITHER THROW IN THE DUSTBIN DIRECTLY.

- Animal tissues are disposed-off by INCENERATION (Fig 2) or by BURIAL in an institutional designated space.



**Figure: Laboratory incinerator**

### ❖ **Laboratory Sharps and their Disposal**

Sharps are any object with corners, edges, or projections that when not handled properly or disposed into regular trash are capable of cutting or piercing skin of the garbage handler or tearing the trash bag.

Examples of sharps:

- Hypodermic needles, Syringes, including tubing, with or without needles, Blades (scalpels, razors)
- Sharp wires and appliances
- Glass capillary tubes, Microscope slides and covers contaminated with an infectious agent, Pasteur pipettes contaminated with an infectious agent
- Serological pipettes contaminated with an infectious agent
- Laboratory glassware contaminated with an infectious agent
- Pipette tips contaminated with an infectious agent
- 'Plasticware' made from plastic polymers which shatter on breakage (culture flasks, petri dishes)

### ❖ **How do you dispose sharps?**

Sharps can be separated into 3 categories

- Contaminated with Biological wastes like tissue pieces, body fluids or microbial agents
- Contaminated with Chemical waste
- Non-Contaminated

- ✓ Non- contaminated sharps can be disposed directly into a '**Sharps Container**'.
- ✓ Contaminated sharps need to be processed before disposal.

### ❖ **Procedure for processing biological waste contaminated sharps**

Biohazardous waste containing sharps that must be sterilized prior to disposal:

- ✓ Autoclave using standard operating procedures established for the sterilizers being used.
- ✓ Chemical sterilization through the use of appropriate disinfectant e.g.10% Sodium Hypochlorite (bleach), quaternary ammonia compounds and glutaraldehyde

**Once processed the sharps may be disposed into a Sharps container**

### ❖ What is a Sharps container?

Sharps containers are boxes of varied dimensions having required specifications. All sharp containers must meet the following standards; they should be:

- ✓ Rigid, non-breakable and puncture resistant
- ✓ impervious to moisture and leak proof
- ✓ have a self-closing lid
- ✓ red in colour with a universal biohazard label / chemical waste label.

### ❖ Sharp containers MUST:

- Be stored near where the waste is generated and segregated from other waste
- Have their lids in place while in use

### ❖ Sharps containers MUST NOT:

- be filled greater than the 2/3 fill line
- be discarded in the regular trash
- contain free liquids, such as full culture tubes or filled syringes



Figure: Sharp cutters and disposal bags

## Section 5: Agarose Gel Electrophoresis

### Agarose Gel Electrophoresis

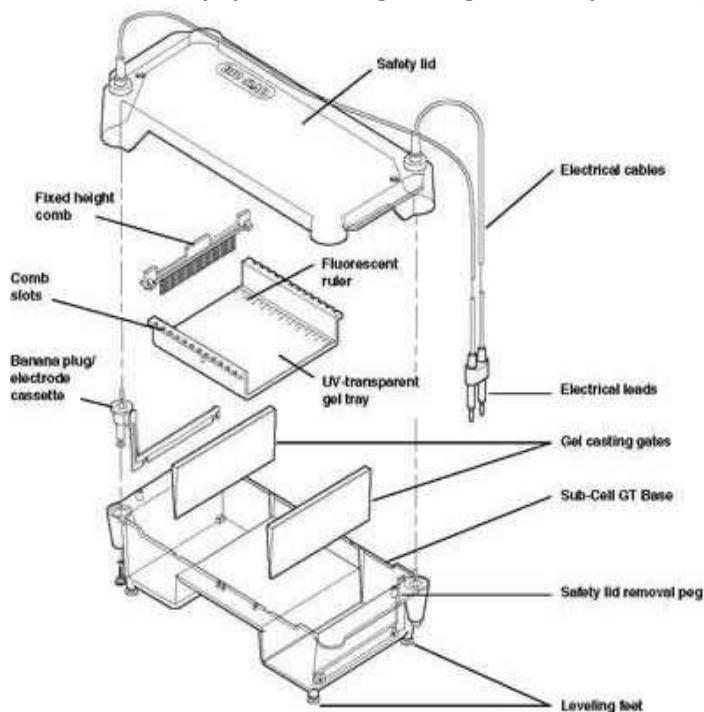
Agarose gels are more porous and have a larger pore size as compared to polyacrylamide gels and are therefore used to fractionate large macromolecules such nucleic acids. Agarose gels are cast by boiling agarose in the presence of buffer, poured into a gel tray and allowed to form a gel matrix. Porosity is determined by the concentration of agarose. When electric current is applied across the gel, DNA molecules that are negatively charged at neutral pH migrate towards the anode at rate determined by their molecular weights. DNA molecules of the same size but different conformations travel at different rates.

### Principle



Any charged ion or molecule migrates when placed in an electric field. The rate of migration of a compound depends on its net charge, size, shape and the applied current. Molecules with different charge/mass ratio migrate under the electric field at different rates and hence get separated.

#### Instrument: Equipment for agarose gel electrophoresis (Fig)



#### Preparation and Running of Agarose gel

1. Weigh 1g agarose in 100 ml 1X TBE buffer to make 1% agarose solution. Heat the mixture in boiling water bath or microwave until the solution becomes clear. Handle with proper gloves to prevent burns.
2. The clean casting gel tray is sealed with scotch tape on the ends. It is placed horizontally on the table. Position the comb above the plate so that the comb does not touch the bottom surface such that an intact well is formed and gel also doesn't break while handling.
3. Allow solution to cool to about 60°C before pouring. Hot agarose (60 °C) may cause the tray to deform and this will decrease the lifetime of the tray. Add Ethidium bromide to the warm gel solution (discard the tips in Biohazard waste).
4. Pour warm agarose solution into the gel tray slowly. Allow the gel to solidify at room temperature.
5. To run, remove the scotch tape and place gel tray in an electrophoresis chamber and fill with electrophoresis buffer to submerge the gel. Now gently remove the comb.
6. Connect the electrodes. Attach the wires correctly; match the red and black jacks on the electrodes with the red and black plugs of the power pack.

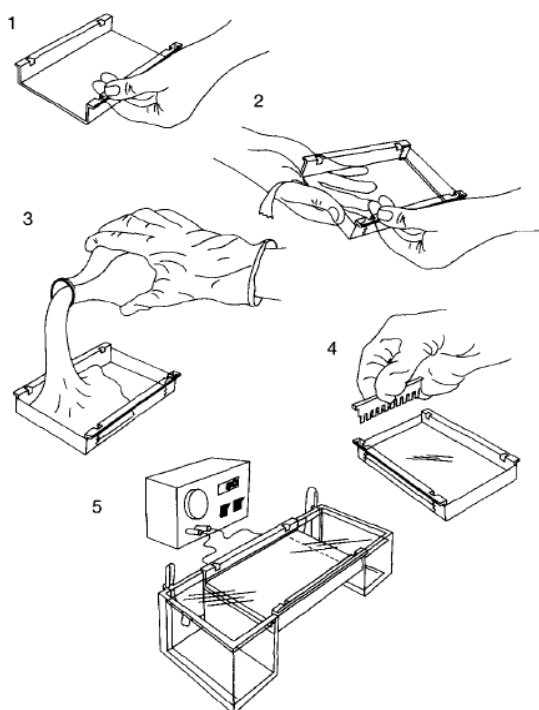
7. Switch on power supply and check for formation of bubbles under the electrodes. Switch it off before loading the samples.

8. **Loading the samples:** To prepare samples for electrophoresis, add 1  $\mu\text{l}$  of 6x gel loading dye for 5  $\mu\text{l}$  of DNA solution. Mix well. Load the DNA in the well with help of a micropipette. Note: Sample wells are often difficult to see. Well visualization can be enhanced by placing black paper or tape under the base or trays.

9. Place the lid on the DNA cell carefully. Do not disturb the samples. Set power supply at 50 volts and allow the gel to electrophorese until dye markers have migrated an appropriate distance.

10. Turn off the electric current and remove the gel from the gel tank, with gloved hands.

11. Analyze the gel by placing it on the UV transilluminator.



## Precautions

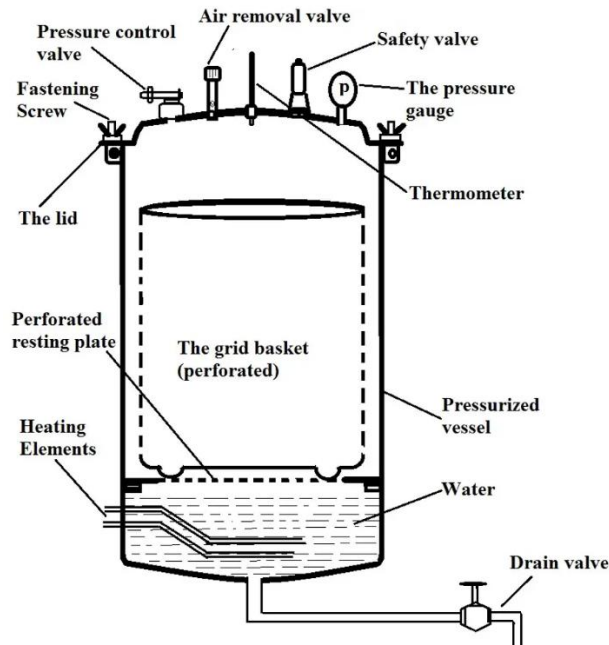
1. Ethidium bromide is a suspected carcinogen and should be handled with extreme care.
2. Do not touch the gel when electric current is ON.
3. Always wear gloves, eye glasses, and a laboratory coat.
4. Do not look at UV radiations with naked eyes.
5. Dispose-off all tips and used gels in Biohazard waste appropriately.
6. Melted agarose spillage can cause burns. Use mittens while handling hot solutions. Do not swirl it while it is veryhot.

## Section 6: Autoclave: Working and Maintainace

### Principle of Autoclave

Vegetative cells of bacteria and fungi get killed at lower temperatures, but the endospores do not. Temperatures higher than 100°C are required to kill endospores. At sea level the atmospheric pressure does not allow water to attain a temperature higher than 100 degrees. To achieve this high temperature, high pressure is created. The

autoclave works on the principle of steam sterilization. Water is added to immerse the element and it is boiled. Steam leaves the jacket of the autoclave and enters into the chamber. The air present in the chamber is forced out, until the chamber is filled with saturated steam. The steam outlet is sealed at this point, with a valve. The pressure increases inside the chamber until it reaches 15 lb/sq inch, after which it is maintained at this pressure for 15 minutes.



### Items that can be autoclaved:

1. cultures and stocks of infectious material
2. culture dishes and related devices, glassware, media, aqueous solutions, equipment
3. discarded live and attenuated vaccines
4. contaminated solid items such as: petri dishes, Eppendorf tips, pipettes, gloves, paper towel

### Items that CAN NOT be autoclaved are:

1. Materials containing: solvents, volatile, chlorinated compounds (HCL, bleach) or corrosive chemicals (such as: phenol, trichloroacetic acid, ether, chloroform) etc.
2. material contaminated with chemotherapeutic agents, radioactive material (without prior approval)
3. some plastics (Polyplastics are autoclavable)

### Here are some fundamental rules:

1. Load the material in such a fashion to present the least resistant passage of air exchange through the load, from the top of the chamber to the bottom.
2. Avoid crowding or stacking. Place packages on their edges to enhance steam penetration, place a rack or other item against these items to prevent them from slipping.
3. Place empty flasks, test tubes or other non-porous containers on their sides with loose covers. This provides a horizontal pathway and prevents trapping air pockets.

## References/ Interesting Weblinks:

1. Sambrook J, Russell DW. Molecular Cloning. 3rd 2001.
2. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4846332/>

## Section 7: Microscopes

### Microscopes:

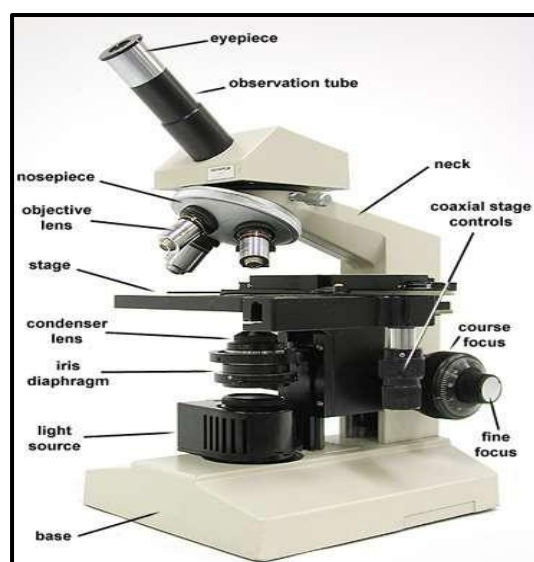
Microscope is an essential tool in the study of life sciences and allows the visualization of things that are too small to be seen with unaided eye. It helps to increase resolving power of human eye which fails to recognize objects lying closer between 0.01 to 0.25 mm.

Some common types of microscopes are listed below.

1. Dissecting Microscope
2. Compound Microscope (Light Microscope)
3. Binocular Microscope
4. Phase contrast Microscope
5. Fluorescence Microscope
6. Electron Microscope (TEM, SEM)

### Compound Microscope (Commonly used in the undergraduate Laboratory)

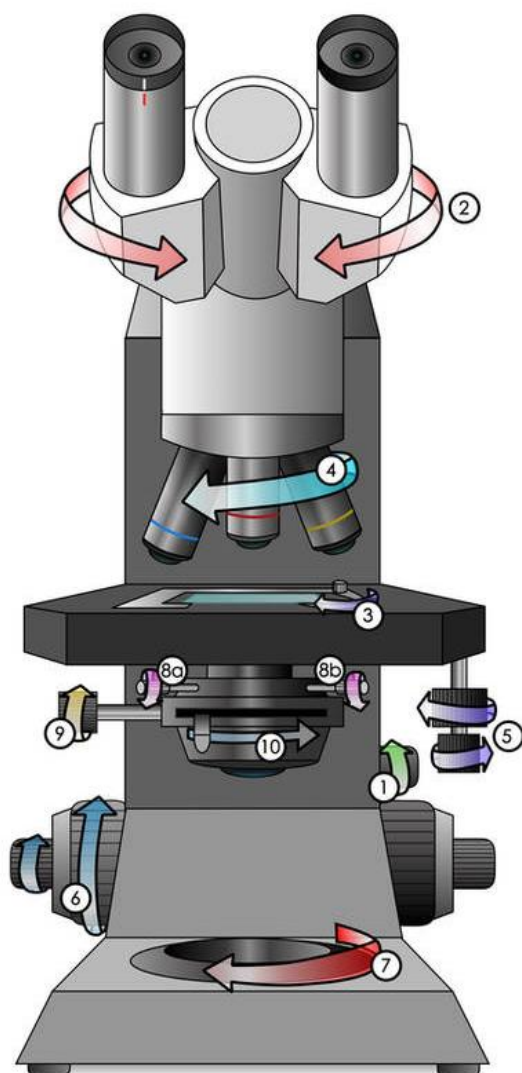
These are called Compound light microscopes because they have two lens systems, viz., the oculars and the objectives.



**Figure: A Compound Microscope (Electric Lamp as Light Source)**



## SETTING UP YOUR MICROSCOPE



- ① Turn on the power switch at the back of the microscope and turn up light using dial
- ② Align eyepieces while looking through them, to line-up the two bright circles until they overlap
- ③ Place slide flat on platform and clip into place using this arm mechanism
- ④ Turn turret to select a low power objective; this will lock into position
- ⑤ Move platform using dials to place slide specimen directly under objective
- ⑥ Focus on specimen using wheels on either side; if this is not possible, continue to step 7
- ⑦ Close aperture while looking through the eyepieces
- ⑧ If a bright circle is not visible in exact centre of view, use dials 8a and 8b to align this centrally
- ⑨ Focus the circle of light seen through the eyepieces using this dial, then open aperture 7 until the edges of this circle are outside your field of view
- ⑩ Open this aperture fully, then close down by a quarter turn to increase contrast

**Table : Microscope Parts and Functions**

Parts	Functions
Body Tube	It is part of microscope that holds the eye piece.
Arm	The arm connects the body tube to the base. It is this part that a user holds to move the microscope from one place to another.
Base	It is the lowest portion on which the whole structure of the microscope rests.
Eyepiece	It is through the eyepiece that we look at the specimen placed on the stage of the microscope. It contains two or more lenses. The most common magnification for the eyepiece is 10X. However, they can also be 2x and 5x. An eye piece is a removable part that can be interchanged with another one of a different magnification.

Objective Lenses	There are more than one objective lenses. These are primary lenses of a compound microscope and can have magnification of 4x, 5x, 10x, 20x, 40x, 50x and 100x. The magnification values are written on the side of each lens. The objective turret to which these lenses are attached, can be rotated with hand to get the lens of desired magnification to focus on the object.
Stage	It is platform below the objective lens on which the object to be viewed is placed. There is a hole in the stage through which light beam passes and illuminates the specimen that is to be viewed
Stage Clips	There are two stage clips one on each side of the stage. Once the slide containing the specimen is placed on the stage, the stage clips are used to hold the slide in place.
Diaphragm	It is located on the lower surface of the stage. It is used to control the amount of light that reaches the specimen through the hole in the stage.
Illuminator	Simple compound microscopes have a mirror that can be moved to adjust the amount of light that can be focused on the specimen. However, some advanced types of compound microscopes have their own light source.
The Adjustments	There are two adjustment knobs, the fine adjustment knob and the coarse adjustment knob that refine the focus of the lenses. The coarse adjustment knob helps in improving the focus of the low powers whereas the fine adjustment knob helps in adjusting the focus of the lenses with higher magnification.
Condenser (Light Microscope)	It illuminates the specimen and controls the amount of light and contrast.
Two-Sided Mirror (Light Microscope)	It is the simplest illuminator, reflects light upward through the diaphragm. The two-sided mirror provides necessary illumination through reflection of natural or artificial light. It has two surfaces, one plain for artificial light and other concave for natural light. It is supported on two sides by a fork fixed on a mount in a way that permits free rotation.

## **Microscope Maintenance and Cleaning**

Microscope is a precise optical instrument; it is very important for routine maintenance as well as operating correctly. Good maintenance can extend the microscope's working life and ensure the microscope is always in good working condition.

### **Maintenance and Cleaning**

1. Adjust the light to the darkest before turning off the microscope.

2. When the microscope is powered off, cover it with dust cover after the light source is cool about 15 minutes.
3. When the microscope turns on, you can adjust the light to the darkest if you will not operate it temporarily thus there will be no need to turn on or turn off the microscope repeatedly.
4. Keeping optical elements clean is important to ensure good optical performance, the microscope should be covered by the dust cover when not working.
5. Clean the objectives using a moist lint-free cloth or cotton swab with cleaning liquid. Do not use excessive liquid to avoid the clarity influence because of liquid penetration.
6. The eyepiece and objective are easily smudged by dust and dirt. When the contrast and clarity decrease or fog comes out on the lens, use the magnifier to check the lens carefully.
7. Low magnification objective has a big group of front lenses, use a cotton swab or lint-free cloth wrapped around the finger with ethanol and clean gently.
8. After using 100X objective with oil immersion, please make sure to wipe the lens surface clean. Also, check if any oil on the 40x objective and wipe it clean in time to make sure the image is clear.
9. Use cotton swab dip with a mixture of Ether and Ethanol (2:1) for optical surface cleaning. Clean from the center toward the edge in concentric circles can eliminate the watermarks.
10. Keep the working condition dry to prevent chance of mildew growth. If the microscope must work in such a humid environment, the dehumidifier is suggested. In addition, if mist or mildew is found on the optical elements, please contact us immediately for professional solutions.



## References/ Interesting Weblinks:

1. <https://evolveltd.eu/microscopes-2/>
2. <https://medicanix.com/news-and-blog/use-care-and-maintenance-of-a-microscope>
3. <https://www.youtube.com/watch?v=bKdrAPGImcs>
4. <https://www.labomed.com/pdf/Microscope-Maintenance-and-Cleaning.pdf>



# DEPARTMENT OF BOTANY

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## Session 1: Preparation of Herbarium and its maintenance

### INTRODUCTION

A herbarium (plural herbaria) is a storehouse of dried plant specimens collected from far and wide, mounted on appropriate sheets, arranged according to some known system of classification and kept in pigeonholes of steel or wooden cup-boards and are generally associated with botanic gardens and educational or research organizations.

#### 1. OBJECTIVES:

- To provide facilities for determination of any material including new taxa.
- To enable preparation of new monographs and floras.
- To preserve specimens of historic importance.
- To understand the importance, procedure of herbarium preparation and maintenance of Herbarium.

#### 2. METHODOLOGY:

##### Herbarium sheet:

The general size of the mounting board or herbarium sheet is 42 x 28 cm. The label with the size of 12 x 8 cm is generally pasted on the bottom right hand corner of the mounting board. The specimen is pasted as far as possible in the middle, field number at middle of left margin and accession number and/or barcode at right top of the herbarium sheet.

##### Collection:

There are three ways of collecting the plant specimens in the field.

1. If the trip is for one day, one can carry the plant press and newspapers or blotters. The specimens are pressed then and there in the field.
2. The second method is to keep the collected specimens in metal can called Vascuum. Wet newspapers must be placed inside the Vascuum to keep the specimens cool. The plants kept in the Vascuum must be transferred to newspaper that day itself or the Vascuum along with the plants may be kept in a cool place overnight.
3. Now-a-days polythene bags are available and they are of varying sizes. The collected plants are placed inside and the mouth is tied tightly. This is easy to carry and there will be no serious loss of the plant material kept inside. The plants can be pressed after reaching the headquarters.

A very important part of the plant collection work is the recording of field notes. Detailed notes should be entered in the field note-book at the time of collection in the field itself. Generally, the following details should be recorded in the field notebook. a) Date b) Vernacular name c) Locality d) Habitat e) Description f) Collector's name, etc.

##### Processing of specimens:

The processing of specimens includes a. Poisoning, b. Pressing, c. Drying, d. Mounting, e. Stitching, f. Labelling, g. Identification / Determination of plants, h. Incorporation and i. Arrangement.

- a. **Poisoning:** The poisoning is generally done by dipping the whole plant in a saturated solution of mercuric chloride in ethyl alcohol.
- b. **Pressing:** It is the process of placing specimens between the absorbents under heavy pressure. All plant parts such as leaves and flowers etc. are spread out neatly. Some leaves are placed facing up and others facing down to show the characters on both surfaces.
- c. **Drying:** Plants should be placed in the press and be tightened. The faster the drying, greater will be the quality of the dried specimen.
- d. **Mounting:** After the specimen is pressed, dried and poisoned, it is affixed along with a label on a mounting sheet. The mounting sheets are made from heavy long-lasting white card sheet in uniform size of 28 x 42 cm. The common technique now in use in our country is pasting specimens to sheet with glue.
- e. **Stitching:** The stitching should be small and independent and thread should not be carried from one stitch to another on the lower side of the mounting sheet. A knot is put at the back and thread is cut after each knot.
- f. **Labelling:** Herbarium label is fixed on the bottom right hand corner about 1 cm away from edges of the mounting sheet. The size and design of herbarium labels slightly vary according to need. Size is about 8 x 12 cm. In general, the label should contain the following data. 1. Name of the family, 2. Name of the genus and species, 3. Locality of collection, 4. Date of collection, 5. Habitat, 6. Collector's name and field number and 7. Vernacular name and local uses.
- g. **Identification:** For the purpose of identification, the scientific method is to first study the characters of the plant, check them with the flora of the region, work through the family, genus and species keys and compare with full description and illustration.
- h. **Incorporation:** The mounted, identified and accessioned herbarium sheets are sorted out family, genus and species wise. All the sheets of the same species are filed in lighter covers called the "species cover or folders"; and all the species (with species covers or folders) belonging to one genus are placed in one more folder of heavy paper called the genus cover.

### **Herbarium Maintenance:**

- Contact insecticides used in herbaria are Cyanide gas, Paradichloro benzene (PDB), Carbon dioxide or DDT. Digestive poisons are the salts of Mercury and Arsenic. Mercuric chloride is the insecticide.
- Handling of specimens should be done with care without damaging the specimen as it has to be stored for longer periods for the use by students, scholars, scientists etc.

### **3. OUTCOMES:**

- After going through the session one can understand the importance of Herbarium, its preparation and maintenance.
- This helps in handling the herbarium specimens in future.

## Session 2: College Campus tour for the Identification of Plants

### INTRODUCTION:

Identification of Plants that are used in the laboratory is a key aspect to a lab staff as they are supposed to bring the concerned plants to lab during practicals.

### 1. OBJECTIVES:



- To identify the plants those are generally used in the practicals.
- To identify the plants present in the garden and the college campus, and to remember them either with botanical names or vernacular (common) names.

### 2. METHODOLOGY:

Identifying and documenting the plant species through photographs as well as garden and campus tour.

Interactive session while touring by explaining the plant species details like Botanical name, vernacular name (in both English and Hindi), important features of the plant (like morphological features, medicinal importance, floral characters, ecological importance etc.)

### Procedure:

<p>Botanical name: <i>Catharanthus roseus</i></p> <p>Vernacular Name: Madagascar periwinkle, Sadabahar</p> <p>Identification features: Herb (20–40cm tall), simple leaves, solitary flowers (in different colours)</p>	
<p>Botanical Name: <i>Hibiscus rosa-sinensis</i></p> <p>Vernacular Name: Shoe flower,</p> <p>Identification features: Shrub, simple leaves, branched, solitary flowers (in different colours).</p>	

<p>Botanical Name: <i>Tagetes erecta</i></p> <p>Vernacular name: Marigold, Genda phool</p> <p>Identification features: Herb, pinnate leaves, Head inflorescence (ball like appearance in different colours like golden, yellow, orange etc.).</p>	
<p>Botanical Name: <i>Aegle marmelos</i></p> <p>Vernacular Name: Bael</p> <p>Identification features: Tree, woody, branched, spiny, trifoliate leaves, flowers small in drooping clusters, fruits are globose or pear shaped with orange pulp.</p>	
<p>Botanical Name: <i>Hydrilla verticillata</i></p> <p>Vernacular Name: Hydrilla, water thyme</p> <p>Identification features: Aquatic, leaves- 5-8 in. long, thin stems, submerged in water with white flower floating at the surface of water</p>	

### 3. OUTCOMES:

- One gets acquainted with the commonly used laboratory plants, their names and identification.
- This helps in bringing correct plant material to the practicals in the future.



## Session 3: [Preparation of EDTA and optimization of its pH for isolation of DNA]

Ethylenediaminetetraacetic acid (EDTA) serves as both a ligand and chelating agent, exhibiting particular effectiveness in the sequestration of metal ions such as calcium ( $\text{Ca}^{2+}$ ) and iron ( $\text{Fe}^{3+}$ ). Below is the laboratory procedure for preparing a 0.5M EDTA solution with a pH of 8.0

### Solution Materials

186.1 grams EDTA (disodium ethylenediaminetetraacetate•2H<sub>2</sub>O) , 800 milliliters distilled water Sodium hydroxide (NaOH) solution or solid (to adjust pH)

### Calculate the amount of Na<sub>2</sub>EDTA needed using the formula:

$$\text{Mass (g)} = \frac{\text{Molarity (M)} \times \text{Volume (mL)}}{\text{Molecular Weight} \times 1000}$$

### Procedure

#### Weighing EDTA:

- Stir 186.1 g of disodium ethylenediaminetetraacetate•2H<sub>2</sub>O into 800 ml of distilled water.

#### Stirring:

- Vigorously stir the solution using a magnetic stirrer.

#### pH Adjustment:

- Add NaOH solution to adjust the pH to 8.0.

(If using solid NaOH pellets, use 18 to 20 grams, adding the last portion slowly to avoid overshooting the pH.

Consider switching from solid NaOH to a solution for more precise control as the pH approaches 8.0.)

#### Dilution:

- Dilute the solution to a final volume of 1 L with distilled water.

#### Filtering:

- Filter the solution through a 0.5-micron filter for clarity.

#### Dispensing:

- Dispense the prepared solution into containers as needed.

#### Sterilization:

- Sterilize the solution in an autoclave.

## Session 4: Preparation and Applications of Fixatives and Stains

### Fixing Agents and Preservatives

Chemicals which do not cause any structural disturbance or distortion of the material used for the preservation of plants or plant parts (collected fresh) for a long time period are called as Fixing agents. Plants are generally fixed immediately after collection but these can also be fixed after bringing them to laboratory. The collected material must always be kept completely immersed in preservatives. For this purpose, some commonly used fixing agents are mentioned in the following table:

S.No.	Name of the fixative	Composition		Applications
1.	Carnoy's Fluid	100% ethyl alcohol	30 ml	Great penetrating power and used for root tips, anthers etc.
		Glacial acetic acid	5 ml	
		Chloroform	15 ml	
2.	Formalin-Aceto-Alcohol (FAA)	50% or 70% ethyl alcohol	90 ml	A universal fixative. It is the most extensively used fixing and killing agent.
		Glacial acetic acid	5 ml	
		Formalin	5 ml	
3.	Formalin-Propino-Alcohol	Propionic acid is used instead of acetic acid in FAA		Can be used as substitute of FAA

### Stains

The stains are chemicals that help to distinguish different tissues, cells or inclusions from one another by developing specific colours. Most of the stains are specific in reaction and are purposely used so that definite structures or substances are stained. Staining can be defined as a technique which is used to enhance and contrast a biological specimen or cells at the microscopic level. Stains and dyes are used to highlight the specimen at the microscopic level to study it at higher magnification. The following table provides an insight into some of the stains used commonly in botany laboratories:

S. No	Name of the Stain	Composition	Applications	Mounting Medium
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1.	Safranin	Safranin	1 gm	Filaments of algae, sections of bryophytes, spores of pteridophytes, pollen grains of gymnosperms, etc.	Lactophenol or Glycerine
		Alcohol 95%	50 ml		
		Distilled water	50 ml	It allows easy and rapid detection of the plant's xylem tissue (the dead components). It gives a bright red color on binding with the <b>lignified cell walls</b> (secondary walls).	
2.	Cotton blue	Aniline blue	1 gm	To stain filaments of fungi. Phenol kills the organisms while lactic acid preserves fungal structures, and cotton blue stains the chitin found in the <b>fungal cell walls</b> .	Lactophenol
		Alcohol 90% or water	100 ml		
3.	Acetocarmine	Acetocarmine	1 gm	Acetocarmine is a <b>DNA specific stain</b> like feulgen stain, so the super coiled chromosomes during different stages of mitosis or meiosis can be visualized perfectly by treating with this stain.	None
		Boiling 45% acetic acid (or propionic acid)	100 ml		
		Cool and decant			
		Add few drops of saturated ferric acetate			
		Cool by keeping in ice for 12 hours			
		Filter and store in refrigerator(in dark bottle)			
4.	Fast green	Fast green	0.5 gm	Used in counter staining. Alcian blue (or fast green) to stain <b>non-lignified cell walls</b> (primary cell walls). It gives a bright green colour to cellulose cells and cytoplasm.	Glycerine or Canada Balsam
		Alcohol 90%	100 ml		
5.	Gram's iodine	Iodine	2 gm	Iodine stains <b>starch granules</b> within the cell and gives a blue black color.	None
		Potassium iodide (KI)	3 ml		
		Distilled water	300 ml		

Stains can be used singly or in combination. Two or more stains are employed wherever tissue differentiation is found. Combination of acidic and basic dyes of contrasting colours is of general use. This permits the distinction of woody tissue from non-woody tissue. The combinations like safranin and fast green (Safranin stains xylem red and fast green stains phloem green) or safranin and aniline blue are often used in preparation of various slides.

## Session 5: Understanding lab equipments like Autoclave, Laminar Air Flow and Colorimeter

### 1. Autoclave

An autoclave is a device that is used for sterilization. Sterilization is the process of killing or eliminating all forms of microbial life, including bacteria, viruses, and spores. It is widely used in various fields such as medicine, microbiology, dentistry, and veterinary science. The principal of autoclave is the use of high pressure and steam to achieve effective sterilization. An autoclave is a device that works on the principle of moist heat sterilization, wherein saturated steam is generated under pressure in order to kill microorganisms such as bacteria, viruses, and even heat-resistant endospores. This is done by heating the instruments within the device to temperatures surpassing the boiling point of water.

According to gas laws, the higher the pressure within the device, the higher the temperature increases. In other words, pressure and temperature are directly proportional to each other. It is also important to note that it is the temperature that kills the microorganisms, not pressure. Rather, higher pressures are capable of increasing the boiling point of water, which thus increases the temperature of sterilization. High pressure also helps heat to rapidly spread within the material.

Steam sterilization is effective because the moisture of the steam helps coagulate the proteins that microbes thrive on. Coagulating the proteins disables the microbes and eventually kills them. Autoclaves typically yield **a temperature of about 121 degrees Celsius, taking about 15-20 minutes** to complete the sterilization process.

Autoclaves thus work on 3 factors namely: pressure, temperature, and time. These three factors all work together to create saturated steam, within a particular time frame, that can kill all signs of microbial life, whether they are in vegetative or spore form.





**Figure: Autoclave**

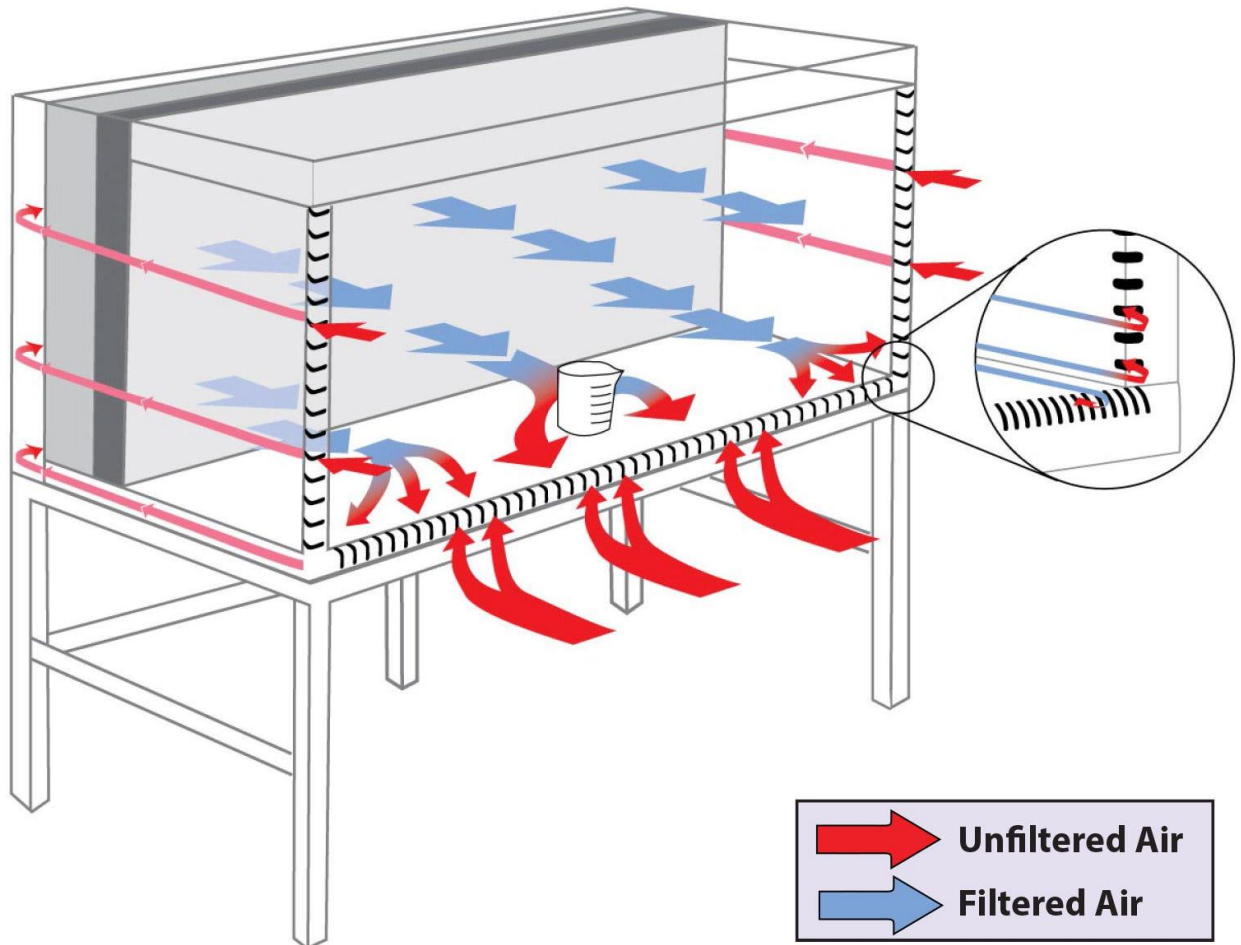
### **Applications:**

Autoclaves are important devices to ensure aseptic conditions. They are used for various purposes viz.

1. They are used to decontaminate specific biological waste and sterilize media, instruments, and lab ware.
2. Regulated medical waste that might contain bacteria, viruses, and other biological materials are recommended to be inactivated by autoclaving before disposal.
3. In medical labs, autoclaves are used to sterilize medical equipment, glassware, surgical equipment, and medical wastes.
4. Similarly, autoclaves are used for the sterilization of culture media, autoclavable containers, plastic tubes, and pipette tips.

## **2. Laminar Air Flow**

A Laminar flow hood/cabinet is an enclosed workstation that is used to create a contamination-free work environment through filters to capture all the particles entering the cabinet. These cabinets are designed to create a microbe free environment and are most useful for the aseptic distribution of specific media and plate pouring.



**Figure: Laminar Air Flow**

The principle of laminar airflow involves the movement of air in parallel layers with a consistent velocity, typically unidirectional. The key features of LAF are as follows:

- A. **Unidirectional Airflow:** Laminar airflow cabinets create a controlled environment where air moves in a single direction, usually from the top of the cabinet to the bottom. This unidirectional flow helps to minimize the risk of contamination by preventing airborne particles from entering the work area.
- B. **UV lamp:** Some laminar flow hoods might have a UV germicidal lamp that sterilizes the interior of the cabinet and contents before the operation. The UV lamp is to be turned on 15 minutes before the operation to prevent the exposure of UV to the body surface of the user.
- C. **HEPA or ULPA Filters:** Laminar airflow cabinets are equipped with high-efficiency particulate air (HEPA) or ultra-low penetration air (ULPA) filters. These filters remove particulate matter from the incoming air, ensuring that the air inside the cabinet is free from contaminants. HEPA filters typically remove particles as small as 0.3 micrometers, while ULPA filters are even more efficient.
- D. **Filtered Air Supply:** The laminar airflow cabinet draws in ambient air through the filters, which capture and remove airborne particles. The clean, filtered air is then directed over the work surface in a laminar flow pattern, providing a sterile environment for activities such as cell culture, sample preparation, or other sensitive procedures.

E. **Work Zone Sterility:** The area directly under the laminar flow of filtered air is considered the "work zone." This is the region where materials and samples are handled to maintain sterility. Items placed in this area are exposed to a constant stream of clean air, minimizing the risk of contamination.

F. **No Recirculation:** Laminar airflow cabinets are designed to prevent the recirculation of air within the workspace. Once the air passes through the filters and flows over the work surface, it is typically exhausted to the surrounding environment or may undergo additional filtration before being recirculated.

G. **Proper Personnel Technique:** Users of laminar airflow cabinets need to follow specific techniques to maintain the integrity of the controlled environment. This includes avoiding sudden movements that could disrupt the airflow and working with materials in a way that minimizes the generation of airborne particles.

Laminar airflow cabinets are essential tools in research and healthcare settings where aseptic conditions are crucial. They are commonly used in microbiology, pharmaceuticals, electronics, and other industries where maintaining a clean and controlled environment is essential for experimental procedures or manufacturing processes.

### **Applications of Laminar Air Flow**

- **Microbiological Work:** Laminar airflow cabinets are extensively used in microbiological laboratories for activities such as bacterial and cell culture work, as well as the handling of sensitive microorganisms. The sterile environment created by laminar airflow helps prevent contamination and ensures the reliability of experimental results.
- **Medical Laboratories:** Laminar airflow cabinets are used in medical laboratories for various purposes, including the preparation of tissue cultures, handling of diagnostic samples, and other procedures that require a sterile environment to prevent cross-contamination.
- **Biotechnology and Genetic Research:** Laboratories involved in biotechnology and genetic research utilize laminar airflow cabinets for tasks like tissue culture, DNA manipulation, gene cloning, and other molecular biology techniques. The controlled environment helps protect the integrity of genetic samples and experimental setups.
- **Research and Development:** Laminar airflow cabinets are used in research and development laboratories across different scientific disciplines. Researchers may utilize these cabinets for tasks such as sample preparation, cell culture work, and other experiments that demand a contaminant-free environment.

### **3. Colorimeter**

Colorimeter is an instrument which works by using the interaction of light energy with colored solutions of certain molecules or colored products of their reaction. A colorimeter is a device used to measure the concentration of a solution by determining the intensity of color. The principle of a colorimeter is based on Beer's Law, which states that the absorbance of a solution is directly proportional to the concentration of the absorbing substance in the solution.

Beer's Law, also known as the Beer-Lambert Law, states that the absorbance (A) of a solution is directly proportional to its concentration (C) and the path length (l) of the light passing through the solution. Mathematically, Beer's Law is expressed as:

$$A = \epsilon \cdot l \cdot C$$

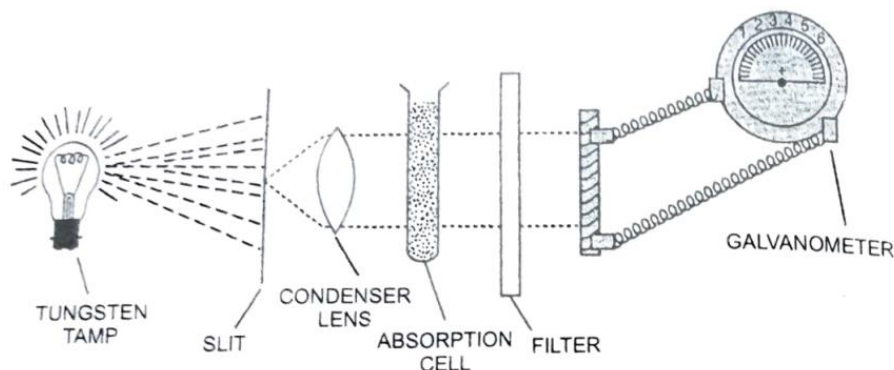
where:

A is the absorbance,

$\epsilon$  is the molar absorptivity (a constant for a particular substance and wavelength),

$l$  is the path length of the light through the solution,

$C$  is the concentration of the absorbing substance.



**Figure: Components of a Colorimeter**

A typical colorimeter has the following parts:

1. Light source: Colorimeters typically use a light source that emits light of a specific wavelength, often in the visible range. The light passes through the solution being analyzed.
2. Filter (the device that selects the desired wavelength): Filters are used to select the appropriate wavelength of light that corresponds to the maximum absorption of the solute.
3. Cuvette chamber (the transmitted light passes through compartment wherein the solution containing the colored solution are kept in cuvette, made of glass or disposable plastic)
4. Detector (this is a photosensitive element that converts light into electrical signals): A photodetector, such as a photodiode or a photomultiplier tube, measures the intensity of the light that passes through the solution. The amount of light absorbed by the solution is directly related to the concentration of the absorbing substance.

### Applications:

Colorimeter is a versatile instrument used across various scientific, industrial, and medical fields, where the measurement of color or absorbance provides valuable information for analysis, quality control, and diagnostics.

- Colorimetry is utilized in medical diagnostics for various tests, including urine analysis, blood tests, and detection of specific markers or pathogens. Pregnancy tests, for example, often use colorimetric reactions to indicate the presence of certain hormones.
- In food and Beverage Industry colorimetry plays a crucial role in quality control. It is used to assess the color of food products, ensuring consistency and quality. Additionally, colorimetric methods are employed for the analysis of components like sugars, fats, and proteins.
- Chlorophyll Content Measurement: Colorimeters are used to assess the chlorophyll content in plant tissues. Chlorophyll absorbs light in specific wavelengths, and colorimetry allows researchers to quantify chlorophyll concentrations in leaves or other plant parts. This measurement provides insights into photosynthetic activity and overall plant health.

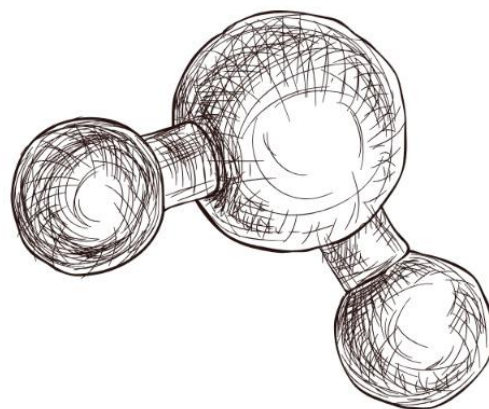


- **Total Protein Content:** Colorimetric methods are applied to determine the total protein content in plant samples. This information is valuable for assessing the nutritional status of plants and understanding protein-related metabolic processes.
- **Assessment of Anthocyanin and Carotenoid Levels:** Colorimeters help quantify the levels of pigments such as anthocyanins and carotenoids in plant tissues. These pigments play roles in stress responses, photosynthesis, and protection against oxidative damage.
- **Phenolic Compound Analysis:** Colorimetry is used to measure the concentration of phenolic compounds in plants. Phenolics contribute to plant defense mechanisms and have antioxidant properties, and their levels can be indicative of plant stress or adaptation to environmental conditions.
- **Analysis of Plant Extracts:** Colorimeters are employed to analyze plant extracts for various compounds, including secondary metabolites, alkaloids, and flavonoids. This helps researchers understand the chemical composition of plants and their potential pharmacological or ecological significance.



# DEPARTMENT OF CHEMISTRY

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## INTRODUCTION

Safety is an important aspect of any laboratory. Safety should be the code of practice and it involves discipline in addressing the safe handling and containment of various hazardous materials in a laboratory. It is a joint responsibility of both management and laboratory workers. Laboratory workers must understand and adopt good laboratory practices to achieve a healthy working environment. A safe lab, in addition to protecting laboratory workers, also helps to protect the environment, students and public from exposure to hazardous materials. Safety is also very important, as Chemistry Labs in particular, are highly prone to accidents. However, with adequate knowledge and care, accidents can be avoided in the chemistry lab.

Therefore, every individual entering or using the scientific laboratory has a duty towards maintenance and regulation of the lab safety. These responsibilities not only ensure the safety of each lab and persons therein but also facilitate proper use of the laboratory resources.

### 1. OBJECTIVES:

It is important that all rules, procedures and guidelines are followed by the users as well as the laboratory staff. This manual highlights the basic duties of laboratory staff, various safety measures to be adopted and first-aid measures to be undertaken in case of an accident, handling of instruments, reagents, glassware and waste. These guidelines are developed for laboratory staff, to progressively increase their understanding of best practices to ensure the safety of the students and the staff in the scientific learning experience. It is also hoped that these guidelines will prepare them to handle any incident or emergency situation that might arise in the laboratory.

### 2. METHODOLOGY:

In Chemistry laboratories, teachers, lab staff and students deal with a large number of chemicals. These chemicals must be used with utmost care as these are dangerous for human exposure. In this manual, the focus has been laid on:

- safety measures to be taken in laboratory,
- prevention, safety and first-aid in lab accidents
- identifying the safety symbols available on chemical bottles,
- first aid measures and anti-dotes while handling some common chemicals
- safety measures to be taken while handling some common reagents
- commonly used laboratory glassware and their handling and usage
- handling and maintenance of different electrodes and Instruments

### 3. OUTCOMES:

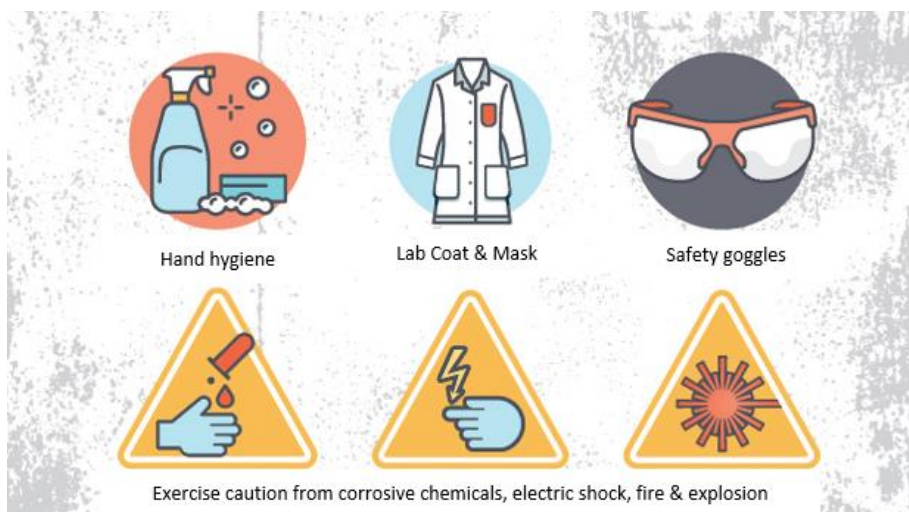
Through this workshop, we wish to provide the participants with an overview of the general laboratory procedures and safety measures to be followed. This reference manual has been drafted for the participants in a simplified and informative manner. The participants would:

- **Learn** how to work safely in the lab
- **Learn about** safety symbols and their meanings

- **Know about** the first-aid and anti-dotes in case of chemical exposure and accidents
- **Get acquainted to** Safety measures to be taken while handling some common reagents
- **Learn about** some commonly used laboratory glassware and their handling and usage
- **Learn about** handling and maintenance of different electrodes and Instruments

## SECTION 1: GENERAL LAB SAFETY INSTRUCTIONS

1. It is highly recommended that the following precautions and safety measures must be followed while handling of chemicals, solutions and preparing the reagents:
  - (i) Always wear a lab-coat, mask and safety goggles while working in the lab.
  - (ii) Wear N95 gloves while dealing with highly poisonous/irritant chemicals.
  - (iii) Lab should always be well ventilated.
  - (iv) Follow the specific procedure with protocol and amounts/volumes of chemicals and solvents to be used for the reagent to be prepared. This not only prevents accidents and wastage of chemicals but is also an eco-friendly practice.
  - (v) Use clean and dry glass apparatus while preparing the reagents.
  - (vi) Store the reagents after proper labelling (name of reagent, date of preparation, hazard warning as per the instructions) in clean apparatus.
  - (vii) Dispose-off any waste paper or any kind of solid waste properly.
  - (viii) Maintain a safe distance while using the chemicals. Hold containers away from the body when transferring a chemical or solution from one container to another.
  - (ix) Make sure all flammable solvents and volatile chemicals are used in the fuming cupboard only.
  - (x) Add concentrated acid to water slowly. **Never add water to a concentrated acid!**
  - (xi) Never leave containers of chemicals/reagents open.
  - (xii) Wash hands properly after handling chemicals every time.





## SECTION 2: PREVENTION, SAFETY AND FIRST-AID IN LAB ACCIDENTS

A lab worker should be well versed in laboratory safety procedures. Alertness and caution are the things of requisition for anyone concerned with laboratory. One is surrounded by many dangers from corrosive substances, poisonous, explosive, inflammable chemicals etc. Almost all the chemicals except a few used in a laboratory are lethal poisons. Appropriate methods of safe handling, handling the situations, rendering the first aid in case of accidental happenings are to be well known to technicians. Accidental happenings in a laboratory can be caused by-

- 1) Acids and alkalis
- 2) Toxic, harmful and irritating chemicals
- 3) Heat
- 4) Fire
- 5) Explosion
- 6) Electrical shock.

### **2.1 ACIDS AND ALKALIS:**

Acids, alkalis and phenols which are corrosive in nature are used extensively in a laboratory. Corrosives cause damage to the living tissues when they come into contact. They can cause bodily damage due to

- a) Spilling or splashing on skin, eyes.
- b) Accidental swallowing during mouth pipetting
- c) Contact with lip and tongue.

#### **2.1.1 First aid in case of Swallowing of acids:**

- 1) Make the victim drink 5% soap solution or 8%  $\text{Mg}(\text{OH})_2$  or white portion of two eggs combined with 500 mL of water or at least plenty of ordinary water.
- 2) Make the victim gargle with soap solution.

#### **2.1.2 First Aid in case of contact of acid with lip and tongue:**

- 1) Immediately rinse in tap water.
- 2) Bathe the affected area with 2% aqueous solution of sodium bicarbonate.

#### **2.1.3 First aid in case of accidental swallowing of alkalis:**

- 1) Rinse the mouth with tap water and make the patient drink 5% acetic acid solution or lemon juice.
- 2) Make the victim drink 3-4 glasses of water.
- 3) Consult a physician.

### **2.2 TOXIC, HARMFUL AND IRRITATING CHEMICALS:**

Toxic and harmful chemicals are those which can cause death or serious illness. Irritating chemicals are those which irritate the skin, mucous membranes or the respiratory tract. **Potassium cyanide is well known and the**

most lethal poison. Xylene, formaldehyde and ammonia vapours are skin and mucous membrane irritants. Phenyl hydrazine, Aniline, nitro compounds, Aromatic hydrocarbons etc are harmful to respiratory ducts, skin and whole body. Iodine, chloroform, sodium nitroprusside, mercuric nitrate, sodium azide, barium chloride and methanol etc. also fall into the category of toxic, harmful and irritating chemicals.

#### **2.2.1 First aid in case of toxic, harmful and irritating chemicals:**

- 1) If some substance falls on the hands, wash thoroughly with a brush.
- 2) When liquid bromine spills on skin or clothes or working benches, pour 20-40% Hypo solution and rinse with plenty of water. Apply Vaseline to skin.
- 3) If a noxious gas like  $\text{Cl}_2$  or  $\text{Br}_2$  vapour is inhaled, breathe in a dilute solution of  $\text{NH}_3$ .
- 4) A lethal poison like Potassium cyanide causes immediate death. However, when not so lethal poisons are accidentally swallowed:
  - a) Spit immediately
  - b) Rinse with lot of tap water.
  - c) Induce vomiting by drinking warm salt water.
- 5) In case of injury by broken glass ware containing infectious specimens:
  - a) Wash the wound immediately.
  - b) Squeeze to bleed for several minutes.
  - c) Bathe the wounded area with antiseptic lotion.
  - d) Wash thoroughly with soap water.
  - e) Bathe second time with antiseptic lotion and consult a physician.

### **2.3 HEAT BURNS:**

#### **2.3.1. First Aid in case of minor burns:**

- 1) Pour cold water or ice-cold water over the affected part.
- 2) Apply mercurochrome or acriflavine ointment to the affected part. Glycerol or cotton wool soaked in alcohol can also be used.
- 3) Apply a dry gauze dressing loosely.
- 4) Do not tear the blisters formed over the burns.
- 5) Consult a physician

### **2.4 FIRE:**

Sources of fire in a laboratory are:

1. Inflammable liquids- Inflammable liquids are those which have low flash points. Eg. Ether, acetone,  $\text{CCl}_4$ , alcohol, benzene, toluene etc.
2. Gas- Gas supply can be source of fire accidents due to
  - a) Leakage in the gas pipe line
  - b) Gas cylinders left on
  - c) Gas delivery points turned off.
3. Electricity- Electricity is the source of fire due to short circuit in the pipeline.

#### **2.4.1. Extinguishing of fire:**

- Water should not be used to extinguish fire caused by inflammable liquids. Sand can be used. Do not try to blow off such a fire. Use fire extinguishers in case of a big blaze.

- If inflammable liquid in a vessel takes flame, immediately disconnect supply of fuel to flame. Make non -available, the oxidant gas i.e. air to the fire in the vessel by closing with porcelain, metal, wooden, glass plate or towel.
- If burning liquid spills on the floor, extinguish the fire with sand.
- If fire happens in a laboratory, immediately turn off gas supply, electrical supply and use fire extinguishers. If fire has not caught organic liquids, water can be used.
- If fire is due to electrical short circuiting, immediately put off the main switch and use sand, carbon dioxide fire extinguisher to extinguish fire. Do not use water to extinguish electrical fire.
- Extinguish the fire on a man by means of a woollen blanket. Wrap the victim and hold for 1-2 minutes.

### **2.5 Explosion:**

- Explosion causes fire and devastating damage. Explosion is caused in the laboratory by explosive chemicals and heat.
- Explosive chemicals are those which can explode on heating or exposure to flames or friction. For example, Picric acid should be stored under water. If it dries, it can cause explosion.
- Heat produced enormously during chemical reactions can cause explosion. e.g., heat produced when sodium reacts with water.

### **2.6 Electric Shock:**

Electric shock is caused by faulty equipment, particularly when they are handled by wet hands. Since low-voltage alternating current (220 V) is used in a laboratory, electric shocks are rare. These can however be easily prevented by-

- 1) Timely checking of the instruments.
- 2) Earthing of the instruments.

When electrical shock occurs, someone has to put off the main switch immediately.

## SECTION 3: SAFETY SYMBOLS AND THEIR MEANINGS

3.1. Observe the following symbols and remember the meaning each one conveys.

SYMBOL



MEANING

### EXPLOSIVE

Chemicals that can cause an explosion as they contain great amount of stored energy and Should therefore be handled carefully.



### FLAMMABLE

Chemicals that catch fire easily under a given set of conditions and must therefore be used with utmost care



### OXIDISING

Chemicals that are oxidizing in nature and may lead to highly exothermic reactions when they are in contact with other chemicals particularly Flammable ones. They should be stored in a cool place away from flammable chemicals / objects





#### **GASES UNDER PRESSURE**

Used for compressed gases, liquefied gases, refrigerated liquefied gases and dissolved gases.



#### **CORROSIVE**

Highly reactive chemicals that damage human tissues. Wear gloves while handling them.



#### **DANGEROUS TO ENVIRONMENT**

Chemicals that pose danger to life. They should not be thrown in the laboratory sinks and bins without the permission of the laboratory personnel



#### **TOXIC**

Chemicals that are poisonous and can damage an exposed part of the body



#### **CARCINOGENIC**

Cancer causing chemicals that can readily enter human tissues and seriously disturb the body's Complex processes.



#### **IRRITANT**

An immediate skin, eye or respiratory tract irritant

### **3.2 SOME OTHER SYMBOLS –**

#### **SYMBOL**

#### **MEANING**



#### **HIGH VOLTAGE**

Always stay clear of areas marked with this sign as coming in contact with the electricity will mean serious injury or death.



#### **RADIOACTIVE**

Highly reactive chemicals that can be fatal to life even if used in minute quantities depending on their half-life.



#### **BIOHAZARD**





Biohazards are micro-organisms which can potentially harm or even kill living organisms. It is recommended that you always wear a face mask and anti-bacterial gloves when dealing with such substances.







#### LASER BEAM HAZARD


Letting your skin to come in direct contact with a laser beam can be very dangerous and can have some disastrous consequences. Eye is the most susceptible one which can cause partial or complete blindness.


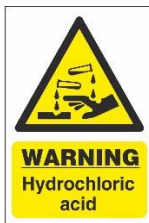
### SECTION 4: FIRST AID MEASURES AND ANTI-DOTES WHILE HANDLING SOME COMMON CHEMICALS



S.No	Chemical name	Health hazard and symptoms	First aid	Antidote	Safety symbol
1.	Aniline	<p><b>Inhalation:</b> coughing, sneezing, headache, fatigue, dizziness, methemoglobinemia, anoxia</p> <p><b>Ingestion:</b> injury to the kidney, liver</p> <p><b>Skin contact:</b> skin sensitization, Causes skin irritation. Harmful if absorbed</p> <p><b>Eye contact:</b> may cause severe eye irritation, blurred vision and photophobia</p>	<p><b>Inhalation:</b> Remove victim to fresh air and seek medical help.</p> <p><b>Ingestion:</b> Rinse mouth thoroughly. Ask the victim to drink sips of water.</p> <p><b>Skin contact:</b> immediately flush the skin with plenty of water for 30 min and then wash with soap.</p> <p><b>Eye contact:</b> rinse with plenty of water and seek medical help immediately.</p>	Individual should be administered supplemental oxygen and methylene blue.	 Toxic   Irritant   Corrosive   Health hazard





2.	Benzoyl chloride	<p><b><u>Inhalation:</u></b> lung cancer, reproductive damage, Cough. Shortness of breath. Sore throat.</p> <p><b><u>Ingestion:</u></b> harmful if swallowed, severe burns in mouth, Abdominal pain. Shock or collapse</p> <p><b><u>Skin contact:</u></b> skin cancer, skin burn, pain, blisters</p> <p><b><u>Eye contact:</u></b> Redness. Pain. Severe deep burns</p>	<p><b><u>Inhalation:</u></b> move to fresh air, get medical aid immediately</p> <p><b><u>Ingestion:</u></b> Loosen tight clothing such as a collar, tie, belt or waistband.</p> <p><b><u>Skin contact:</u></b> immediately flush skin with plenty of water, Cover the irritated skin with an emollient, Get medical attention immediately. Wash with a disinfectant soap and cover the contaminated skin with an anti-bacterial cream</p> <p><b><u>Eye contact:</u></b> immediately flush eyes with plenty of water</p>	<p>Immediately flush contaminated eyes with gently flowing water. Move victim to fresh air and seek medical aid immediately.</p>	 Toxic  Corrosive
3.	Bromine	<p><b><u>Inhalation:</u></b> severe choking, fatal</p> <p><b><u>Ingestion:</u></b> nervous, circulatory and renal disturbances, gastrointestinal tract burns</p> <p><b><u>Skin contact:</u></b> severe burns, ulceration and measles like eruptions</p> <p><b><u>Eye contact:</u></b> causes eye burns, lachrymatory</p>	<p><b><u>Inhalation:</u></b> move the victim to fresh air</p> <p><b><u>Ingestion:</u></b> give the victim a cupful of water and seek medical aid</p> <p><b><u>Skin contact:</u></b> wash with plenty of water and get medical aid.</p> <p><b><u>Eye contact:</u></b> flush eyes with plenty of water.</p>	<p>Fresh air, and seek medical aid immediately.</p>	 Danger  corrosive



4.	Copper sulphate	<p><b><u>Inhalation:</u></b> May cause ulceration, respiratory tract irritation with possible burns.</p> <p><b><u>Ingestion:</u></b> severe gastrointestinal tract irritation with nausea, vomiting and possible burns, bloody stools and vomit, low blood pressure, jaundice and coma.</p> <p><b><u>Skin contact:</u></b> skin irritation and possible burns.</p> <p><b><u>Eye contact:</u></b> may cause conjunctivitis, ulceration, and corneal abnormalities. Causes eye irritation and possible burns.</p>	<p><b><u>Inhalation:</u></b> move to fresh air</p> <p><b><u>Ingestion:</u></b> give 2-4 cupful of milk or water.</p> <p><b><u>Skin contact:</u></b> Get medical aid. Flush skin with plenty of water</p> <p><b><u>Eye contact:</u></b> flush eyes with plenty of water</p>	Chelation therapy and methylene blue	 irritant
5.	EDTA	<p><b><u>Inhalation:</u></b> irritation of the mucous membrane and upper respiratory tract.</p> <p><b><u>Ingestion:</u></b> gastrointestinal irritation with nausea, vomiting and diarrhoea, kidney injury, muscle cramps</p> <p><b><u>Skin contact:</u></b> skin irritation, redness and pain</p>	<p><b><u>Inhalation:</u></b> move to fresh air.</p> <p><b><u>Ingestion:</u></b> rinse mouth and drink 2-4 cupful of milk or water</p> <p><b><u>Skin contact:</u></b> seek medical aid</p> <p><b><u>Eye contact:</u></b> flush eyes with plenty of water</p>	Chelation therapy	 irritant

		<b><u>Eye contact:</u></b> eye irritation, redness and pain			
6.	Ethyl acetate	<b><u>Inhalation:</u></b> respiratory tract irritation, narcotic effects.  <b><u>Ingestion:</u></b> irritation of the digestive tract, central nervous depression. May cause headache, nausea, fatigue, and dizziness.  <b><u>Skin contact:</u></b> skin irritation  <b><u>Eye contact:</u></b> eye irritation	<b><u>Inhalation:</u></b> move the victim to fresh air  <b><u>Ingestion:</u></b> Get medical aid  <b><u>Skin contact:</u></b> flush skin with plenty of water.  <b><u>Eye contact:</u></b> flush eyes with plenty of water, Get medical aid	Move the victim to fresh air and wash affected areas with plenty of water.	 flammable
7.	Formalin	<b><u>Inhalation:</u></b> irritation of respiratory tract, sore throat, coughing and shortness of breath.  <b><u>Ingestion:</u></b> severe abdominal pain, vomiting, headache and diarrhoea  <b><u>Skin contact:</u></b> irritation, redness and pain  <b><u>Eye contact:</u></b> irritation, redness and pain	<b><u>Inhalation:</u></b> move victim to fresh air and seek medical aid  <b><u>Ingestion:</u></b> rinse mouth with water and give warm water to drink  <b><u>Skin contact:</u></b> wash with plenty of water and get medical aid.  <b><u>Eye contact:</u></b> flush eyes with plenty of water.	No specific antidote available	 Danger
8.	Hydrochloric acid	<b><u>Inhalation:</u></b> May cause severe irritation of the respiratory tract with sore throat, coughing, shortness	<b><u>Inhalation:</u></b> Remove victim to fresh air.  <b><u>Ingestion:</u></b> Get medical aid	Drink plenty of water, followed by milk of magnesia or an antacid. Eat banana.	

		of breath and delayed lung edema.	immediately, give a cupful of water.	Corrosive hazard
		<b><u>Ingestion:</u></b> May cause corrosion and permanent tissue destruction of the oesophagus and digestive tract.	<b><u>Skin Contact:</u></b> immediately flush skin with plenty of water while removing contaminated clothing and shoes	
		<b><u>Skin contact:</u></b> Contact with liquid is corrosive and cause severe burns and ulceration.	<b><u>Eye Contact:</u></b> immediately flush eyes with plenty of water. Get medical aid immediately.	
		<b><u>Eye contact:</u></b> May cause irreversible eye injury. Vapour or mist may cause irritation and severe burns.		
9.	Liquor ammonia	<b><u>Inhalation:</u></b> Burning sensation. Cough. Laboured breathing. Shortness of breath. Sore throat. Nausea, vomiting (emesis), abdominal pain, and burns of the mouth, throat, oesophagus, and stomach.	<b><u>Inhalation:</u></b> Fresh air, rest. Half-upright position. <b><u>Ingestion:</u></b> Do not induce vomiting <b><u>Skin contact:</u></b> rinse with plenty of water <b><u>Eye contact:</u></b> rinse with plenty of water	Fluorescein examination, rinse with plenty of water.  corrosive  Acute toxic
		<b><u>Ingestion:</u></b> Nausea, vomiting (emesis), abdominal pain, burns of mouth, throat, oesophagus, and stomach, swelling of lips, mouth, and voice box (larynx), severe corrosive damage or burns of mouth, throat and stomach.		

		<p><b><u>Skin contact:</u></b> redness. Pain. Blisters. Skin burns</p> <p><b><u>Eye contact:</u></b> Rapid eye irritation and burning sensation.</p>			
10.	Mercuric sulphate	<p><b><u>Inhalation:</u></b> fatal, may cause respiratory tract irritation, acute poisoning, tightness in chest, coughing, pain</p> <p><b><u>Ingestion:</u></b> severe toxicity, necrosis, pain, vomiting</p> <p><b><u>Skin contact:</u></b> skin irritation, redness, pain, blisters</p> <p><b><u>Eye contact:</u></b> irritation, pain</p>	<p><b><u>Inhalation:</u></b> move the victim to fresh air</p> <p><b><u>Ingestion:</u></b> get medical aid</p> <p><b><u>Skin contact:</u></b> Wash off immediately with plenty of water</p> <p><b><u>Eye contact:</u></b> Rinse immediately with plenty of water</p>	Fresh air, drink water and seek medical aid.	 Danger
11.	Methanol	<p><b><u>Inhalation:</u></b> nausea, headache, vomiting, dizziness and incoordination blurred, double and/or snowy vision, and blindness</p> <p><b><u>Ingestion:</u></b> May be fatal or cause blindness if swallowed, may cause gastrointestinal irritation with nausea, vomiting and diarrhoea, systemic toxicity with acidosis, central nervous system depression, characterized by</p>	<p><b><u>Inhalation:</u></b> move victim to fresh air</p> <p><b><u>Ingestion:</u></b> get medical aid</p> <p><b><u>Skin contact:</u></b> wash skin with plenty of water</p> <p><b><u>Eye contact:</u></b> flush eyes with plenty of water</p>	Immediately seek medical aid.	 Flammable   Health hazard   Acute toxic

excitement, followed by headache, dizziness, drowsiness, and nausea. Advanced stages may cause collapse, unconsciousness, coma and possible death

**Skin contact:** skin irritation, may cause defatting of the skin and dermatitis

**Eye contact:** painful sensitization to light, eye irritant

12. Nitric acid

**Inhalation:** Cough. Sore throat. Burning sensation. Shortness of breath. Laboured breathing.

**Ingestion:** Burns in mouth and throat. Burning sensation behind the breastbone. Abdominal pain. Vomiting. Shock or collapse.

**Skin contact:** Pain. Yellow staining of the skin. Serious skin burns.

**Eye contact:** Redness, Pain. Severe burns

**Inhalation:** move victim to fresh air

**Ingestion:** seek medical aid

**Skin contact:** wash with plenty of water

**Eye contact:** flush eyes with plenty of water.

Keep patient quiet and maintain normal body temperature, fresh air, drink water



Oxidiser



corrosive

13. Phenol




**Inhalation:** Sore throat. Burning sensation. Cough.






**Inhalation:** Fresh air, rest. Half-upright position

Charcoal can be used.





		<p>Dizziness. Headache. Shortness of breath. Laboured breathing. Unconsciousness.</p> <p><b><u>Ingestion:</u></b> Sore throat. Burns in mouth and throat. Convulsions. Abdominal pain. Diarrhoea. Shock or collapse.</p> <p><b><u>Skin contact:</u></b> skin burns. Numbness. Convulsions. Collapse. Unconsciousness.</p> <p><b><u>Eye contact:</u></b> Pain. Redness. Loss of vision. Severe burns.</p>	<p><b><u>Ingestion:</u></b> rinse mouth, give 2-3 cups of water to drink</p> <p><b><u>Skin contact:</u></b> Remove contaminated clothes. Rinse skin with plenty of water</p> <p><b><u>Eye contact:</u></b> Rinse with plenty of water</p>	<p>Health hazard</p> <p></p> <p>Acute toxic</p> <p></p> <p>corrosive</p>
14.	Phosphorous pentachloride	<p><b><u>Inhalation:</u></b> Sore throat. Cough. Burning sensation. Shortness of breath. Laboured breathing</p> <p><b><u>Ingestion:</u></b> burning sensation. Shock or collapse. Abdominal pain.</p> <p><b><u>Skin contact:</u></b> Pain. Redness. Blisters. Skin burn</p> <p><b><u>Eye contact:</u></b> Pain. Redness. Severe deep burns. Loss of vision</p>	<p><b><u>Inhalation:</u></b> Fresh air, rest. Half-upright position</p> <p><b><u>Ingestion:</u></b> Rinse mouth. Give one or two glasses of water to drink. Refer for medical attention</p> <p><b><u>Skin contact:</u></b> remove contaminated clothes. Rinse skin with plenty of water or shower.</p> <p><b><u>Eye contact:</u></b> rinse with plenty of water</p>	<p>2-3% solution of copper sulphate or silver nitrate</p> <p></p> <p>corrosive</p> <p></p> <p>Acute toxic</p>

15.	Potassium dichromate	<p><b><u>Inhalation:</u></b> irritation of nose, throat, and bronchial tubes can occur, with cough and/or wheezing.</p> <p><b><u>Ingestion:</u></b> Nausea. Vomiting. Abdominal pain. Burning sensation. Diarrhoea. Shock or collapse.</p> <p><b><u>Skin contact:</u></b> skin irritation, burns, redness, pain</p> <p><b><u>Eye contact:</u></b> redness, pain, blurred vision</p>	<p><b><u>Inhalation:</u></b> Fresh air, rest. Half-upright position</p> <p><b><u>Ingestion:</u></b> rinse mouth and give plenty of water to drink</p> <p><b><u>Skin contact:</u></b> rinse with water and then wash with soap</p> <p><b><u>Eye contact:</u></b> flush eyes with plenty of water</p>	<p>flush contaminated eyes with gently flowing water. Do not induce vomiting. If vomiting occurs, lean patient forward or place on left side. Keep patient quiet and maintain normal body temperature.</p>	 Health hazard	 Acute toxic	 corrosive
16.	Potassium permanganate	<p><b><u>Inhalation:</u></b> Burning sensation. Cough. Sore throat. Shortness of breath. Laboured breathing.</p> <p><b><u>Ingestion:</u></b> Burning sensation. Abdominal pain. Diarrhoea. Nausea. Vomiting. Shock or collapse.</p> <p><b><u>Skin contact:</u></b> Redness. Skin burns. Pain</p> <p><b><u>Eye contact:</u></b> Redness</p>	<p><b><u>Inhalation:</u></b> Fresh air. Half-upright position.</p> <p><b><u>Ingestion:</u></b> drink water</p> <p><b><u>Skin contact:</u></b> rinse with water</p> <p><b><u>Eye contact:</u></b> rinse with water</p>	<p>induce vomiting and follow with thorough gastric lavage, demulcents, glucose</p>	 Irritant	 Oxidiser	 Health hazard

17.	Sodium hydroxide	<p><b><u>Inhalation:</u></b> may lead to chemical pneumonitis and pulmonary edema, severe irritation of upper respiratory tract with coughing, burns, breathing difficulty, and possible coma. burns to the respiratory tract.</p> <p><b><u>Ingestion:</u></b> severe and permanent damage to the digestive tract, gastrointestinal tract burns, severe pain, nausea, vomiting, diarrhoea, and shock.</p> <p><b><u>Skin contact:</u></b> skin burns and ulcers</p> <p><b><u>Eye contact:</u></b> eye burns. May cause blindness. May cause chemical conjunctivitis and corneal damage.</p>	<p><b><u>Inhalation:</u></b> remove to fresh air</p> <p><b><u>Ingestion:</u></b> give a cupful of water</p> <p><b><u>Skin contact:</u></b> wash skin with plenty of water, seek medical aid</p> <p><b><u>Eye contact:</u></b> flush eyes with plenty of water</p>	No specific antidote but burns can be treated	 <p>corrosive</p>
18.	Sodium thiosulphate	<p><b><u>Inhalation:</u></b> respiratory tract irritation</p> <p><b><u>Ingestion:</u></b> gastrointestinal irritation.</p> <p><b><u>Skin contact:</u></b> skin irritation</p>	<p><b><u>Inhalation:</u></b> fresh air, rest</p> <p><b><u>Ingestion:</u></b> rinse mouth</p> <p><b><u>Skin contact:</u></b> rinse and then wash with soap</p> <p><b><u>Eye contact:</u></b> rinse with water</p>	Fresh air, ventilation, drink water.	 <p>irritant</p>

19. Sulphuric acid

**Eye contact:**

redness, mild eye irritation

**Inhalation:** irritation of the respiratory tract with burning pain in the nose and throat, coughing, wheezing, shortness of breath and pulmonary edema.

**Ingestion:** severe and permanent damage to the digestive tract. Causes gastrointestinal tract burns.

**Skin contact:** skin burns

**Eye contact:** severe eye burns. May cause irreversible eye injury. May cause blindness. May cause permanent corneal opacification.

**Inhalation:**

Remove victim to fresh air

**Ingestion:** give a cupful of water

**Skin**

**contact:** flush skin with plenty of water

**Eye contact:** flush eyes with plenty of water

Give one-fourth litre of water or milk or milk of magnesia or lime water.



danger

## SECTION 5: SAFETY MEASURES TO BE TAKEN WHILE HANDLING SOME COMMON REAGENTS

While preparing reagents, one should be aware of correct handling, procedure, storage and safety hazards. One of the most common accidents which happen is while opening the bromine capsule to prepare bromine solution. However, with adequate knowledge and care, accidents can be avoided in the chemistry lab. Listed below are some reagents in alphabetical order and the precautions to be taken while storing and handling them.

<u>S.No.</u>	Chemical name	Safe storage and Handling
1.	Acetic Acid	<ul style="list-style-type: none"><li>• Keep container tightly closed.</li><li>• Keep container in a cool, well-ventilated area.</li><li>• Unused acetic acid should be discarded at the end of the day.</li></ul>
2.	Ammonium hydroxide solution	<ul style="list-style-type: none"><li>• Do not allow it to come in contact with eyes, skin or clothing.</li><li>• Keep container tightly closed.</li><li>• Do not store in direct sunlight.</li><li>• Isolate from oxidizing materials and acids.</li><li>• Store in a cool, dry, well-ventilated area away from incompatible substances.</li></ul>
3.	Bromine water	<ul style="list-style-type: none"><li>• Keep in a dark coloured bottle.</li><li>• Keep container in a cool, well-ventilated area.</li><li>• Elemental bromine is toxic and causes burns. Do not ingest or breathe gas/fumes/ vapor/spray. Avoid contact with eyes.</li><li>• Always wear suitable respiratory equipment/ N95 mask while handling.</li></ul>
4.	Dilute Hydrochloric Acid	<ul style="list-style-type: none"><li>• Avoid adding water. Slowly add acid to water to prevent spattering or boiling.</li><li>• Wash thoroughly with soap and water after handling.</li><li>• Keep container tightly closed. Store in a cool, dry, well-ventilated area.</li><li>• Concentrated hydrochloric acid (fuming hydrochloric acid) forms acidic mist. Both the mist and the solution have corrosive effects on human tissue, with the potential to damage respiratory organs, eyes, skin, and intestines.</li></ul>
5.	2,4 –Dinitrophenyl-hydrazine solution	<ul style="list-style-type: none"><li>• Do not breathe dust.</li><li>• Do not allow solution or solid to come into contact with the skin.</li></ul>



	(DNP or Brady's reagent)	<ul style="list-style-type: none"> <li>• Store in Oxidizer Storage Area with other oxidizers and away from any combustible materials.</li> </ul>
6.	Eriochrome black-T reagent	<ul style="list-style-type: none"> <li>• Emits toxic fumes of carbon monoxide, carbon dioxide, nitrogen oxides and sulphur oxides under fire conditions.</li> <li>• In case of contact with the eyes, may cause irritation, rinse immediately with plenty of water and seek medical advice.</li> </ul>
7.	Iodine solution	<ul style="list-style-type: none"> <li>• Keep away from incompatibles such as oxidizing agents, reducing agents, metals.</li> <li>• Keep container tightly closed. Keep container in a cool, well-ventilated area. Do not store above 25°C.</li> <li>• Avoid direct sunlight.</li> </ul>
8.	Methyl orange	<ul style="list-style-type: none"> <li>• Protect from freezing and direct sunlight.</li> <li>• Avoid contact with eyes, skin, and clothes.</li> <li>• Wash thoroughly after handling.</li> </ul>
9.	Molisch's reagent	<ul style="list-style-type: none"> <li>• Store with alcohols, glycols, amines and amides.</li> <li>• Contains ethyl alcohol, severe fire risk. Store in a dedicated flammables cabinet. If a flammables cabinet is not available, store in flame resistant can.</li> <li>• Use and dispense in a hood.</li> </ul>
10.	Nessler's reagent	<ul style="list-style-type: none"> <li>• Do not discharge onto the ground or into water course.</li> <li>• In case of accident, seek medical advice immediately.</li> <li>• Keep containers tightly closed.</li> <li>• Protect from light, including direct sunrays</li> </ul>
11.	Phenolphthalein	<ul style="list-style-type: none"> <li>• Harmful if swallowed.</li> <li>• May cause irritation. Avoid breathing vapours, or dusts.</li> <li>• Use with adequate ventilation.</li> </ul>
12.	Picric acid	<ul style="list-style-type: none"> <li>• It is advisable to store picric acid wet with at least 30% water and in rubber stoppered flasks.</li> </ul>
13.	Potassium dichromate	<ul style="list-style-type: none"> <li>• Use with adequate ventilation.</li> <li>• Minimize dust generation and accumulation. Avoid breathing dust.</li> <li>• Avoid contact with eyes, skin, and clothing.</li> <li>• Do not store in direct sunlight. Store in a cool, dry area away from incompatible substances.</li> </ul>
14.	Potassium permanganate	<ul style="list-style-type: none"> <li>• Solid <math>\text{KMnO}_4</math> is a strong oxidizer and thus should be kept separated from oxidizable substances.</li> <li>• As an oxidizer that generates the dark brown product <math>\text{MnO}_2</math>, potassium permanganate rapidly stains virtually any organic</li> </ul>

- material such as skin, paper, and clothing. Lemon juice is enough to quickly remove colour.
- Crystalline solid  $\text{KMnO}_4$  can cause serious eye injury also it is a skin and inhalation irritant, and can be fatal if swallowed.
15. Silver nitrate solution
- Silver Nitrate is to be stored in dark brown glass bottle. Keep bottle in cabinet and away from sunlight.
  - Silver Nitrate should not be stored in Polyethylene bags or bottles as it reacts with plastic and it turns "gummy".
  - Avoid release to the environment.
16. Sodium hydroxide
- Caustic soda solution is highly corrosive and can be hazardous to personnel.
  - Product should be stored between  $29^\circ$  to  $38^\circ\text{C}$ .
  - It is a deliquescent salt and has a strong affinity for moisture. It should be stored in air-tight plastic container.
  - Do not allow solid or solution to come into contact with your skin. When preparing solutions swirl the liquid constantly to prevent "hot spots" developing.
17. Tollen's reagent
- Wear safety glasses.
  - Do not breathe dust.
  - Do not allow solution or solid to come into contact with the skin.
  - The reagent should be freshly prepared and stored refrigerated in a dark glass container. It has an approximate shelf-life of 24 hours when stored in this way. After the test has been performed, the resulting mixture should be acidified with dilute acid before disposal. These precautions are to prevent the formation of the highly explosive silver nitride.

## SECTION 6: COMMONLY USED LABORATORY GLASSWARE

Laboratory glassware refers to a variety of equipment, traditionally made of glass, used for scientific experiments in chemistry and biology laboratories. Glass is used because it is relatively inert and transparent. There are many kinds of laboratory glassware items. Such glassware is used for a wide variety of functions which include volumetric measuring, holding or storing chemicals or samples, mixing or preparing solutions or other mixtures, containing lab processes like chemical reactions, heating, cooling, distillation, separations including chromatography, synthesis, growing biological organisms, spectrophotometry etc.

## **6.1 List of commonly used laboratory glassware**

1. Beaker
2. Measuring cylinder
3. Measuring flask (volumetric or standard flask)
4. Conical flask
5. Burette
6. Pipette and dispensers
7. Stoppered weighing bottle
8. Separating funnel
9. Büchner funnel
10. Round bottom flask
11. Iodine flask
12. Condenser (air and water)



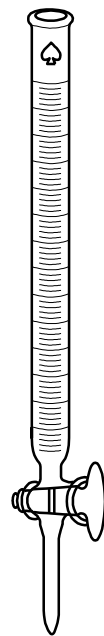
Beaker



Measuring Cylinder



Conical Flask



Burette



Weighing bottle



Watch Glass



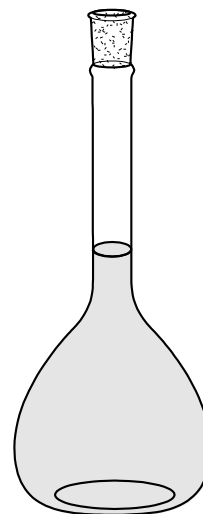
Round bottom flask



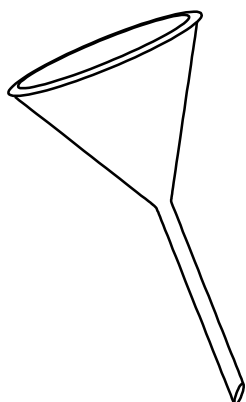
Iodine flask



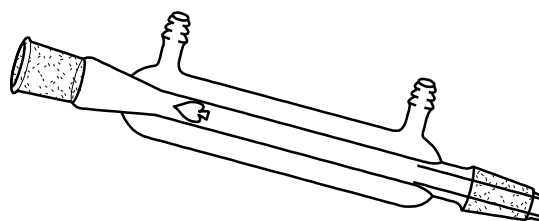
Separating Funnel



Volumetric Flask



Funnel



Condenser

### **6.1.1 Handling of apparatus**

The glass apparatus used is generally of two types – apparatus meant to contain a specific volume of liquid (TC) and apparatus meant to deliver definite volume of liquid (TD). Thus a standard flask comes under TC category whereas burette and pipette are under the TD category.

#### **1. Pipette**

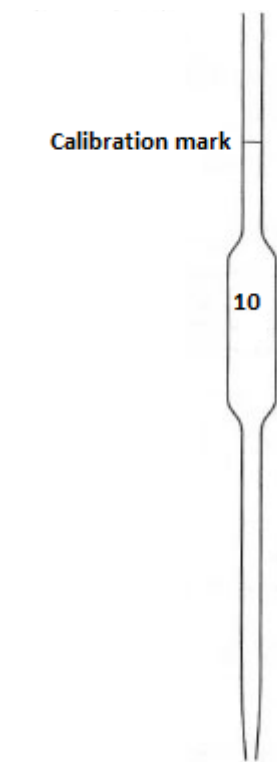
Pipettes come in several designs for various purposes with differing levels of accuracy and precision, from single piece glass pipettes to more complex adjustable or electronic pipettes. Many pipette types work by creating a partial vacuum above the liquid-holding chamber and selectively releasing this vacuum to draw up and dispense.

#### **2. Volumetric pipettes**

Volumetric pipettes allow the user to measure a volume of solution extremely accurately and then add it to something else. They are commonly used to make laboratory solutions from a base stock as well as prepare solutions



for titration. They are typically marked to indicate one single volume in a particular size pipette (as are volumetric flasks). Many different sizes are available.



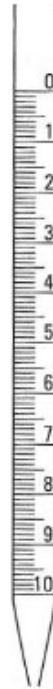
Volumetric Pipette

### 3. Graduated pipettes

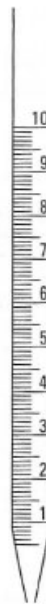
Graduated pipettes use a series of marked lines (as on a graduated cylinder) to indicate different calibrated volumes.

Two types of graduated pipettes exist:

- 1) Mohr pipettes or drain-out pipettes have a 0 ml mark before the start of the conical end, which is a dead volume.



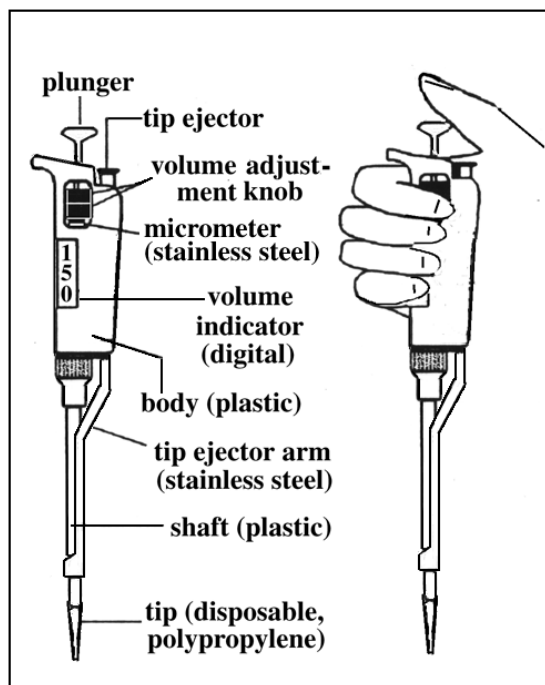
- 2) Serological or blow-out pipettes have no 0 ml mark as that corresponds to an empty pipette.



#### 4. Micropipette

Pipettes that dispense between 1 and 1000  $\mu\text{l}$  are termed micropipettes, while macropipettes dispense a greater volume of liquid.

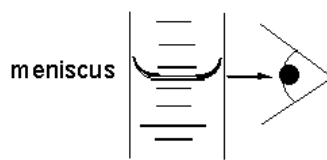
Delivering microlitre volumes of liquids is not possible using transfer or measuring pipettes, hence, digital micropipettes (Figure 3.7), which come in a variety of volume ranges, are used for the measurement of microlitre volumes.



**Micropipette**

### **Use of the pipette**

- i. The pipette is first washed with tap water and then it is rinsed with distilled water.
- ii. A small portion of the solution to be measured (1 to 2  $\text{cm}^3$  for a 10 or 20  $\text{cm}^3$  pipette, less for smaller ones) is drawn into the pipette. The solution is rolled around the pipette in such a manner that it comes in contact with all portions of the pipette. The solution is then allowed to drain. This procedure of rinsing is repeated once.
- iii. The pipette is filled with the solution until above the etched mark and the forefinger of the right hand (left hand for a left hander) is quickly placed on the top of the pipette. The finger tip should be dry and the solution should be above the mark.
- iv. The pipette is held in a vertical position and the level of the liquid is allowed to fall slowly until the bottom of the meniscus is at the top of the etched mark of the pipette.



### **Lower meniscus touching the etched mark**

- v. The liquid in the pipette is dispensed into the container, holding the pipette in a vertical position. The pipette is allowed to remain in contact with the container for about 10 seconds after the liquid has drained from it. The last drop of solution, which remains in the tip of the pipette, is not blown out as the apparatus is calibrated in such a manner that this drop does not contribute to the volume of the solution delivered.

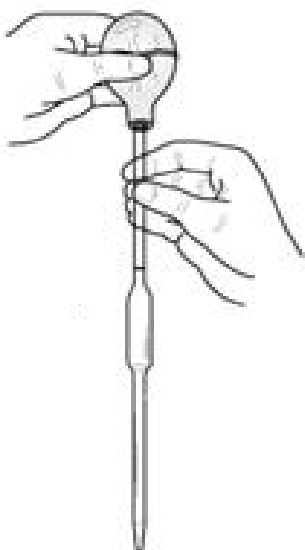


### **Last drop of the solution remains in the tip of the pipette**

- vi. Toxic or corrosive substances are not sucked with a pipette; a pipette bulb (or a dispenser) or a burette is to be used for measuring these substances.

## **4. Pipette Dispensers**

Various methods exist to handle the liquids inside a pipette. The main three types of pipette dispenser are the bulb filler, pipette pump and the electronic controller.



**Bulb fillers**



**Pipette pumps**



**Electronic controller**

## **5. Burette**

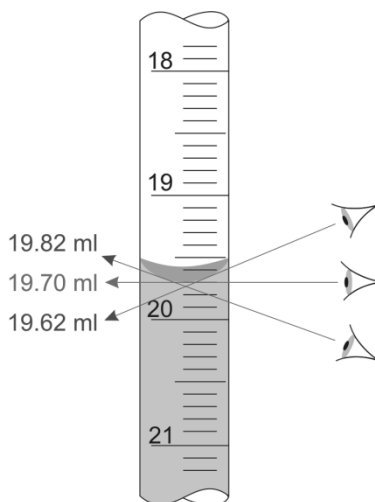
A burette is used for titrations and delivers a variable however accurately known volume. It is composed of three major parts: (i) The barrel, which is the graduated tube used to hold the solution. (ii) The stopcock, which controls the rate of flow of solution out of the burette. and (iii) The tip, which is carefully designed to deliver regular size drops.





## Use of the burette

1. The burette is first washed with tap water and then it is rinsed with distilled water.
2. It is rinsed with several small portions of the solution with which it is to be filled making sure that the solution contacts all portions of the burette. The solution is drained through the tip. The burette is mounted in a vertical (upright) position and is filled above the zero mark by using a funnel. The solution is then allowed to flow through the tip. All air bubbles should be removed from the tip and the nozzle.
3. This is achieved by opening the stop cock and allowing the solution to flow out rapidly or by tapping the nozzle gently with the fingertip to dislocate the bubble.
4. The funnel is removed and the level of the liquid is adjusted to eye level to minimize parallax error. A rectangular piece of white paper is folded and two horizontal slits are made in it about 5 cm apart. These slits are inserted into the burette in such a manner that the white paper provides a background for reading the scale on the burette. This is called an index card and is helpful in minimizing parallax error. It is not necessary to adjust the level to the zero mark if it is too high for your eye level. The reading in the burette is noted up to the first decimal place.
5. The upper meniscus is read for a colored liquid and the lower meniscus for a colourless liquid.

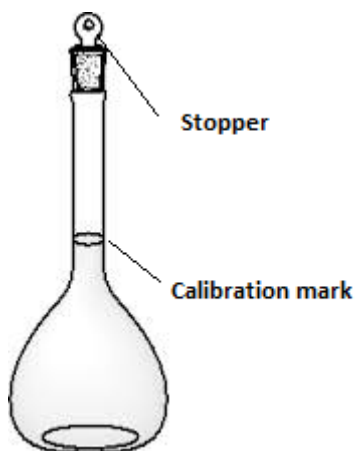


## 7. Measuring flask

A pipette delivers a known volume of solution but a volumetric flask, on the other hand, contains a specific volume of solution. It has flat bottomed bulb with a long neck usually fitted with a stopper. Because a volumetric flask contains a solution, it is useful for preparing a solution with an accurately known concentration. Transfer the reagent to the volumetric flask and add some solvent to bring the reagent into solution. Continue the addition of solvent in several portions, mixing thoroughly after each addition. Then, adjust the volume to the flask's calibration mark using

a dropper or pipette. Finally, complete the mixing process by putting its stopper, inverting and shaking the flask 5-6 times to get a homogeneous solution.

### **Use of the measuring flask**



**Measuring flask**

1. Wash the flask with tap water and rinse it with distilled water.
2. If a solution is to be made from a weighed solid, then transfer the solid through a funnel into the flask and dissolve in a small amount of distilled water. Swirl the flask gently to aid in dissolution.
3. If a solution is to be made by diluting a concentrated solution, then transfer it using a pipette into the flask.
4. Mix the solution well when the flask is about  $\frac{3}{4}$  full.
5. Dilute the solution up to the mark. The bottom of the meniscus should just rest on the top of the mark. The last few drops of the solvent should be added using a dropper or pipette.
6. Make the solution homogenous. Hold the stopper securely and invert the flask six to eight times. Turn the flask right side up.

Note: Never use the pipette, burette or measuring flask to deliver or contain a hot solution as this will spoil the calibration of the apparatus.

### **8. Separating funnel**

A separating funnel (also called a separation funnel) is a piece of laboratory equipment made mostly of glass and is used to separate two liquids that usually are very hard to separate, for example, Oil and Water.



**Separating funnel**

### **Using a Separating Funnel**

Immiscible liquids, such as oil and water can be separated by using a separating funnel. The mixture is put into a separating funnel, shaken and allowed to settle. The oil and water form two separate layers. The liquid with higher density, in this case water forms the lower layer. Remove the stopper and open the tap after standing. The water runs out through the tap. The oil remains in the funnel and can be run out into another beaker.

### **9. Büchner funnel**

A Büchner funnel is a piece of laboratory equipment used in filtration. It is traditionally made of porcelain, but glass and plastic funnels are also available. On top of the funnel-shaped part there is a cylinder with a perforated plate separating it from the funnel.

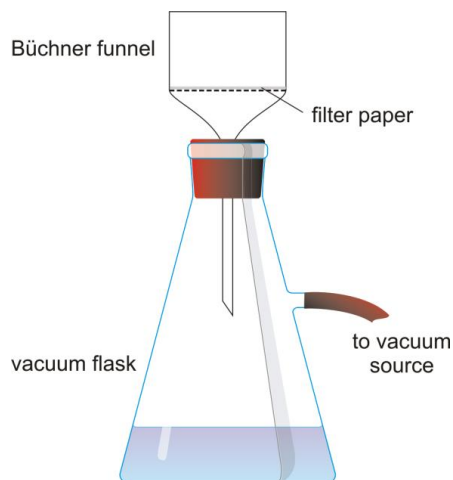


**Buchner Funnel**

The filtration material, usually filter paper, is placed on the plate, and the filter paper is moistened with a solvent to prevent initial leakage. The liquid to be filtered is poured into the cylinder and drawn through the perforated plate by vacuum suction.

The main advantage in using this type of filtration is that it proceeds much more quickly (several orders of magnitude) than simply allowing the solvent to drain through the filter medium via the force of gravity. It is essential

that the amount of solvent being used be limited to less than what would overflow the flask, otherwise the solvent will be drawn into the vacuum equipment.



It is used in organic chemistry labs to assist in collecting recrystallized compounds. The suction allows the wet recrystallized compound to dry out such that the pure dried crystal compound is left remaining. However, it is often the case that further drying is required, by an oven or other means, in order to remove as much residual solvent as possible.

## **10. Desiccator**

Desiccator is a glass container used for storage of chemicals in anhydrous condition or dry atmosphere. The base of desiccator is filled with drying agents such as silica gel, anhydrous Calcium chloride or activated alumina. The crucible with or without precipitate is generally kept in desiccator for drying.

A common use for desiccator is to protect chemicals which are hygroscopic or which react with water from humidity. The contents of desiccators are exposed to atmospheric moisture whenever the desiccators are opened. It also requires some time to achieve a low humidity.



**Desiccator**

## References/ Interesting Weblinks:

4. <https://www.youtube.com/watch?v=WQyObsamnMw>
5. <https://www.youtube.com/watch?v=qXHrXE4cJME>
6. <https://www.redcross.org.uk/first-aid/learn-first-aid/choking>
7. <https://study.com/academy/lesson/chemistry-lab-safety-accuracy-procedures-equipment.html>
8. <https://stock.adobe.com/in/>





# DEPARTMENT OF ZOOLOGY

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## Section I : Good Lab Practices

### PRINCIPLES ON GOOD LABORATORY PRACTICE

Aims of the GOOD LABORATORY PRACTICE Principles

1. The MAIN GOAL is to help scientists obtain results which are:

- Reliable
- Repeatable
- Auditable
- Recognized by scientists worldwide.

2. The purpose is not to assess the intrinsic scientific value of a study.

3. The GLP Principles are a set of organizational requirements.

4. The GLP Principles aim to make the incidence of False Negatives (e.g. results demonstrating non-toxicity of a toxic substance) more obvious.

5. Equally, under GLP, False Positives (e.g. results demonstrating toxicity of a non-toxic substance) become more obvious.

6. GLP also assists in:

- Limiting the waste of resources
- Ensuring high quality of results
- Ensuring comparability of results
- Promoting mutual recognition of results

7. GLP is a managerial concept for the organization of studies.

8. GLP defines the conditions under which studies are

- Planned
- Performed
- Recorded
- Reported

## THE FUNDAMENTAL POINTS OF GLP

The GLP regulations set out the rules for good practice and help researchers perform their work in compliance with their own pre-established plans and standardized procedures. The regulations are not concerned with the scientific or technical content of the research programmes.

All GLP texts, irrespective of their origin, stress the importance of the following five points:

1. **Resources:** organization, personnel, facilities and equipment
2. **Characterization:** test items and test systems
3. **Rules:** study plans (or protocols) and written procedures
4. **Results:** raw data, final report and archives
5. **Quality assurance.**

The major points are summarized below:

### 1. Resources

- a. Organization and personnel
- b. GLP regulations require that the structure of R&D organizations and the responsibilities of R&D personnel be clearly defined.
- c. GLP also stresses that there should be sufficient staff to perform the tasks required. The qualifications and the training of staff must also be defined and documented.
- d. Facilities and equipment

### 2. Characterization

In order to perform a study correctly, it is essential to know as much as possible about the materials used during the study. For studies that evaluate the properties of pharmaceutical compounds during non-clinical studies, it is a prerequisite to have details about the test item and the test system (often an animal or plant) to which the test item is to be administered

### 3. Rules

#### Protocols and written procedures

The main steps of research studies are prescribed in the study plan or protocol. Being able to repeat studies and obtain similar results is a sine qua non of mutual acceptance of data and, indeed, a central tenet of the scientific method, so the details of routine procedures must also be available to scientists involved in the study. However, the protocol, which provides the experimental design and timeframe for the study, does not contain all the technical detail necessary to conduct the study. These details are found in written standard operating procedures (SOPs). With the protocol and the SOPs it should be possible to repeat the study exactly, if necessary.

## **4. Results**

### **Raw data**

All studies generate raw data. These are the outcome of research and form the basis for establishing scientific interpretations and arriving at conclusions. The raw data must also reflect the procedures and conditions of the study.

### **Final Report**

The study report contains an account of the way in which the study was performed, incorporates the study results and includes the scientific interpretation of the data. The report is provided to regulatory authorities as part of the submission for registration and marketing approval.

### **Archives**

Storage of records must ensure safekeeping for many years and allow for prompt retrieval.

## **5. Quality Assurance**

Quality assurance (QA), as defined by GLP, is a team of persons (often called the quality assurance unit – QAU) charged with assuring management that GLP compliance has been attained within the laboratory. QA must be independent from scientists involved in the operational aspects of the study being performed. QA functions as a witness to the whole non-clinical research process.

## **RESOURCES - Maintenance by Organization**

This section on resources is divided into three parts:

### **1. Management**

### **2. Personnel**

### **3. Facilities: buildings and equipment**

#### **1. MANAGEMENT**

Without full commitment of management, GLP systems will not function as they should and will lack credibility. Managerial aspects are therefore critical for GLP implementation in a laboratory. Laboratory management responsibilities and organizational requirements take up about 15% of the GLP text, clearly demonstrating that the regulators also consider these points as important.

Management has the overall responsibility for the implementation of both good science and good organization within their institution

### **Good Science**

- Careful definition of experimental design and study parameters.
- Science based on known scientific principles.
- Control and documentation of experimental and environmental variables.
- Careful and complete evaluation and reporting of results.
- Results becoming part of accepted scientific knowledge.

### **Good Organization**

- Proper planning of studies and allocation of resources.
- Provision of adequate facilities, infrastructure and qualified staff.
- Definition of staff responsibilities and provision of staff training.
- Establishment of procedures to ensure proper conduct of studies.
- Good record keeping and organized archives.
- Implementation of verification procedures for study conduct and results.

### **These organizational aspects of studies can be met by complying with GLP.**

Management delegates a number of functions to other staff without losing the overall responsibility for the work. For each specific study, management must appoint a study director who takes on the responsibility for the planning and daily conduct of the study and also the interpretation of study results. A special section on the study director's responsibilities can be found in a later section of this manual

### **Planning (Master Schedule)**

The need for a system of organizing the allocation of resources and time for studies is self evident. GLP requires that management ensures allocation of sufficient personnel and other resources to specific studies and support areas.

The record of planning/resource allocation required by GLP is called the master schedule.

The format of the master schedule is not stipulated. However, the general rules are:

- All studies (contracted and in-house) must be included in the schedule.
- A change control procedure is in place to reflect shifts in dates and workload.
- Time-consuming activities such as protocol review and report preparation should also be included.
- The schedule is "official" (i.e. there should not be two or more competing systems for the same purpose).
- The system is described in an approved SOP.
- Responsibilities for its maintenance and updating are defined by management.
- Various versions of the master schedule are approved and maintained in the archive as data.
- Distribution is adequate and key responsibilities are identified.

## **2. PERSONNEL**

GLP requires that the overall organization of the test facility be defined. This is usually done through an organization chart. These are high level documents. They are supplemented by more detailed information which may be incorporated into the following documents relating to each individual:

- **curriculum vitae**



- **training records**
- **job description.**

Together these three documents meet the GLP requirement that records are maintained to demonstrate that staff have the **competence, education, experience and training necessary to perform their tasks.**

#### **A. Curriculum Vitae (CV)**

A procedure should ensure that CVs:

- exist for all personnel in a standard approved format;
- are maintained up-to-date;
- exist in required languages (local and sometimes English for regulatory submissions);
- are carefully archived to ensure historical reconstruction.

In a CV it is usual to include :

- name and age of the person;
- education, including diplomas and qualifications awarded by recognized institutions;
- professional experience earned both within the institution and before joining it;
- any publications (these may be listed separately, if numerous);
- membership of associations;
- languages spoken.

All staff should have a CV. Even if some personnel do not have extensive qualifications, they will have professional experience which should be listed in their CV. It is good practice to have the CV signed and dated by the person concerned, to avoid discrepancies in the content.

#### **B. Training Records**

**Training complements CVs.** Job competence depends largely on internal and external specialized training. GLP explicitly requires that all personnel should understand the meaning of GLP, its importance, and the position of their own tasks within GLP activities. Training must be formally planned and documented. New objectives and activities always involve some training. Training systems are usually SOP based. A new SOP therefore requires fresh certification of personnel who will use it.

The training system will have elements common to all GLP management systems i.e. it is formal, approved, documented to a standard format, described in a SOP and historical reconstruction is possible through the archive. For example, the participants' attendance at this course should be documented in their training records.

#### **C. Job Descriptions**

All systems of quality management are based on making people responsible for their actions.

- "Don't do something if you don't understand the reason, the context and the consequences".
- "Each person 'owns' and signs his work and feels completely responsible for its correct completion".

Having job descriptions with a clear definition of tasks and responsibilities is essential for everyone.

The contents of job descriptions should correspond to the qualifications described in the CV. In addition, they should be :

- updated at a minimum required interval (fixed by an SOP);
- signed by the person occupying the post (“n”) and at least one appropriate member of management supervising the post (“n+1”).

### **3. FACILITIES: BUILDINGS AND EQUIPMENT**

#### **Buildings**

GLP requires that facilities be of appropriate size, construction and location to meet the requirements of the study and minimize disturbances that would interfere with the validity of the study. They should be designed to provide an adequate degree of separation between the various activities of the study.

The purpose of these requirements is to ensure that the study is not compromised because of inadequate facilities. It is important to remember that fulfilling the requirements of the study does not necessarily mean providing “state of the art” constructions, but carefully considering the objectives of the study and how to achieve them. It is up to the facility management to define what is adequate; this will depend on the kind of studies being performed. Separation ensures that different functions or activities do not interfere with each other or affect the study.

Minimizing disturbance by separation can be achieved by:

- Physical separation: this can be achieved by walls, doors or filters, or by the use of isolators. In new buildings or those under transition or renovation, separation will be part of the design.
- Separation by organization, for example by the establishment of defined work areas within a laboratory carrying out different activities in the same area at different times, allowing for cleaning and preparation between operations or maintaining separation of staff, or by the establishment of defined work areas within a laboratory.

#### **Equipment**

##### **A. Suitability and Calibration**

To perform a study properly, adequate equipment must be available. All equipment should be suitable for its intended use. The equipment that is suitable for a given study depends on the type of the study and the study objectives. Suitability can only be assessed by consideration of the performance of the equipment. For example, there is no need to have a balance capable of weighing to decimals of a milligram to obtain the weekly weight of a rat; however a balance with this precision may be required in the analytical laboratory.

Whether formally qualified or not, all equipment must be calibrated and maintained to ensure accurate performance. Most frequently, the calibration depends on the use of standards used. For example, in the case of a balance, the standards are the weights that have been certified by a national or international standards authority as being within specified limits. Frequently the laboratory will have a set of certified weights. These “primary standards” are only used to qualify, “secondary standards”, which are then used on a routine basis.

Another example is standard chemicals which are used to test/calibrate equipment, like pH meters, to ensure accurate performance. Standards may also be compound samples of known concentration used to ensure that analytical equipment is functioning as expected and providing a basis for the calculation of the final result.

The laboratory must decide the acceptable frequency for calibration; this will depend on the type of equipment and its use. The calibration programme should be included in the SOPs of the institution.

The purpose of these GLP requirements is to ensure the reliability of data generated and to ensure that data are not lost as a result of inaccurate, inadequate or faulty equipment.

### **Maintenance**

GLP requirements that equipment should be maintained are based on the assumption that this reduces the likelihood of an unexpected breakdown and consequent loss of data. Maintenance may be carried out in two distinct ways:

- preventive or planned, whereby a regular check is made irrespective of the performance of the equipment;
- curative or reparative, when the piece of equipment is not functioning according to specification or when the equipment or system has broken down.

Planned, routine maintenance is a useful precaution for equipment that does not have a suitable backup or alternative. However, some pieces of equipment, such as modern computer-driven analysers or electronic balances, do not lend themselves to routine maintenance. A better approach may be to check them regularly and ensure that suitable contingencies are available if any problem occurs. The contingencies may include having duplicate equipment, or immediate access to an engineer or a contract laboratory with equivalent equipment. Back-up for vital equipment as well as back-up for power failure should be available whenever possible. A laboratory should have the ability to continue with essential services to prevent the loss of animals or data. For example, a laboratory carrying out animal studies may need a stand-by generator capable of maintaining at least the animal room environment to prevent the loss of the animals that would irretrievably affect the study. Meanwhile, samples could be stored for a period until power is restored.

Early warning that equipment is malfunctioning is important. Periodic checks will help detect malfunction, but this may also be achieved with alarms, particularly if the problem occurs at a time when staff are not present in the laboratory.

Routine maintenance requires planning and this should be indicated in a service plan. There are no specific rules concerning the format of the plan. Like all planned events the service plan should clearly indicate what is to be done and when. The related SOP should indicate tolerances for the targeted dates, how the actions are to be recorded and, of course, who is responsible for maintaining the plan.

When equipment is serviced, this should be recorded so that tracing back to this service (even many months or years after the event) is possible. It is a good idea to label serviced equipment to indicate when it was last serviced and

when the next service is due. This makes it easy for staff using the equipment to assess whether or not the service is overdue. Equipment should not be used without maintenance cover. There should also be documents recounting the breakdown or problems encountered with equipment. Each time a service, check or repair action is undertaken this should be recorded, identifying the person performing the work, the type and nature of work done and the date. Such documentation is frequently called a “fault action report”. The history of the fault and how it has been handled, including the outcome of repair work etc., should be clearly indicated. This applies equally whether the action is taken by an inhouse person or by someone who is brought in for a specific task (e.g. a contractor for calibration, repair or qualification).

### **Documentation Facilities – Equipment**

Staff must be sure that the equipment they use is suitable for use, has been adequately calibrated and maintained and is not outside its service interval.

Records of equipment suitability, calibration, checking and maintenance demonstrate that the laboratory SOPs have been followed and that the equipment used in any study is adequate for the job and performing to its specification. Records should also demonstrate that required actions have been taken as a result of the checks made.

Documents and records should also show that staff are well instructed in the use of equipment and are able to take appropriate action when problems arise.

The following section lists documents that should be present in a GLP compliant institution.

**1. SOP:**

SOPs for instructions in the routine use, cleaning, calibration etc. of the facility or equipment. SOP for the regular verifications or services performed on buildings or equipment.

**2. Qualification documents :**

When formal qualification is required, each phase of the qualification process should be documented. Each phase should have a protocol defining the tests to be conducted, data resulting from these tests, and a report including the test results and a conclusion.

**3. Logbook:**

Logbooks are kept to record the use of equipment (e.g. HPLC column used for product “x” – with dates, then for product “y” – with dates).

They are also used for recording regular checks (e.g. regular use of check-weight for balances, temperature record for refrigerator, etc.).

**4. Service report:**

Service reports and equipment labels indicates which instrument was serviced, when and by whom. The date of the next service is usually recorded on the equipment label. In the case of routine servicing the actual service procedure would be included in the SOP concerning the apparatus or facility.

**5. Fault action report:**

These reports are made when something goes wrong. This is not routine work and an SOP may not be available for the person who deals with this problem. Therefore the fault action report should include the work performed on the equipment, the date of the work and the person who carried out the job. It is important that the person signs off with a statement indicating whether equipment is fit or unfit for use.

### **List of Displaying Details in Lab:**

Master Schedule										
Test item : ... ..										
STUDY INFORMATION				DATES						...
Study N°	Study Director	Title	Location	Protocol Review	Start Date	End In-Vivo	Draft Report Audit	Final Report Review	Archive	Comments

Section 2:12

MAINTENANCE : Service /Report / Label	
INSTRUMENT NO.	_____
DATE OF LAST SERVICE	_____
NEXT SERVICE DUE	_____
NAME OF SERVICE PROVIDER	_____
Signature / date	_____

Section 2:41



## BUILDINGS / EQUIPMENT : Service Plan

Plan title												
YEAR	Jan.	Feb.	Mar.	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.
Check Airflow alarms	<b>D</b>	<b>D</b>	<b>D</b>	<b>D</b>	<i>d</i>	<i>d</i>	<i>d</i>	<i>d</i>	<i>d</i>	<i>d</i>	<i>d</i>	<i>d</i>
Check Air Intakes	<b>D</b>	<b>D</b>	<b>D</b>	<b>D</b>	<i>d</i>	<i>d</i>	<i>d</i>	<i>d</i>	<i>d</i>	<i>d</i>	<i>d</i>	<i>d</i>
Check lane working	<b>D</b>	<b>D</b>	<b>D</b>	<b>D</b>	<i>d</i>	<i>d</i>	<i>d</i>	<i>d</i>	<i>d</i>	<i>d</i>	<i>d</i>	<i>d</i>
Check drive belts	<b>M</b>	<b>M</b>	<b>M</b>	<i>m</i>	<i>m</i>	<i>m</i>	<i>m</i>	<i>m</i>	<i>m</i>	<i>m</i>	<i>m</i>	<i>m</i>
Lubricate fans			<b>X</b>			<i>x</i>			<i>x</i>			<i>x</i>
Record Air Flows					<i>x</i>						<i>x</i>	
Strip lane		<b>X</b>										

Section 2:40

## BUILDINGS / EQUIPMENT : Service Plan

Plan title												
YEAR	Jan.	Feb.	Mar.	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.
Check Airflow alarms	<b>D</b>	<b>D</b>	<b>D</b>	<b>D</b>	<i>d</i>	<i>d</i>	<i>d</i>	<i>d</i>	<i>d</i>	<i>d</i>	<i>d</i>	<i>d</i>
Check Air Intakes	<b>D</b>	<b>D</b>	<b>D</b>	<b>D</b>	<i>d</i>	<i>d</i>	<i>d</i>	<i>d</i>	<i>d</i>	<i>d</i>	<i>d</i>	<i>d</i>
Check lane working	<b>D</b>	<b>D</b>	<b>D</b>	<b>D</b>	<i>d</i>	<i>d</i>	<i>d</i>	<i>d</i>	<i>d</i>	<i>d</i>	<i>d</i>	<i>d</i>
Check drive belts	<b>M</b>	<b>M</b>	<b>M</b>	<i>m</i>	<i>m</i>	<i>m</i>	<i>m</i>	<i>m</i>	<i>m</i>	<i>m</i>	<i>m</i>	<i>m</i>
Lubricate fans			<b>X</b>			<i>x</i>			<i>x</i>			<i>x</i>
Record Air Flows					<i>x</i>						<i>x</i>	
Strip lane		<b>X</b>										

Section 2:40

## Job Descriptions

- Department / group
- Name, position, level
- Name, position of the direct supervisor
- Position summary
- Tasks and responsibilities
- Work relationships
- Approval signatures and dates

Section 2:18

## MAINTENANCE : Fault Action Report

<i>BUILDING NO./DEPARTMENT/ROOM</i>	<i>EQUIPMENT I.D.</i>
-------------------------------------	-----------------------

<i>DESCRIPTION OF FAULT</i>	<i>Signature</i>	<i>Date</i>
-----------------------------	------------------	-------------

<i>IMMEDIATE ACTION TAKEN</i>	<i>Signature</i>	<i>Date</i>
-------------------------------	------------------	-------------

<i>ACTION BY SERVICE PROVIDER</i>	<i>Signature</i>	<i>Date</i>
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<i>INSTRUMENT OK FOR USE</i>	<i>Signature</i>	<i>Date</i>
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Section 2:42

## Reference

- 1 [https://proto.ufsc.br/files/2012/03/glp\\_trainee\\_green.pdf](https://proto.ufsc.br/files/2012/03/glp_trainee_green.pdf)

## Section II: Zoological museum upkeep, maintenance and biosafety

### OBJECTIVES

□

#### Objective 1: Safety Protocols and Procedures

Ensure that laboratory staff are proficient in zoological museum safety protocols and procedures, including the handling of specimens, use of personal protective equipment (PPE), and emergency response measures.

#### Objective 2: Specimen Handling and Preservation

Train laboratory staff in proper techniques for handling, mounting, and preserving zoological specimens, emphasizing the importance of maintaining specimen integrity and preventing damage during handling and storage.

#### Objective 3: Collection Management

Educate laboratory staff on effective collection management practices, covering aspects such as cataloging, labeling, and tracking specimens, as well as implementing efficient inventory systems for easy retrieval and monitoring.

#### Objective 5: Equipment Maintenance

Provide training on the proper use and maintenance of laboratory equipment used for specimen preparation, storage, and analysis, promoting regular inspections, calibration, and prompt repair to ensure equipment reliability and longevity.

#### Objective 6: Environmental Control

Educate laboratory staff on the importance of maintaining optimal environmental conditions within the zoological museum, including temperature, humidity, and lighting controls, to preserve specimen quality and prevent deterioration.

#### Objective 7: Record-Keeping and Documentation

Instill a strong emphasis on accurate record-keeping and documentation practices, ensuring that laboratory staff maintain detailed records of specimen acquisition, handling, and storage, as well as any conservation or restoration efforts undertaken.

#### Objective 8: Communication and Collaboration

Foster effective communication and collaboration among laboratory staff, promoting a culture of shared knowledge and expertise to enhance the overall efficiency and success of zoological museum maintenance and biosafety efforts.

## **METHODOLOGY**

### **1. Presentation -ICT**

The session will include presentations covering safety protocols, specimen handling techniques, collection management practices, and biosafety measures. Engage staff through interactive discussions and quizzes to reinforce key concepts.

### **2. Museum Visit**

During the visit, staff will have the opportunity to observe best practices in action, interact with experienced museum professionals, and gain hands-on experience in specimen handling and preservation. This practical exposure will enhance their understanding of the importance of proper museum maintenance.

### **3. Biosafety Training**

Emphasize the importance of a proactive approach to biosafety to mitigate risks.

### **4. Record-Keeping and Documentation Training (Planned):**

Provide templates and examples for documenting specimen acquisition, handling, and storage. Emphasize the importance of accurate and detailed records for effective museum management.

## **OUTCOMES**

### **1. Enhanced Understanding:**

Laboratory staff will gain an enhanced understanding of zoological museum upkeep, maintenance, and biosafety through theoretical presentations, interactive discussions, and quizzes.

### **2. Practical Skills:**

The planned museum visit and hands-on workshops will equip staff with practical skills in specimen handling, mounting, and preservation, fostering confidence in their ability to apply learned techniques.

### **3. Biosafety Proficiency:**

The biosafety training and simulation will result in staff becoming proficient in recognizing and mitigating potential biological hazards, ensuring a secure working environment.

### **4. Environmental Control Awareness:**

Environmental control monitoring activities will raise awareness among staff about the critical impact of environmental conditions on specimen preservation.

### **5. Effective Documentation:**

Training on record-keeping and documentation practices will result in staff maintaining accurate and detailed records, facilitating efficient collection management.

#### 6. Team Collaboration:

Regular team meetings will foster a collaborative environment, encouraging knowledge sharing and problem-solving, ultimately enhancing the overall efficiency of zoological museum maintenance efforts.

#### 7. Confident and Prepared Staff:

The combination of these training initiatives will result in a team of confident and prepared laboratory staff, capable of maintaining high standards of zoological museum upkeep, biosafety, and specimen preservation.

## **Introduction**

### **Zoological Museum**

- Zoological museum is a scientific, cultural, and educational institutions in which animal collections are assembled
- The collection includes microscopic elements to fluid preserved specimens, models and skeletal material. The scientific collection is always systematically displayed. Collections are mounted in glass cases (large specimens are often displayed in open). Microscopic specimens are displayed through permanent slides, micrographs, sketches or enlarged models.
- Labels and explanatory texts contain information on taxonomic status of the animal, its geographic distribution, distinctive biological features and economic value.

### **Specimen Preservation**

- Specimen preservation means “long-term” preservation of organisms either plant or animal in the best possible condition. So that it can be accessed in future as reference collection for scientific purposes”
- Many chemical methods are used to preserve both vertebrate and invertebrate specimens for maintenance purposes.

### **Labeling**

- Once the specimen is preserved it is very important that it should be taxonomically labelled. This information may either be printed on a label which is attached to the specimen or may be recorded in a notebook. If a notebook is used the data should be identified by a number; a tag bearing the same number should be attached to the specimen.

The taxonomic information on the specimen should include:

Phylum

Sub Phylum

Class

Sub class

Order

Genus



Species- if available

### Maintenance of the museum

- All collections should be stored in secure, environmentally controlled conditions.
- To minimize deterioration, keep specimens away from light sources.
- The museum should be kept at a stable relative humidity level of between 45% and 55%. This may require a humidifier or dehumidifier.
- Temperature levels should be as stable as possible, between 10°C and 22°C (thus requirement of an air conditioner).
- Museums are never completely immune to pests. Most pests will lay eggs inside specimens and the young stages (larvae) will cause the most damage.
- Pests can be reduced by regular vacuuming and cleaning of the museum and banning food and drink from the area.
- Pests can be monitored with insect traps (such as the sticky trap). Quarterly checks of the traps will show the types of pests entering museum. Inspect your collections at least twice a year to monitor for any pest activity.

### Fixation

**Fixation** is the process whereby the organism is prepared so that the post-mortem changes are arrested. This generally involves chemicals that penetrate the tissues of the dead creature and solidify the body by inducing covalent bonds that cross-link constituent molecules. The fixatives used for whole or parts of animals always have some side effects including, in some, shrinkage and in others expansion. There is generally a loss of colour, but the important effect is the hardening of the components of the animal so that it may then be stored for indefinite periods.

### Preservatives and their usage

#### **1. Formalin (Fixative mostly)**

Usage:

- It is used for **vertebrates only**.
- It is avoided for **long-term storage** since it is acidic and difficult to handle.
- Mostly formalin is used where color is important since alcohol dissolves most colors almost immediately.
- It penetrates more rapidly and internal organs remain in better condition

#### Procedure to prepare formalin solution for specimen preservation and storage

10% neutral buffered formalin (100 ml) 37% formaldehyde solution - Potassium phosphate monobasic - 0.4 g Potassium phosphate dibasic - 0.65 g Distilled water - 90 ml

(note :10% formalin is a 1:10 dilution of 100% formalin in water, i.e. 1 part saturated formaldehyde in water diluted with 9 parts plain water. Since 100% formalin contains 40% formaldehyde, a 1:10 dilution would contain 4% formaldehyde.)

(please see Links for detailed preparation of buffered formalin)

**Precaution:**

1. Inhalation of formalin fumes is harmful & causes extreme discomfort to nose and eyes.
2. Contact with fluid causes severe irritation to the Skin
3. Contact with sore or raw spots results in extreme pain.
4. It is **carcinogen**.
5. Hand should be rinsed after usage.

**Storage:**

It should be kept in safe, water-tight, spill-proof bottles,

e.g. pep-bottles, It should always be clearly labelled.

#### Animal phyla

Phylum/phyla	Common types of preservation				Biological notes
	Dried	Skeleton/ shell	Fluid	Cast Taxidermy	
Porifera (Sponges)	✓	✓	✓		Different species of sponges produce calcareous, siliceous or elastic skeletons on which their cell layers are arranged. Dried specimens do not contain any of the cells so fluid preservation (of the smaller species) is required to preserve the living components. Some sponges are too large for fluid preservation
Cnidaria, Ctenophora, endoprocts, and ectoprocts	✓		✓		Corals (parts) may be dried (losing their organic components) but jellyfish, sea anemones, etc. for the soft tissue medusa and polyps must be preserved in fluid
Platyhelminthes			✓		Many are huge tapeworms, both long and fragile. These are often wound round a clear plate
Annelids, nemerteans, nematodes, priapulids, and other worms			✓	✓	A huge variety of size and complexity with some annelids having tentacles, eyes, jaws and long chaetae
Mollusks	✓	✓	✓	✓	A huge variety of body forms from slugs and snails to mussels to giant squid mean that fluid preparation may need a few drops to many liters of preserving fluid
Onychophorans			✓		These velvet worms are relatively small and most often fluid-preserved
Echinoderms	✓	✓	✓		Most echinoderms can be fixed and then dried, but their complex internal architecture is then lost. Some are fluid-preserved so that windows can be cut into their outer shell to exhibit their internal organs in situ
Arthropods	✓		✓		Insects, in particular, are dried and set with pins in adherence to entomological customs. Large crustaceans may be cleaned, and the exoskeletons set as a dried specimen
Chordates		✓	✓	✓	Many techniques exist, particularly for vertebrates as they are kept for hunting trophies as well as for scientific research and museum collections

Table 1 : Common types of preservation strategies for different specimens

### Maintenance of the museum

- All collections should be stored in secure, environmentally controlled conditions.
- To minimize deterioration, keep specimens away from light sources.
- The museum should be kept at a stable relative humidity level of between 45% and 55%. This may require a humidifier or dehumidifier.
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- Pests can be reduced by regular vacuuming and cleaning of the museum and banning food and drink from the area.
- Pests can be monitored with insect traps (such as the sticky trap). Quarterly checks of the traps will show the types of pests entering museum. Inspect your collections at least twice a year to monitor for any pest activity.

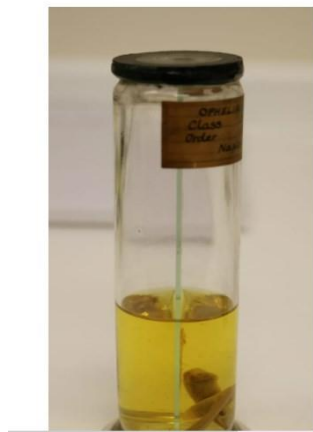
### Arrangement of specimens

- This is the most fundamental issue in the storage of a zoological collection. Lack of proper arrangement of the specimens makes the entire collection good-for-nothing
- Numerical arrangement requires a species index that lists the species represented in the collection and catalogue number of all the specimens. Without such an index, it would be necessary to search through the entire collection or the numerical catalogue in order to assemble all representatives of a particular taxon. Moreover, in numerical arrangement, if a container is misplaced, it is practically lost.
- In collections arranged according to zoological classification, misplacement is immediately detected from the name on the container. It is also more economical in space, as a number of specimens of the same taxon can be stored in one container, with labels on each.
- **Specimen cards:** Specimen card for each specimen with all the details, viz., sex, locality, date of collection, collector or donor, condition of the specimen, registration or catalogue number, external and cranial measurements, keeping place, etc., should be prepared and arranged in a card cabinet according to the zoological classification. Consultation of these cards will often serve the purpose of the scientists and reduce the incidences of handling and removal of the specimens from storage.

### Safe Handling

- Wearing disposable nitrile gloves will eliminate any transfer of skin oils and perspiration to specimens.
- Always handle specimens with gloves, and if cleaning them, always use dust extraction/fume cupboard and wear a dust mask. Pinned entomology specimens are normally handled using specialized curved and gripping forceps.

- Old specimens can be very dry and brittle and pins may be corroded; remove specimens from their drawer very slowly and carefully.
- **Replace the preservatives regularly** to ensure that the specimens are completely immersed in the preservative. The jars should be closed tightly to prevent evaporation of the preservative (**Figure 50 a and b**)
- Check the fluid levels in jars annually and that fluids are not discolored or contaminated. Advice should be sought about topping up. (Figure 50 c)
- **Fragile or loose labels can be archived in polyester envelopes and the data recorded onto new labels, using pigment ink, to be stored inside the jar. If you do not have the equipment to work on conservation problems for spirit collections, contact a conservator or curator for advice.**



(a)



The lid of the jar has cracked and the alcohol has fully evaporated

(b)



(c)

Figure 50: a) and b) are representative specimens which needs topping up with preservative solution. c) Representative image showing refilling and securing of a biological specimen.



## Reasons to Replace Preservative Solutions

Reasons for transferring specimens to a new storage fluid include:

- When removing the specimen from a fixative to a preservative
- When the preservative has become acidified (usually due to instable products in the preservative such as formaldehyde)
- Due to health and safety mandates
- For research purposes or other use for the specimen
- Because the preservative method has been deemed inappropriate
- If extracted lipids cause sufficient acidification to damage bone or other tissues
- If extracted lipids (particularly with oily marine species) may discolour the specimen or make it difficult to handle or use for research purposes

Changes in colour, turbidity, or opacity of a liquid may indicate that a fluid should be changed (opacity is generally a better indicator than colour, e.g., petroleum ether may cause naphtha to form in the fluid). A simple turbidity test will give a relative estimate of lipids in the preservative--pipette a small quantity of the preservative into a petri dish of cleanwater on as dark background and observe any formation of whitish turbidity.

(Note: please see the provide links for instructions on topping up of specimens with preservatives)

	Box Number	Slide Contents	Description on slide	Numbers on slide	Number of slides	Notes
Information	Box reference number on front of box	Name of specimen on slide	Any additional descriptions e.g. location and date	Any numbers associated with slide, possibly relating to catalogue (e.g. 291/3) or box (e.g. B8)	The amount of that particular slide within collection	Any additional information e.g. green dot
Example Slide	B8	Hydroida, Gymnoblaster, Corynidae, Syncoryne, eximia	Calf Island 7/07	C.a.9	1	Blue dot

Figure 51: Format for cataloguing slides

- Slides should be checked annually and, if serious deterioration is noticed, a microscope slide conservator should be contacted. Slides can be cleaned of surface dirt using cotton wool swabs or buds dampened with deionized water. Slides should be labelled and arranged as per format in order to catalogue or order new slide **(Figure 51)**.

## BIOSAFETY

### Formalin safety (protocol for liquid spills)

- Skin contact with the spill can result in allergic reactions, blistering, and hives among other symptoms. If skin does come in contact, immediately rinse with water and a mild detergent for a minimum of 15 minutes. If irritation persists, seek medical attention right away. It is critical for every facility to have a clearly communicated process for hazardous material spills.
- Depending on the severity of the spill, it may be acceptable for laboratory personnel to clean up the spillage. Appropriate training should be provided prior to beginning work in the facility.
- It is important to note that protective gear should be worn at all times including eyewear and gloves.
- water spray may be used to help reduce the vapors released. If the spill is fairly small, paper towels may be used for absorption and **then placed in a marked sealed bag**.
- A **spill kit** should be easily accessible for larger, yet still manageable spills, which contains items such as a **neutralizer** and a **marked hazardous waste bag**. The **neutralizer** can simply be spread onto the formalin to quickly soak up the moisture. Ensure that disposal of any material is compliant with the facility's procedures, as well as state and federal measures. Before returning to work after a spill, any contaminated equipment should be thoroughly cleaned. **(Figure 52)**



**Figure 52: The spill kit should contain items such as absorbent pads, booms, pillows, gloves, disposal bags and formalin neutralizing agent**

### Categories of spills

Minor Spills	Major Spills
A single leaking specimen container containing 10% formalin or paraformaldehyde	Multiple broken specimen containers that contained 10% formalin (perhaps from a collapse of a shelf).
A broken specimen container that contained up to 100 ml of 10% formalin or paraformaldehyde	A partial or full container containing more than 100 ml of 35% formaldehyde onto a bench or the floor
A partial or full container (greater than 100 ml) of 35% formaldehyde in a chemical fume hood	A stock bottle (500 ml or greater) of 10% formalin onto a bench or the floor
A splash of concentrated formaldehyde or paraformaldehyde onto a surface	A single lab staff member who becomes injured and drops 1-2 specimen containers

- **Personal Protective Equipment (PPE)**  
Gloves: Nitrile or neoprene are recommended
- Eye/face protection: Safety goggles
- Maximum protection = safety goggles with face shield and a Lab coat that is completely snapped or buttoned
- An impervious apron can be used over a lab coat

### Knowledge required by museum curator and lab staff:

#### Required Skills

- Knowledge of museum archival storage methods and techniques, including detailed knowledge of museum cabinets and proper storage and protective materials in order to research, design, and order custom-made museum storage supplies and equipment.
- Knowledge of proper storage methods for the specific requirements of the wide variety of biological materials in the collections, to prevent aging and deterioration of specimens.
- Knowledge of the range of environmental hazards that affect museum collections, and the recording and prevention of such threats.
- Knowledge of museum pest control materials and techniques including prevention of pest problems, pest control chemicals and their proper application, laws governing pesticides and their applications, identification of pest species, freezing as a pest control method, and safety procedures.
- Knowledge of current strengths of the museum, and needs in the teaching collections, based on the mission and goals of the museum.
- Knowledge of preparation techniques for vertebrate specimens, including preparation of bird and mammal taxidermy skins and mounts, preparation of skeletal specimens using live dermestid beetles and other methods, and preparation and storage of specimens in alcohol.
- Knowledge of museum's written collections management policies and procedures manual, supervision of all access to and loans of museum materials, and facility with database software used in building and maintaining museum digital catalogs.
- Ability to supervise and enforce all museum policies.
- Ability to manage assignment of keys.
- Excellent communication skills, both oral and written.
- Knowledge of all state, federal, and local laws and regulations regarding transactions involving animal specimens or parts thereof.
- Knowledge of and ability to accurately identify animal specimens or parts thereof, in order to avoid personal liability for museum activities.

- Knowledge of and ability to take preventative actions to prevent injury, infection, or other damage to workers in the museum.
- Knowledge of supervisory personnel skills, including hiring, training, and disciplinary actions.
- Excellent interpersonal skills, both oral and written, and a desire to communicate with lab staff and faculty
- Demonstrated ability to operate personal computers, related word processing, spreadsheet and database software with the ability to learn other software.

## Section III: Microtomy

### Objectives

#### 1: Introduction to Microtomy Techniques

- Provide an overview of microtomy and its significance in laboratory procedures.
- Familiarize participants with the basic principles and terminology associated with microtomy.

#### 2: Hands-on Training in Microtomy Procedures

- Demonstrate proper handling and maintenance of microtomes and related equipment.
- Guide participants through the step-by-step process of sectioning, staining, and mounting tissue samples onto slides.
- Emphasize safety protocols and best practices to minimize contamination and ensure reproducibility.

#### 3: Equip participants with the skills to identify and troubleshoot common issues encountered during microtomy.

- Discuss methods for maintaining the sharpness of microtome blades and troubleshooting blade-related problems.
- Highlight the importance of quality control measures to ensure consistency and reliability in tissue sectioning.

#### 4: Encourage participants to ask questions and engage in discussions to deepen their understanding of advanced microtomy concepts.

By achieving these objectives, participants should gain a comprehensive understanding of microtomy techniques, develop practical skills through hands-on training, and be prepared to troubleshoot and implement quality control measures in their laboratory work.

### Methodology

#### 1. Introduction Session:

- Brief presentation on the fundamentals and importance of microtomy.
- Overview of basic terminology and principles.

#### 2. Hands-on Training:

- Demonstration of microtome handling and maintenance.

### 3. Troubleshooting and Quality Control

- Practical exercises on blade maintenance and problem-solving.

### 4. Q&A and Discussion

- Open forum for participants to ask questions.

## MICROTOMY & HISTOPATHOLOGICAL STUDY

### INTRODUCTION:

The sample and slide preparation is an crucial step for histological or cytological observation. It is essential to highlight what needs to be observed and to immobilize the sample at a particular point in time and with characteristics close to those of its living state.

Tissue Processing: It is the process by which tissue is made firm (hard) so that thin sections can be cut and studied under microscope. It can be done either manually or with the help of a machine known as automatic tissue processor. It involves the following steps.

1. Reception and logging
2. Grossing
3. Fixation
4. Decalcification (if required)
5. Dehydration
6. Cleaning
7. Impregnation
8. Embedding
9. Section cutting
10. Staining
11. Mounting
12. Microscopy

**1. Reception and logging :** The specimen sent for histopathological examination is collected in plastic or glass contain. Once specimen is received in the laboratory ensure that



(a) Specimen is accompanied by a requisition form with relevant details of the patient i.e. name, age, sex, hospital number, diagnosis history site of biopsy.

(b) The specimen and the requisition form are of the same patient.

(c) Ascertain the presence of the tissue in the bottle.

(d) In case more than one specimen check whether the specimen number consider with that on the requisition form.

Providing proper number to the tissue for its proper identification is known as logging or labelling. It helps in removing errors in pre analytical and post analytical stage.

**2. Grossing :** Grossing means gross examination of the tissue. It includes the macroscopic examination of tissue that is to observe its shape, size, colour texture etc. After grossing the tissue is placed in tissue cassette along with the label on which number is written with the help of the pencil. The tissue cassette helps in prevent change in morphology of tissue while transferring it from one container to another container, its another advantage is that we can process more than one tissue in a single container.

**3. Fixation :** To preserve the tissue from any physical or chemical change after it is removed from patient body is known as fixation. The physical change involves change in morphology i.e shape and size of tissue the tissue should not shrink or there should not be any swelling in the tissue. While chemical change involves Autolysis and purification.

**Autolysis :** Self destruction or damaging of tissue by the enzymes which is secreted by cell itself, name of the enzyme is hydrolytic enzyme and it is secreted by lysosome.

**Putrefaction:** Destruction or damaging of tissue by the bacteria which are present in surrounding atmosphere.

When fixation is done these changes do not occur.

Fixation is done with the help of chemicals known as fixatives the most commonly used fixative is 10% Formalin. Other fixatives are formal calcium, Zenker's fluid, Bouin's fluid, Heidenhains susa etc.

**4. Dehydration:** Removal of water from the tissue is known as dehydration. It is done because in further tissue processing there is a step of impregnation in which we have to introduce paraffin wax inside the tissue for proper section cutting. As paraffin wax and water are not soluble with each other. In order to enter paraffin wax inside the tissue we will have to remove water from the tissue. Dehydration is done with the help of dehydrating agents e.g Graded ethyl alcohol, Acetone, isopropyl alcohol, dioxane etc. Most commonly used dehydrating agent is graded ethyl alcohol.

**5. Clearing :** Removal of dehydrating agent from the tissue is known as clearing, it is done because the dehydrating agent alcohol is also not soluble with wax so we have to remove the alcohol. It is done with the help of clearing agents which are soluble both in alcohol and wax. Most commonly used clearing agents is xylene. We take two containers of xylene and place the tissue for one hour in each container. Other examples of

dehydrating agents are Benzene, tolerance cedar wood oil, clove oil, chloroform phenol etc.

**6. Impregnation:** Entering of paraffin wax inside the tissue and removal of clearing agent is known as impregnation. It is done in order to provide proper hardness to the tissue for proper section cutting. The impregnation media should be solid and room temperature and its melting point should not be too high. Example of impregnation media or supporting media are paraffin wax, paraplast, paraplast plus, celliodine, tissue mat ester

wax etc. It is done in paraffin oven.

**.7. Embedding or Blocking :** Embedding is the process of placing the impregnated tissue in precisely arranged position into a mould containing the embedding media and causing this medium to solidify. Embedding is done to give the tissue proper shape and size so that it can be attached to microtome for proper section cutting. Moulds used in embedding are Leuckhart's piece or L-piece which are made up of brass (an alloy of copper and zinc) or tissue tek.

**8. Section cutting or microtome :** In order to view the structure of the cell, a tissue is properly cut in very thin sections of the order of the microns. It is done with the help of a machine known as microtome. The most commonly used microtome is rotary microtome. When sections are thin, it can be stained in better way and viewed properly in the microscope generally thickness of the tissue is 3 to 5 microns.

**Technique of cutting paraffin embedded sections:**

- (a) Trim the block to remove the surplus paraffin on the surface.
- (b) The cutting surface should be even and parallel.
- (c) Attach the block to the chuck and seal the sides of the block with warm forceps.
- (d) Attach the block to the microtome.
- (e) Turn back the feed mechanism as far as it goes.
- (f) Insert the knife in the knife holder with slight tilt to produce the clearance angle.
- (g) Adjust the knife holder or move the block holder, so that wax block just touches the knife.
- (h) Block should move parallel to the knife edge.
- (i) If not minimized earlier set the gauge to 15 microns and cut till complete sections are obtained.
- (j) If it is already trimmed set the gauge to required thickness.
- (k) Operate the microtome till complete sections are cut and ribbon is formed.
- (l) With forceps hold the ribbon at its free margin and separate the sections attached to the knife by brush.
- (m) Float the sections on tissue floatation water bath maintain at temperature 5 to 6° below melting point of wax.
- (n) Immerse the albumenized slide in the water and bring the section gently into the center of the slide.
- (o) Keep the slide with section vertically on the rack till the water is drained.
- (p) Write the login number on the glass slide with the help of diamond pencil.
- (q) Place the slide on slide warming table maintained at temperature 1 to 2°C above melting point of the wax. Then remove moisture, left out wrinkles and make attachment of tissue better.

**9. Staining :** Coloring a dying the tissue to known as staining. Staining of tissue sections enables us to study the characteristics of the tissues and their constituent cells. The most commonly used stain is hematoxylin and Eosin stain it is also known as routine stain.

**(a) Deparaffination :** Removal of paraffin wax is known as deparaffination. It is done with three container of xylene for 5.5 and two minutes.

**(b) Hydration :** Bringing of water inside the tissue is known as hydration. It is done as the stains are soluble in water. It is done with the help of decreasing con of alcohol i.e 100% alcohol, 95% alc, 80% alc, 70% alc, 50% alcohol than in water for one minute each.

**(c) Primary Stain :** Now slide is placed in Harris hematoxylin for 4 to 5 minutes.

**(d)** Give one washing with water.

**(e) Differentiation :** In this step selective removal of stain is done. It is done with the help of 0.5% Hu or 1% acid alcohol in this step the stain is removed from cytoplasm and retained by the nucleus but due to acidic pH blue colour of hematoxylin changes to red.

**(f) Bluing :** Regaining of original blue colour of hematoxylin which was changed to red during acidic pH is known as bluing. It is done with the help of Lithium carbonate solution or dilute ammonia for one minute. It can also be done by tap water for five minute.

**(g)** Give one washing with water.

**(h) Counter stain Eosin :** Now slide is placed in eosin stain for 2 minutes in order to stain cytoplasm.

**(I)** Give one washing with water.

**(j) Dehydration :** It is done with increasing concentration of alcohol or three container of acetone.

**(k) Clearing :** Removal of dehydrating agent, it is done with the help of xylene for 5, 5 and 2 minutes.

**11. Mounting :** Covering the stained slide with the help of mounting media (DPX) and cover slip is known as mounting. It is done in order to

(a) Protect the tissue section from physical injury or deterioration of stain due to oxidation.

(b) Fix the slide to cover slip.

(c) Fill the tissue space and cavities.

(d) Remove and trapped air bubbles.

(e) Avoid distortion of tissue and loss of stain or long periods.

(f) Visibility becomes better.

Deparaffinisation and rehydration	Xylene I	- 5 min
	Xylene II	- 5 min
	90% Alcohol	- 5 min
	70% Alcohol	- 5 min
	Water wash	- 10 min
Nuclear staining	Harri's hematoxylin	- 8 min
	Water wash	- 2 min
Differentiation	Differentiation in 1% Acid alcohol	- 1 dip
	Water wash	- 10 min
Bluing	1% Lithium carbonate	- 1 min
	Water wash	- 10 min
Cytoplasmic staining	1% Eosin	- 1 min
Dehydration	90% Alcohol	- 30 sec
	70% Alcohol	- 30 sec
	Xylene I	- 5 min
	Xylene II	- 5 min
	Approximate time required	- 70-75 min

### Steps involved in H/E staining

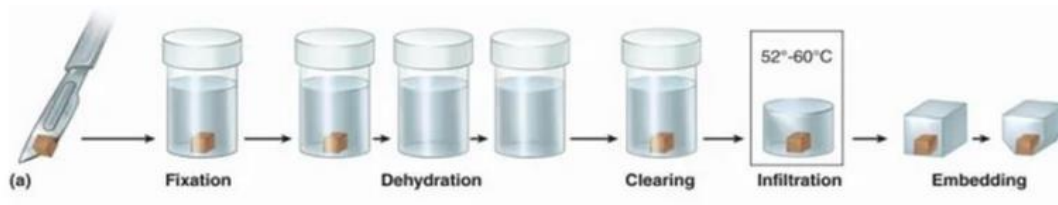
**12. Microscopy:** Viewing the stained slide under microscope is known as microscopy

after staining following results are seen.

Nucleus = Blue

Cytoplasm = Pink

RBC = Red



**Fig 3: Tissue Processing and Embedding**

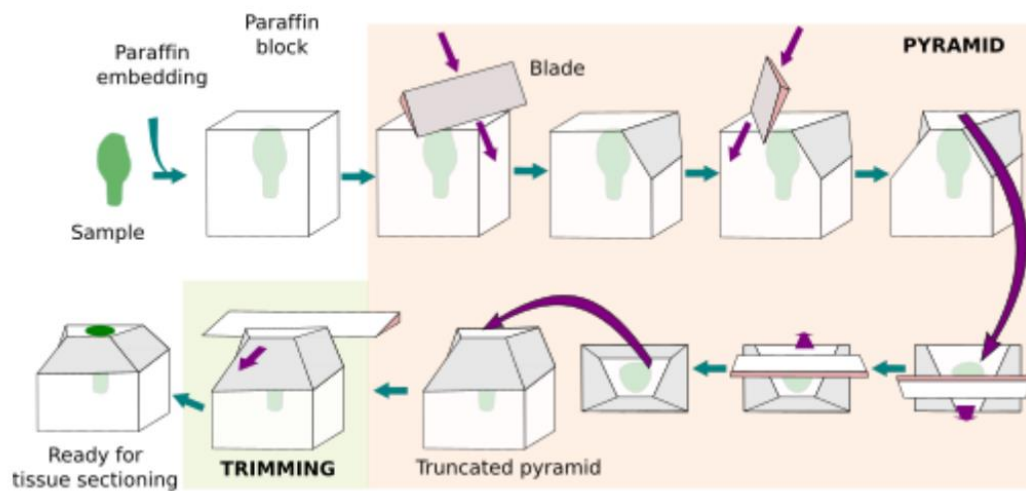
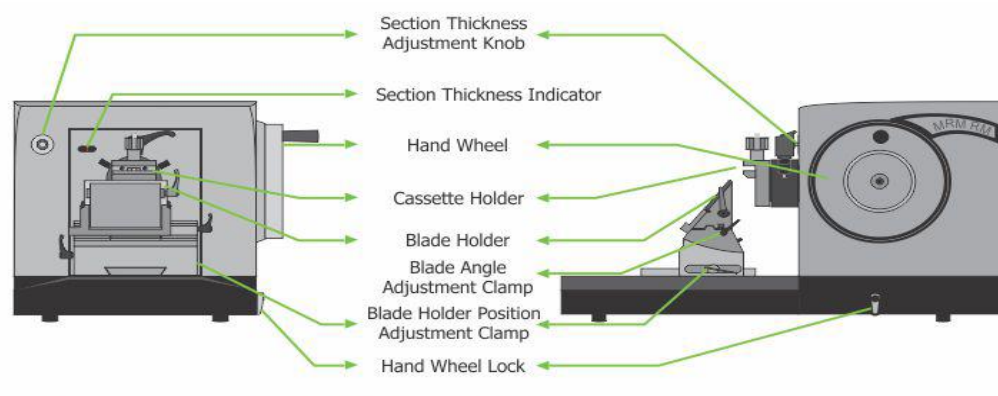
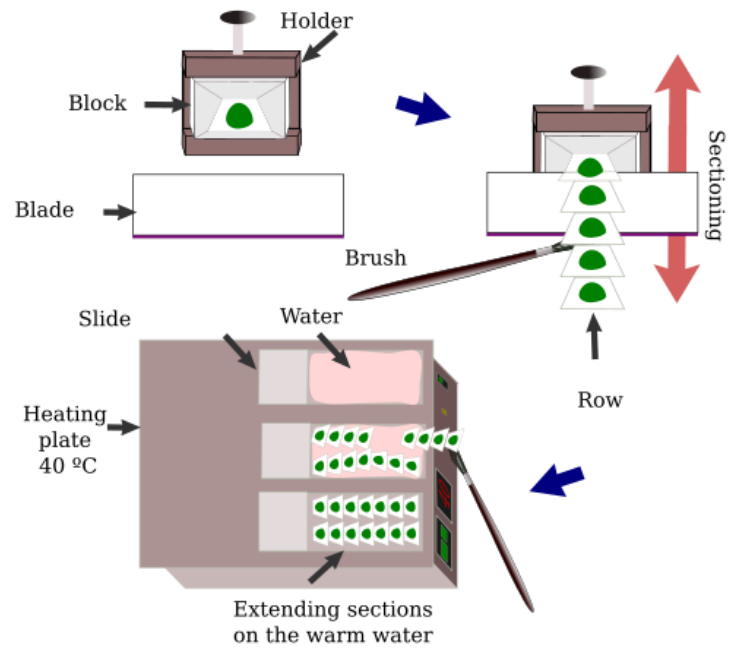


Figure 3. Trimming the paraffin block before obtaining tissue sections.



**Parts of rotary microtome**





**Technique of cutting paraffin embedded sections**

## INSTRUCTIONS

### USE AND CARE OF YOUR MICROTOME KNIFE

#### BEFORE USING YOUR MICROTOME KNIFE

- A. Your microtome knife has been coated with an oil mixture to prevent rust and corrosion when not in use.
- B. Before using your knife, take a lint-free facial tissue saturated in either zylene, benzene, or acetone to remove the protective oil coating on the knife.
- C. Use a dry, lint-free, facial tissue to wipe your knife clean. DO NOT USE GAUZE or any other coarse material, it will destroy the edge of your knife.
- D. Your knife has already been stropped and is now ready for immediate use.

#### CARING FOR YOUR MICROTOME KNIFE

- A. Keep the edge of your knife clean at all times.
- B. Spray or brush any household oil on your knife to prevent rust when not in use.
- C. Store your knife in its case to prevent oxidation from occurring.
- D. If you are using a lab sharpener, periodically send your knife out to be professionally reconditioned.
  - 1. Extremely wide facets result from the continuous use of a lab sharpener. The optimum bevel angle becomes distorted as a result of the facet changes. This diminishes your cutting performance.
  - 2. Double facets may develop on your knife's edge, creating distorted sections.

## References

1. <https://www.microscopeworld.com/t-cleanlens.aspx>
2. **Buffered formalin preparation** <https://www.youtube.com/watch?v=b-Hk21dmMmQ>
3. **This video demonstrates the Identification of specimens which require topping up with preservatives(formalin/Alcohol)**<https://www.youtube.com/watch?v=15teKU7j6Hw>
4. **This is a formaldehyde safety training video will teach your employees how to safely use this chemical.**<https://www.youtube.com/watch?v=oACJSfENFQg>

## Section IV: Microscopy

### OBJECTIVES

- To learn the use of different kinds of microscope available in laboratory
- To study different parts of a compound microscope
- To learn basic handling and routine maintenance of microscopes

### METHODOLOGY

The lab staff will be given a presentation on Microscopes and their types. They will be made aware of the different types of microscopes used for Zoology experiments, primarily Dissecting microscope and Compound microscope.

They will be taught about the various parts of the microscope and their uses; i.e. which experiment will require which type of microscope.

The lab staff will be explained about the routine care, handling, storage and maintenance of the microscope. They will also be explained and shown how to correctly focus a slide on the microscope.

The lab staff will be given a hands-on training on how to focus slides on the microscope. They will be provided with one slide each and asked to focus the slides.

The lab staff will also be taught troubleshooting in case of any problems.

### OUTCOMES

Handling microscopes and museum specimen is always a challenge for lab staffs due to their regular use in zoology. Many of the microscopes are not even suitable for observing slides at 40X due to the dust/stain /xylene on lenses and we spend a lot of money on AMC of these microscopes. By the end of the session the lab staff will be able to understand

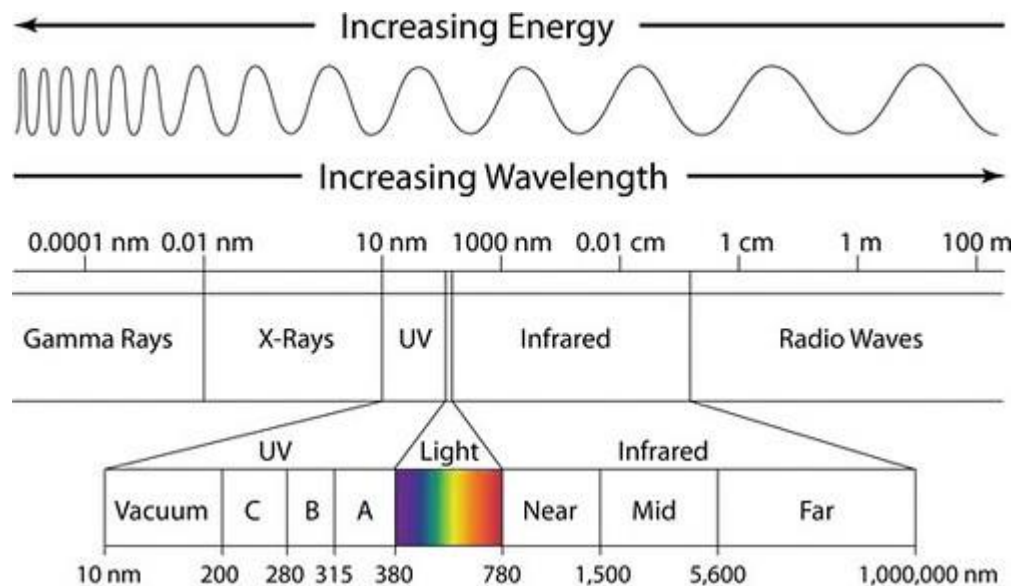
1. Different types of microscopes routinely used in Zoology experiments.
2. Basic parts of a microscope.
3. Microscope handling (storage, moving from one place to another)
4. Microscope maintenance
5. Basic troubleshooting
6. When to call a professional.

### Introduction

Our naked eyes can only visualize objects that:

1. fall under visible range of light
2. are smaller than 1mm (1 mm is also difficult to see)

When we talk about visible range, it is necessary to know what the electromagnetic spectrum is. Visible light falls under the wavelength of 400-750 nm. Anything above or below this range is not visible to us unless we use specific instruments. For example, we can view flowers, butterflies etc. but we cannot see DNA/RNA/proteins unless we use UV light.



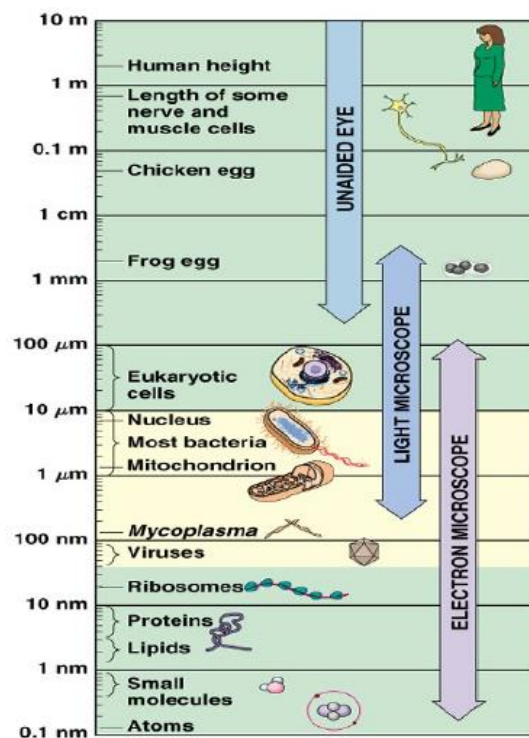
**Fig 1: Components of electromagnetic spectrum**

We can see a building or a dot marked by a pencil, but we cannot see bacteria in curd! This is where the use of microscope comes. The resolution of different types of microscopes is given in Figure 2.

So, **Microscope** is an instrument used to see objects that are too small to be seen by the naked eye; and the science of studying such small objects using microscope is called as **microscopy**.

Depending upon the use, microscopes can be categorized as:

1. Dissecting Microscope
2. Compound Microscope /Light Microscope (Monocular and Binocular)
3. Phase contrast Microscope
4. Fluorescence Microscope
- . Electron Microscope (TEM, SEM)



**Figure 2: Resolution of various types of microscopes**

We commonly use only the above three kinds of microscopes, i.e. dissecting microscopes, compound microscopes, binocular microscopes for routine experiments. In this exercise we will elaborate the instrumentation part, working principle, cleaning and precautions while using microscopes.

### **Dissecting Microscope**

A dissecting microscope is a low power stereoscopic microscope; designed for low magnification observation (5x- 250x) of a sample. It is used in many applications especially during taxonomic studies, embryo separation, entomology etc. It uses light source reflected from the surface of object. There are two major types of magnification systems in stereo microscopes,

- 1) fixed magnification achieved by objective lenses;
- 2) zoom or pancratic magnification, capable variable degree of magnification.

This microscope has comparatively simple operating functions. (Figure 3 a and b)

### **Compound Microscope**

These are modern light microscopes. They are named compound as they have two lens systems, i.e., the oculars and the objectives. Compound microscopes can further be classified as monoculars (one eye piece) and binoculars (two eye piece), but the basic structure remains same for both (head, arm, base). (figure 4 and 5).



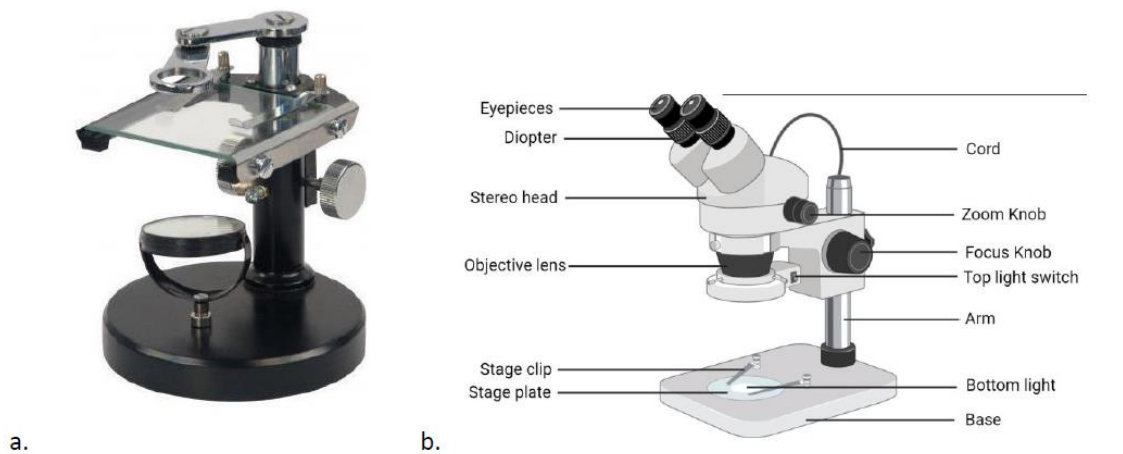


Fig 3: Image source: <https://microbenotes.com/dissecting-microscope/>

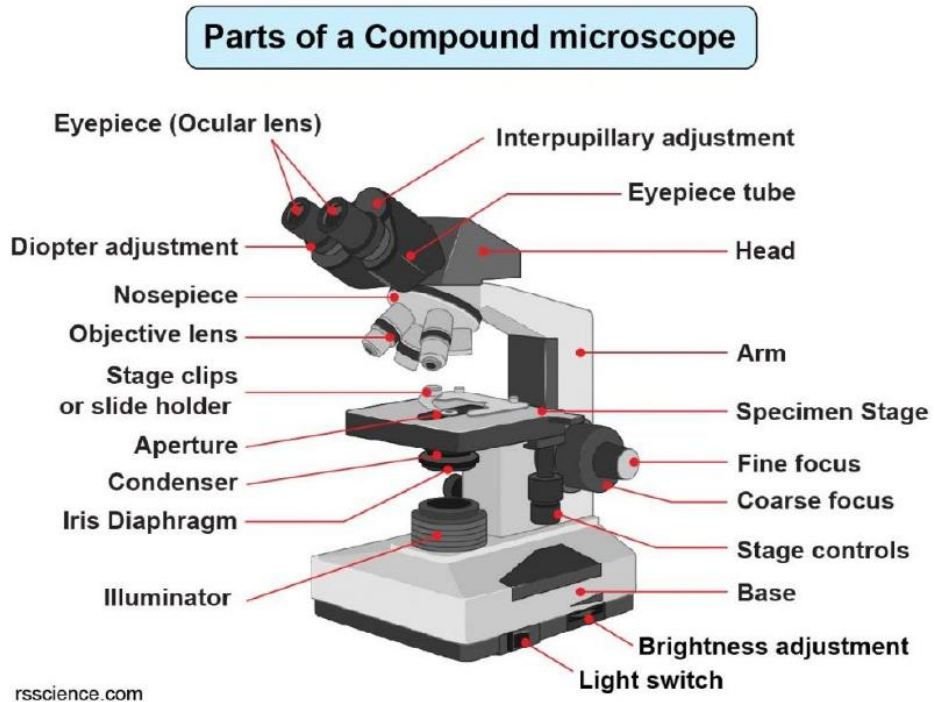
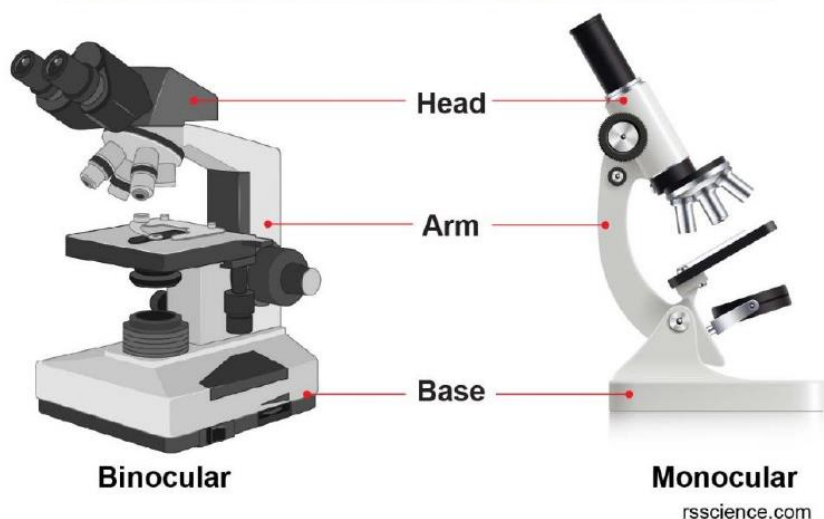


Fig 4: Parts of a Compound microscope

### Major structural parts of a Compound microscope



<https://rsscience.com/compound-microscope-parts-labeled/>

**Fig 5: Structural parts of compound microscope**

Objective Lenses	<ul style="list-style-type: none"> <li>• There are more than one objective lenses.</li> <li>• primary lenses; can have magnification of 4x, 5x, 10x, 20x, 40x, 100x.</li> </ul>
Stage	<ul style="list-style-type: none"> <li>• platform below the objective lens on which the object to be placed.</li> <li>• light beam passes and illuminates the specimen</li> </ul>
Stage Clips	<ul style="list-style-type: none"> <li>• two stage clips one on each side of the stage.</li> <li>• used to hold the slide in place.</li> </ul>
Diaphragm	<ul style="list-style-type: none"> <li>• located on the lower surface of the stage.</li> <li>• used to control the amount of light that reaches the specimen</li> </ul>
The Adjustments	<ul style="list-style-type: none"> <li>• two adjustment knobs: fine and coarse adjustment knobs</li> <li>• coarse adjustment knob helps in improving the focus of the low</li> <li>• fine adjustment knob helps in adjusting the focus with magnification.</li> </ul>
Condenser (Light Microscope)	<ul style="list-style-type: none"> <li>• illuminates the specimen and controls the amount of light and cor</li> </ul>

**General Measures:**

1. Always carry microscopes by the arm and set them flat on your desk.
2. Keep your slide to be viewed with the cover slip (Do not put coverslip while observing specimen under immersion oil.
3. Always start and end with the low power Objective with the lowest magnification.
4. Adjust the Knobs to obtain a field of visibility.
5. Then focus step wise in the higher magnification.
6. Do not remove slides with the high power objective into place - this will scratch the lens.
7. Clean the eye piece and objective.
8. Microscopes should be stored with the low power Objective clicked into place.
9. Always wrap electric cords and cover microscopes before returning them to the cabinet.

**Cleaning Microscope Lenses:**

1. Keep the lenses covered when not in use.
2. If lens is dirty, then locate the dirt. If dirt is seen in all powers, then it is on the outside of the eyepiece lens. a. Try to blow off the residue. Once blown clean, lightly wipe the lens with Kimwipes or Kodak Lens Tissue
3. Cleaning with solvents: use distilled water first. Add 2-3 drops of distilled water on paper and clean the lens. If it does not work, clean lens with >90% Isopropyl alcohol. For further cleaning, a stronger solvent like Xylene can be used.  
(Note: Never use acetone on plastic parts).
4. For cleaning 100X objective with immersion oil, wipe excess oil with Kimwipe. Else wipe it with Xylene, or turpentine using Kimwipe. (Note: Never use water, alcohol or acetone for cleaning immersion oil)
5. For cleaning fungus from lens, 2% hydrogen peroxide can be used (2%, hydrogen peroxide, 4% ammonia in distilled water). Soak the lens for one hour in this mixture and then clean the lens with Kimwipe. Finally, keep the lens elements in front of a UV light for 20 minutes in a dust-free environment.

## Section V: Instrumentation

### OBJECTIVES

Objective 1: Guidelines of lab safety

Objective 2: Principle and working of instruments

2.1: Weighing balance, magnetic stirrer, pH meter, colorimeter, spectrophotometer, water bath, autoclave, centrifuge

2.2: Method of calibration

2.3: Precautions and uses

Objective 3: Working of pipette

3.1: Glass pipette

3.2: Micropipette

### METHODOLOGY

#### WEIGHING BALANCE

Analytical balances are designed to measure small masses with high accuracy and precision. They typically have a readability of 0.1 milligrams, which means they can measure weight up to four decimal places. Analytical balances are enclosed in a glass chamber to protect them from air currents, dust, and other environmental factors that could affect their accuracy.

Analytical balances are sensitive instruments that require careful handling.

Steps for use of weighing balance:

- Set machine to zero
- Put butter paper or foil onto the balance tray
- Tare the machine to set zero
- Weigh the compound. All the window panes should be closed to prevent fluctuation in the reading.
- Clean the balance in case of spillage.

The following precautions should be taken when using analytical balances:

- Avoid touching the weighing pan or other parts of the balance with your hands.
- Use clean, dry weighing paper or other appropriate containers for weighing samples.
- Do not exceed the maximum capacity of the balance.
- Do not place the balance near sources of vibration or air currents.



### **MAGNETIC STIRRER**

Magnetic stirrer uses a rotating magnetic field to move a stir bar around in liquid samples, and some are coupled with stirring hot plate. The movement of this stir bar mixes the samples thoroughly with rapid movement and agitation. The user controls the magnetic field's speed, so it can be customized to the sample that's being stirred. These stirrers should be used with glass or other non-metal beakers to prevent interference with the magnetic field.

This equipment is used to prepare reagents of large volume. After reagent preparation, the magnet immersed in the liquid should be removed with the help of iron rod and should be cleaned properly.





## COLORIMETER

When light is passed through a coloured solution, certain wavelengths are selectively absorbed. The plot of absorbance(A) vs wavelength ( $\lambda$ ) is called the absorption spectrum of the compound in solution. The wavelength at which maximum absorption occurs is called the **absorption maximum ( $\lambda_{\text{max}}$ ) of that compound**. The light that is not absorbed is transmitted through the solution and gives the solution its colour. This is called **transmittance (T)**.

If the concentration of the substance in solution is increased linearly, absorbance increases linearly and transmittance decreases exponentially. Hence absorbance is directly proportional to the concentration of the substance and inversely proportional to transmittance. The term **absorbance** can be defined as

$$\text{Absorbance (A)} = \log \frac{1}{T}$$

Absorbance has no units. Photometric instruments electronically convert the measured transmittance to absorbance values.

Photometric instruments measure transmittance, which is defined as follows:

$$\text{Transmittance } T = \frac{\text{Intensity of the emergent (or transmitted) light}}{\text{Intensity of the incident light}} = \frac{I_e}{I_o}$$

Transmittance is usually expressed on a range of 0 to 100%.

Thus photometry is chiefly governed by two laws: When a parallel beam of monochromatic light passes through a solution, the absorbance (**A**) of the solution is directly proportional to concentration (**c**) of the compound in the solution. This is **Beer's law**.

Each successive layer of the solution absorbs a constant proportion of the light entering the solution, although the absolute amount entering each layer diminishes progressively. Therefore, absorbance is directly proportional to the thickness or length of the light path (**l**) through the solution. This is **Lambert's law**.

$$A \propto c \text{ (Beer's law) } \text{-----(1)}$$

$$A \propto l \text{ (Lambert's law) } \text{-----(2)}$$

By combining (1) and (2), we get

$$A = \epsilon_{\lambda} c l$$

$\epsilon_{\lambda}$ , the proportionality constant is termed the **molar absorption coefficient**.

It is specific for a given substance at a given wavelength. It is the absorbance of one molar solution of a substance with a light path of one centimetre. However, Beer's law applies to only dilute solutions and in practice the concentrations of the solutions that are used in photometry are usually in the mmol/L range. In colorimetry, the absorption coefficient is not usually used. Concentration of an unknown solution can be determined by using equation 1, which is derived as follows:

$$\text{Absorbance of test sample (A}_t\text{)} = \epsilon \times \text{concentration of test (C}_t\text{)} \times l$$

Absorbance of standard sample ( $A_s$ ) =  $\epsilon \times \text{concentration of standard } (C_s) \times l$

Hence,

$$\text{Conc. of test } (C_t) = \frac{\text{Absorbance of test } (A_t)}{\text{Absorbance of standard } (A_s)} \times \text{Conc. of standard } (C_s)$$

The light path,  $l$ , is usually kept constant in photometric measurements, at 1 cm. This is the diameter of the tube (called the cuvette), containing the solution.

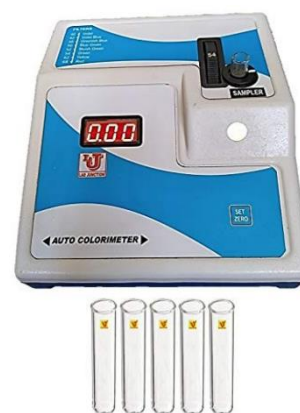
A **standard (or calibrator)** is representative of the substance whose concentration is sought to be determined. The concentration of the compound in the test sample is obtained by comparing its absorbance with that of a known concentration of a standard solution. Ideally, a series of standards of known concentration are prepared, to obtain a standard (calibration) curve. This helps to determine the range of concentrations over which Beer's law is obeyed.

Appropriate **blanks** to exclude the absorbance contributed by the solvents and reagents used- i.e. by anything other than the compound of interest- are also essential for any photometric measurement.

Colorimetry uses the basic principles of photometry, but the solutions have to be coloured, i.e. they must absorb light in the visible range. In order to utilise this principle in clinical biochemistry test, colourless compounds are converted into coloured compounds using chemical reactions. Under defined reaction conditions, the quantity of colour formed is proportional to the quantity of the original colourless compound.

It is used to measure the intensity of light transmitted through a coloured solution. It uses light only in the visible range. Light from a tungsten lamp is passed through a suitable filter, to obtain light of a desired wavelength, which is then passed through the solution placed in a cuvette.

Transmitted light falls on the sensitive surface of a selenium photocell which generates a current proportional to the light intensity. The cell is connected to a galvanometer, which is used to measure percentage transmission or absorbance.



## SPECTROPHOTOMETER

A spectrophotometer works on the same principle as a colorimeter, but it is more sensitive and covers a broad range of wavelength. There are light sources that emit light in the ultraviolet, visible, and infrared regions of the spectrum.

Since light in the ultraviolet and infrared ranges is also emitted, the compound to be estimated does not necessarily have to be colored and can be measured directly, if they significantly absorb, even at these wavelengths.

Glass cuvette is used in colorimeter while quartz cuvette is used in spectrophotometer. Cuvette should be handled carefully and placed in a proper orientation to measure absorbance.



**pH METER**

All the biochemical reactions in the body take place in an aqueous environment and enzymes catalyse most of these reactions. Enzymes are optimally active at a particular  $H^+$  ion concentration. Water ( $H_2O$ ) is dissociated to  $H^+$  and  $OH^-$  ions.

The  $H^+$  ion concentration varies very little in any biochemical fluid or environment. This variation is arrested by some bases or acids which respectively absorb or donate  $H^+$  ions, depending on the situation. This phenomenon is called buffering.

$H^+$  ions can be measured and expressed as mol/L. However, there is a more convenient way to express  $H^+$  ion concentration i.e. pH,

pH is defined as the negative logarithm of  $H^+$  ion concentration.

$$pH = -\log [H^+]$$

In aqueous solutions the pH ranges from 0 to 14. Molar concentration of  $H^+$  or  $OH^-$  ion in pure water is  $1 \times 10^{-7}$  mol/L. Pure water is said to be neutral, with a pH close to 7.0, at 25°C. With water, at neutral point,  $[H^+] = [OH^-] = 10^{-7}$  mol/L

pH at neutral point is,  $-\log [10^{-7} \text{ mol/L}]$ , So neutral pH= 7. pH more than 7 indicates that the solution is alkaline and pH less than 7 is acidic.

pH 0 would be given by 1M HCl. pH 14 would be given by 1M NaOH.

The pH of blood is tightly regulated between 7.35 and 7.45 (slightly alkaline), while gastric juice has a pH of ~1.0 (highly acidic).

Many biochemical substances possess functional groups that are weak acids or weak bases e.g.  $-COOH$ ,  $-NH_2$ , phosphates present on proteins, nucleic acids, coenzymes, intermediary metabolites. Their dissociation behavior influences pH and the structure and function of the entire molecule.

The most accurate method for the routine measurement of pH is the **pH meter**, in which a change in  $[H^+]$  is measured as a change in electrical potential.

If a metal rod is placed in a solution of its salt, it acquires some electric potential. If two dissimilar metals are dipped into the solutions of their own salts, the difference in potential can be measured or calculated from the two separate potentials generated. A standard electrode is thus required, against which the potential of all other electrodes can

be compared. This is the standard hydrogen electrode, consisting of a platinum rod dipped in an aqueous solution with a given  $H^+$  activity in which hydrogen gas is bubbled continuously at 1 atmosphere pressure. But, as this is too cumbersome to be used as a reference electrode for routine use, other secondary reference electrodes of known potential in relation to the standard hydrogen electrodes are used.

The most commonly used secondary reference electrode is the calomel electrode, consisting of mercury-mercurous chloride in contact with a saturated solution of KCl. Its potential is pH independent. The other secondary reference electrode in use is silver-silver chloride in contact with saturated KCl solution. In the pH meter, the most commonly used pH dependent unit is the glass electrode. Certain types of borosilicate glass are permeable to  $H^+$  but not to other cations and anions. Therefore, if a thin glass membrane separates two solutions of different pH, a potential difference is generated across the membrane.

Certain precautions have to be observed while using a pH meter. The glass electrode is fragile and must be handled with care. It must not be left to dry. It is usually kept dipped in 3M KCl.

The temperature compensation dial must be set before it is calibrated, as the potential produced is dependent on temperature. The meter must be calibrated first with a standard buffer pH 7, and then with a standard of pH 4 (if the test sample is expected to be acidic) or with a standard of pH 9 or 10 (if test is expected to be basic).



## CENTRIFUGATION

Centrifugation is a technique used for the separation of particles using a centrifugal field. The particles are suspended in liquid medium and placed in a centrifuge tube. The tube is then placed in a rotor and rotated at a certain speed. Rotation of the rotor about a central axis generates a centrifugal force upon the particles in the suspension.

Two forces counteract the centrifugal force acting on the suspended particles:

1. **Buoyant force:** This is the force with which the particles must displace the liquid media into which they sediment.
2. **Frictional force:** This is the force generated by the particles as they migrate through the solution. Particles move away from the axis of rotation in a centrifugal field only when the centrifugal force exceeds the counteracting buoyant and frictional forces, resulting in sedimentation of the particles at a constant rate.

Particles which differ in density, size or shape, sediment at different rates. The rate of sedimentation depends upon:

1. The applied centrifugal field
2. Density and radius of the particle
3. Density and viscosity of the suspending medium



#### **PRECAUTIONS DURING CENTRIFUGATION**

It is important that the tubes/centrifuge cups in the rotor head be balanced before centrifugation. This will permit minimize breakage of tubes, wear and tear on the motor and bearings, and loss of sample.

Tubes should be properly capped and the lid of the centrifuge closed during centrifugation. This will prevent the release of infectious material inside the centrifuge by aerosol formation. If breakage occurs resulting in the spillage of potentially infectious material, the centrifuge bowl will be contaminated. Spillage of the sample can lead to corrosion of the centrifuge. Therefore, in case of any spillage, the centrifuge should be properly decontaminated and cleaned.

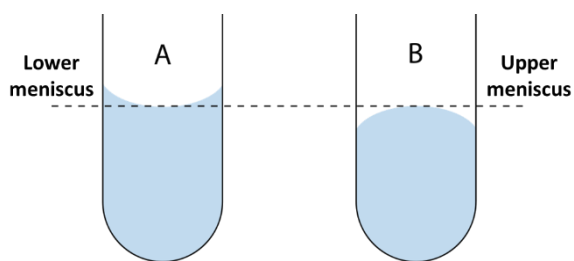
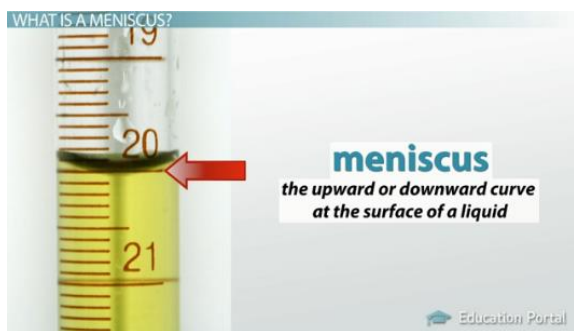
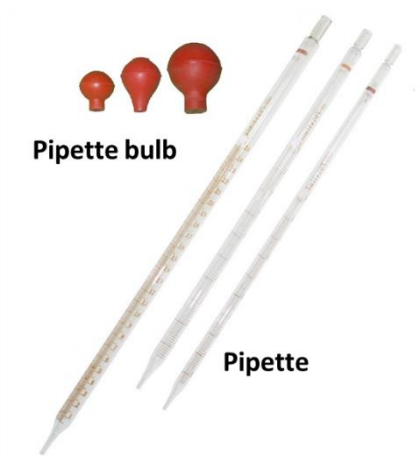
#### **PIPETTE**

A graduated pipette is a pipette with its volume, in increments, marked along the tube. It is used to accurately measure and transfer a volume of liquid from one container to another.[1] It is made from plastic or glass tubes and has a tapered tip. Along the body of the tube are graduation markings indicating volume from the tip to that point.

When observing a volume of a liquid in graduated pipette, read the point on the graduated scale that coincides with the bottom of the curved surface of the liquid. The curved surface of the liquid is called the meniscus. When filling a volumetric pipette or flask, make sure that the bottom of the meniscus is exactly even with the calibration mark. When working with transparent solutions, lower meniscus is used, however, in case of colored solution, upper meniscus is considered for the measurement.

Pipettes could be blow-out or non-blow out. When the graduated markings in the pipette starts near the end of the tip, pipette is non-blow out in which the liquid is dispensed upto the marking of the measurement. Blow out pipette has measurement markings till the end of the tip, and hence, the last drop of liquid should be expelled into the receiving vessel in case of blow out pipette.



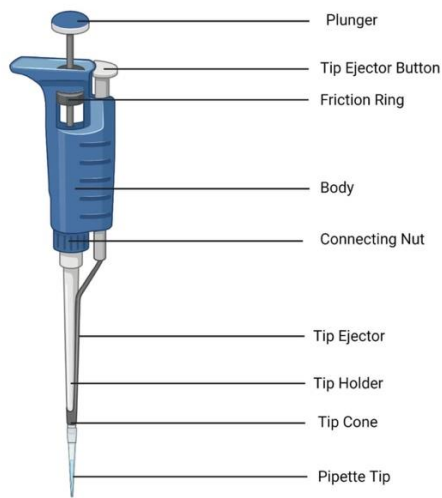


## Micropipette

A micro pipette is a common yet essential laboratory instrument used to accurately and precisely transfer volumes of liquid in the microliter range. Micropipettes are available in single-channel and multi-channel variants. Micropipettes are available in different designs and sizes.

When the plunger is pressed, the air inside the shaft forces the liquid in the micropipette tip to expel. Similarly, when the plunger is released, the piston moves upward, and the air is replaced by the liquid, so the liquid is collected in a micropipette tip.

## Parts of Micropipette



## WATER BATH

A water bath is a piece of scientific equipment used to maintain a steady temperature for a prolonged time when incubating samples. It can be used for reagent warming, substrate melting, or cell culture incubation. The bath fluid must not be heated above its flash point. The water level should be monitored on daily basis, and only distilled water should be used. This is required to prevent salts from depositing on the heater. Disinfectants can be added to prevent the growth of organisms. The cover must be closed to prevent evaporation and to help to reach high temperatures. The machine must be set up on a steady surface away from flammable materials.



## AUTOClave

An autoclave is a machine that uses steam under pressure to kill harmful bacteria, viruses, fungi, and spores on items that are placed inside a pressure vessel. The items are heated to an appropriate sterilization temperature for a given amount of time. The moisture in the steam efficiently transfers heat to the items to destroy the protein structure of the bacteria and spores. Steam sterilization in autoclave is achieved at a temperature of

121°C and pressure of 15psi for 20 minutes. Water level should be maintained in the autoclave. The gasket of the autoclave should be closed properly during use.



#### **OUTCOME**

After this training, the technical staff will be able to handle the above-mentioned instruments properly. They will be able to calibrate the instruments with care and precaution.

#### **References**

1. Principles and Techniques of Biochemistry and Molecular Biology, 7th edition, Edited by Keith Wilson And John Walker, Chapter 11 “Chromatographic techniques”
2. Tietz Textbook of Clinical Chemistry and Molecular Diagnostics, 6<sup>th</sup> edition, Chapter 16 “Chromatography”

## **Section VI: Biotechnological Techniques**

#### **OBJECTIVES**

Attempts have been given to provide a wholesome idea of chemicals/ reagents used in molecular biology/biotechnological techniques at a basic level.

## METHODOLOGY

### 1. TAE buffer (pH 8.3)

Buffer solution of Tris base, acetic acid and EDTA.

TAE buffer is commonly prepared as a 50× stock solution. This stock solution can be diluted 49:1 with water to make a 1× working solution.

Preparation:

Component	50X Solution	1 L (50x) Stock	1X Solution	1x Working
<b>Tris base</b> (MW=121.1 g.mol <sup>-1</sup> )	2 M	242 g	40 mM	4.844 g/L
<b>Glacial acetic acid (17.5 M)</b> (MW=60.05 g.mol <sup>-1</sup> )	1 M	57.1 mL	20 mM	1.21 ml/L
<b>0.5 M EDTA (pH 8.0)</b> (MW=372.24 g.mol <sup>-1</sup> )	50 mM	100 mL	1 mM	0.372 g/L

#### 50x Working Solution

- Dissolve 242 g Tris base in 800mL of autoclaved distilled H<sub>2</sub>O.
- Add 100 mL 0.5 M EDTA.
- Add 57.1 mL Glacial acetic acid.
- Adjust pH to 8.3 with 1M NaOH/HCL if required.

- add distilled H<sub>2</sub>O to final volume upto 1 litre.
- store at room temperature for a long time. Dispose of if precipitates form.

### 1x Working Solution

- Add 1 volume of 50x TAE to 49 volumes of distilled H<sub>2</sub>O.
- Usually, 1x TAE can be used for a couple of gel runs as long as there is no significant evaporation.

### Uses

It is used in agarose electrophoresis to separate nucleic acids such as DNA and RNA

EDTA; sequesters divalent cations.

### TAE vs TBE

TAE has a lower buffer capacity than TBE buffer (Tris-Borate-EDTA buffer) and can easily become exhausted, but linear, double stranded DNA runs faster in TAE. TBE is useful in separating short fragments <1.5kbp & has a higher buffering capacity, but the borate involved in this buffer could potentially inhibit the activity of enzymes. Thus, **TAE is a better choice** if the electrophoresis is followed by nucleic acid isolation from the gel and other steps (example; ligation). The electrophoresis with TAE is also considered to be **faster** than TBE for long fragments but slower for short fragments <300bp.

### 2. 0.5M EDTA (ethylenediaminetetraacetic acid) (pH 8.0)

Stock Solution – 1 L

- Weigh 186.12 g of EDTA Disodium (EDTA Disodium) [mw. = 372.24 g/mol]
- Add 186.1 g of disodium EDTA•2H<sub>2</sub>O to 800 mL of H<sub>2</sub>O.
- Adjust the pH to 8.0 with NaOH (~20 g of NaOH pellets).
- Stir vigorously on a magnetic stirrer. Mix until the EDTA is completely dissolved.
- Fill to a final volume of 1 L with autoclaved distilled H<sub>2</sub>O.
- Can be store at room temperature for years.

NOTE: The disodium salt of EDTA will not dissolve until the pH of the solution is adjusted to ~8.0 (or sufficiently alkaline) by the addition of NaOH.

### 3. Ethidium bromide (EtBr)

Ethidium bromide is used to visualize DNA in agarose gels

**Stock- 10mg/ml or 1%.**

- Add 1 g of ethidium bromide to 100 mL of distilled H<sub>2</sub>O.
- Wrap the container in aluminum foil or black paper.
- Stir on a magnetic stirrer for several hours to ensure that the dye has dissolved.
- Transfer the 10 mg/mL solution to a dark bottle and store at room temperature.

\*The 10 mg/ml ethidium bromide Stock solution can be diluted to 0.5 µg/ml for gel staining.

**Working - 0.5 µg/ml-(1 liter):**

- Add one drop (50 µl) of 10 mg/ml ethidium bromide solution to 1000 ml double distilled water
- Soak the gel for 15 minutes with gentle agitation. Longer staining times will result in high background.



**Precautions:**

## Health Hazards

- Ethidium bromide is a highly toxic chemical and a potent mutagen. May cause heritable genetic damage. It can cause eye and skin irritation.
- Wear Gloves at all times while handling EtBr.
- Wash contaminated skin with running water.
- Clean up liquid spills on surface by absorbing the liquid with absorbent material, discard carefully. Spray the area with a 10% bleach solution, clean up with absorbent material, rinse with water, and dry the area with paper towels.
- If you feel unwell, seek medical advice.

**4. Agarose Gel Electrophoresis**

- Preparation of Agarose Gel Electrophoresis
- Weigh 0.8 g agarose and dissolve it in 100 mL of 1x TAE Buffer (0.8%).
- Heat the solution over a hot plate to boiling constituency marked with a clear solution
- Leave the solution to cool and add 5µl of EtBr solution mix it well by gentle swirling.
- Pour it in the gel tray-comb set up. Also be sure the gel plates have been taped securely and contain the well combs prior to pouring.
- Allow the solution to cool and harden to form gel.

## Loading of Samples

- Carefully transfer the gel to the electrophoresis tank filled with 1x TAE buffer.
- Prepare your samples [8 ul of DNA sample (0.1 ug to 1ug) and 2 ul of 5x gel Loading dye]
- Remove the comb and load the samples into the well.
- Connect appropriate electrodes to the power pack and run it at 50- 100volts for 20min.
- Monitor the progress of the gel with reference to tracking dye (Bromophenol blue).
- Stop the run when the marker has run  $\frac{3}{4}$  th of the gel.

## Examining the gel

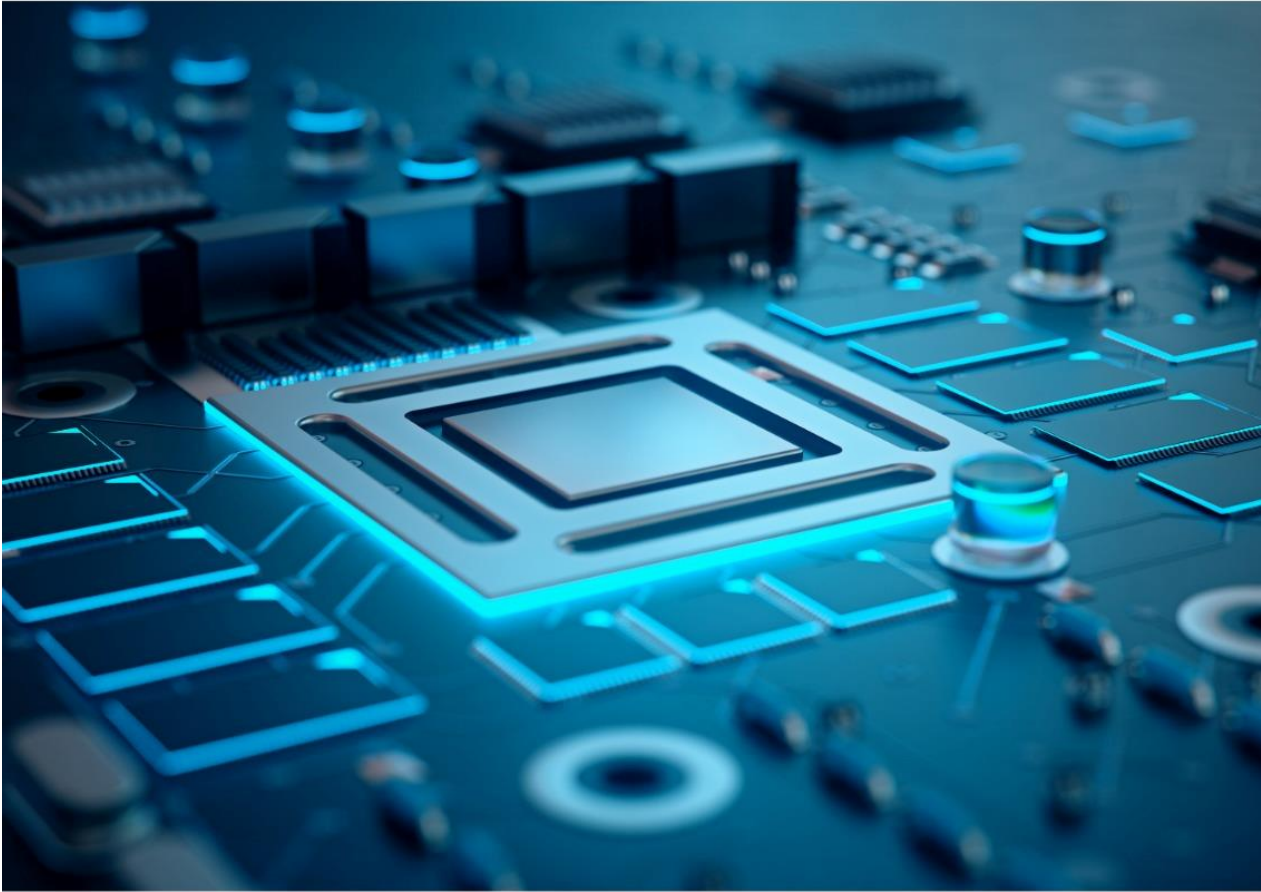
- Place the gel on the UV-transilluminator and check for orange colored bands in the Gel.

**OUTCOMES**

Upon completion of the course, candidate will be able to:

Prepare Buffer, reagents which are used in molecular biology techniques.

Prepare Agarose gel and know the basics of agarose gel electrophoresis now the health hazards of few chemicals and how to handle toxic chemicals.



# DEPARTMENT OF ELECTRONICS

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## **INTRODUCTION**

In the realm of electronics, a profound understanding of components and adept utilization of testing and measurement equipment form the foundation of successful experimentation and innovation. Components, such as resistors, capacitors, and semiconductors, serve as the building blocks of electronic circuits. A nuanced comprehension of their properties, specifications, and behavior is essential for designing robust and efficient systems.

Equally crucial is the mastery of testing and measurement equipment, ranging from oscilloscopes and multimeters to signal generators. These tools empower engineers and researchers to scrutinize circuit performance, troubleshoot issues, and validate theoretical predictions. Precision in measurement ensures the reliability of results and the overall functionality of electronic devices.

Moreover, safety protocols in the electronics laboratory are paramount. The intricate nature of electronic components and high voltages involved demand meticulous adherence to safety guidelines. Proper training in the handling of equipment, use of personal protective gear, and awareness of emergency procedures mitigate the risks associated with experimentation.

In essence, a comprehensive understanding of components and proficiency in testing and measurement techniques not only elevate the quality of teaching and learning in electronics but also safeguard the well-being of those working in the laboratory environment.

### **OBJECTIVES:**

- To familiarize the participants with various active and passive electronic components commonly used in the experiments.
- Efficient circuit design: Knowledge of component behavior, specifications, and limitations ensures the creation of circuits that meet desired performance criteria.
- Proficiency in using testing and measurement equipment, such as oscilloscopes and multimeters, will equip participants to troubleshoot electronic circuits efficiently.
- Creating a secure work environment through proper equipment handling, the use of personal protective gear, and the implementation of emergency procedures, mitigating the risks associated with high voltages and intricate electronic components.

### **METHODOLOGY:**

- A comprehensive educational framework that covers the fundamental principles of electronic components. This will involve theoretical lectures, hands-on demonstrations, and interactive learning modules to ensure a solid understanding of resistor properties, capacitor behavior, semiconductor device characteristics, and more.
- Integrate theoretical knowledge with practical laboratory sessions where participants can physically interact with electronic components. Provide opportunities for component identification, measurement, and experimentation, fostering a hands-on approach to learning. Encourage participants to construct basic circuits.
- Training program focusing on the usage of testing and measurement instruments-oscilloscopes, multimeters, and signal generators.
- Practical exercises involving circuit analysis, waveform interpretation, and troubleshooting scenarios to enhance proficiency.

### **OUTCOMES:**

- Participants will acquire a profound understanding of electronic components, enabling them to select, integrate, and troubleshoot components effectively in electronic circuits.
- They will gain the skills necessary for accurate readings, effective troubleshooting, and precise measurements, contributing to the reliability of experimental outcomes.
- Implementation and knowledge of safety protocols will instill a safety-conscious mindset among participants.

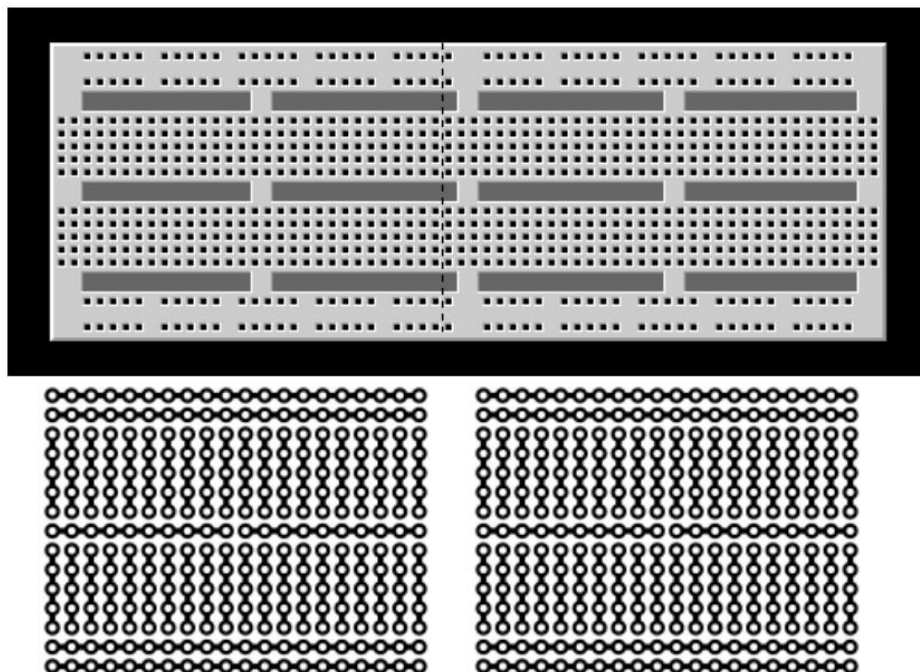
#### **LAYOUT OF MANUAL:**

1. SECTION 1: BASIC ACTIVE AND PASSIVE ELECTRONICS COMPONENTS
2. SECTION 2: UNIVERSAL IC TESTER
3. SECTION 3: TESTING AND MEASURING INSTRUMENTS
4. SECTION 4: LAB SAFETY RULES
5. SECTION 5: REFERENCES

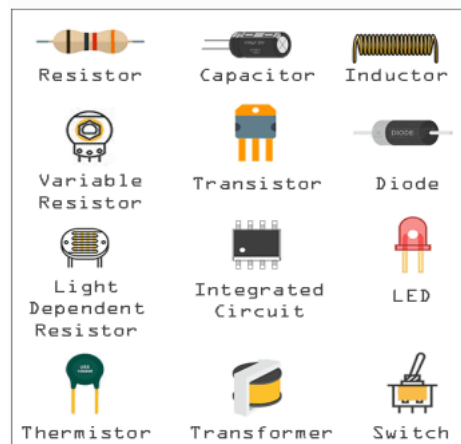
## **Section 1: Basic Active And Passive Electronic Components**

#### **BREADBOARDS:**

To temporarily construct a circuit without damaging the components used to build it, we must have some sort of a platform that will both hold the components in place and provide the needed electrical connections.



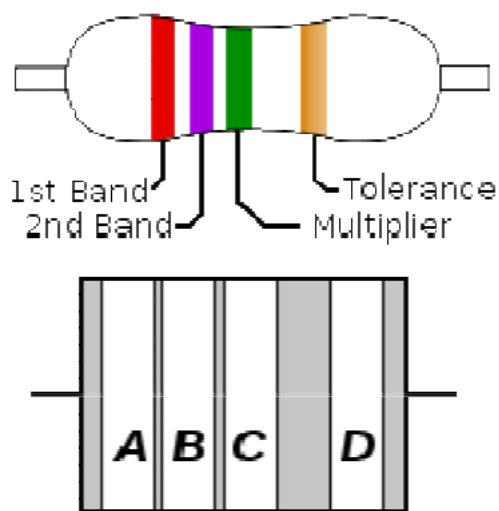
## ELECTRONIC COMPONENTS



### RESISTORS:

Most axial resistors use a pattern of colored stripes to indicate resistance. A 4 band identification is the most commonly used color coding scheme on all resistors. It consists of four colored bands that are painted around the body of the resistor. Resistor values are coded in ohms ( $\Omega$ ). The color codes are given in the following figure.

- band A is first significant figure of component value
- band B is the second significant figure
- band C is the decimal multiplier
- band D if present, indicates tolerance of value in percent (no color means 20%)

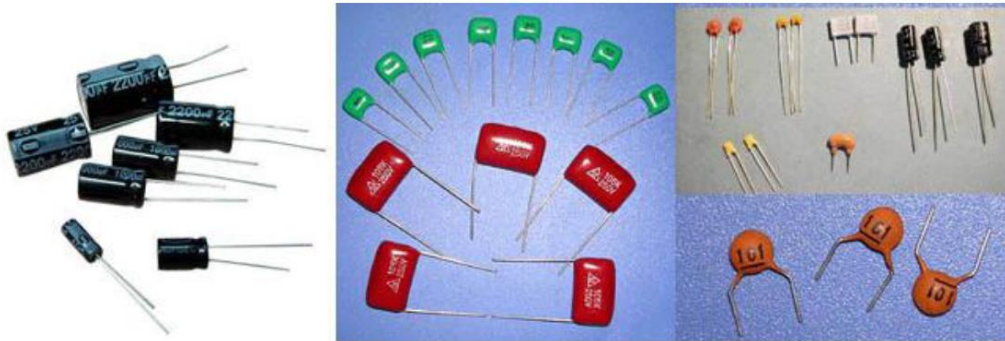


Band Color	Digit	Multiplier	Tolerance
Black	0	1	---
Brown	1	10	$\pm 1\%$
Red	2	100	$\pm 2\%$
Orange	3	1,000	$\pm 3\%$
Yellow	4	10,000	$\pm 4\%$
Green	5	100,000	---
Blue	6	1,000,000	---
Violet	7	10,000,000	---
Gray	8	100,000,000	---
White	9	---	---
Gold	---	0.1	$\pm 5\%$
Silver	---	0.01	$\pm 10\%$
None	---	---	$\pm 20\%$

Figure: Color codes of Resistors

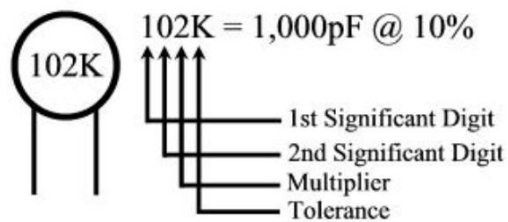


## CAPACITORS:



**Electrolytic Capacitors:** An electrolytic capacitor is a type of capacitor that uses an electrolyte, an ionic conducting liquid, as one of its plates, to achieve a larger capacitance per unit volume than other types.

**Ceramic Capacitors** are generally non-polarized and almost as common as radial electrolytic capacitors.

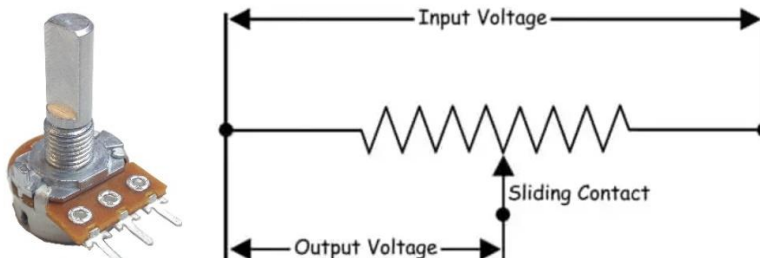


Code	Tolerance
C	$\pm 0.25\text{pF}$
J	$\pm 5\%$
K	$\pm 10\%$
M	$\pm 20\%$
D	$\pm 0.5\text{pF}$
Z	80% / -20%

(For e.g.  $104 = 10 \times 10^4 = 100000\text{pF} = 100\text{nf} = 0.1\text{uf}$ ,  $474 = 47 \times 10^4 = 470000\text{pF} = 470\text{nF} = 0.47\text{uF}$ )

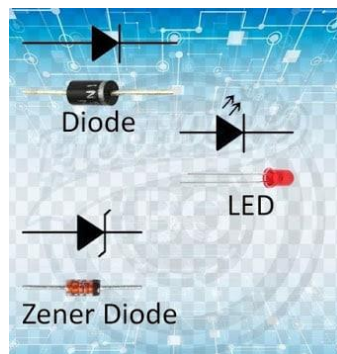
## POTENTIOMETER:

A **potentiometer** (also known as a **pot**) is a 3 terminal variable resistor in which the resistance is manually varied to control the flow of electric current. A potentiometer acts as an adjustable voltage divider.



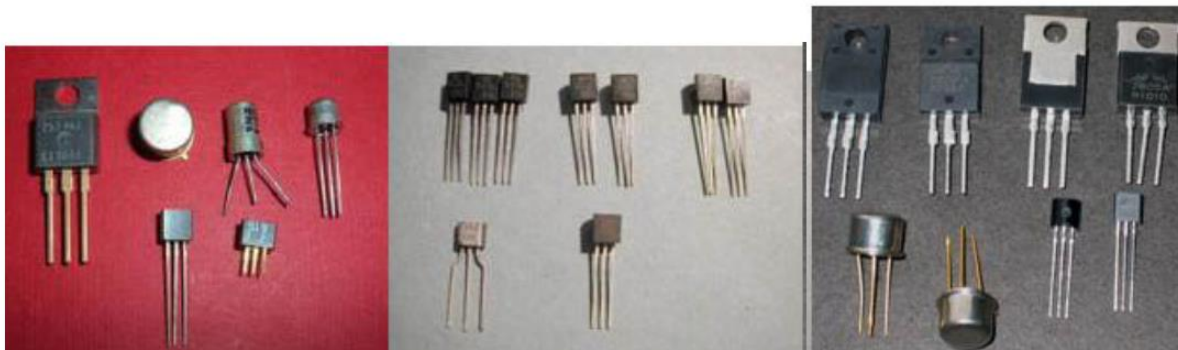
## **DIODES:**

In electronics, a diode is a two-terminal electronic component with asymmetric conductance, it has low (ideally zero) resistance to current flow in one direction, and high (ideally infinite) resistance in the other.

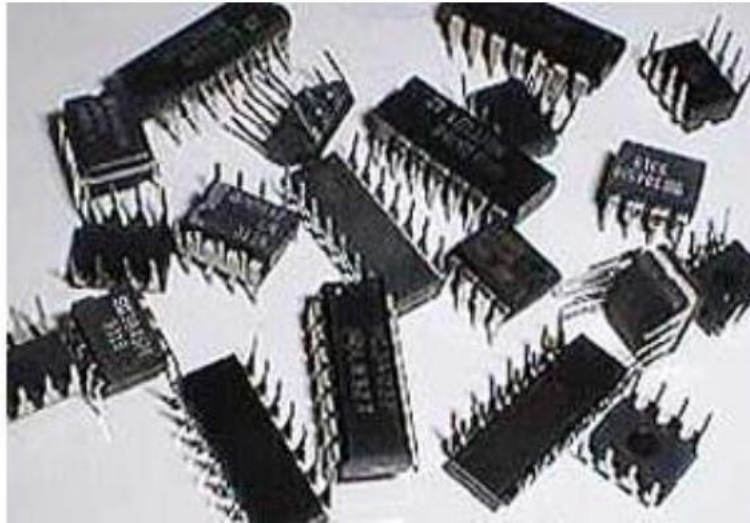


## **TRANSISTORS:**

A transistor is a semiconductor device used to amplify and switch electronic signals and electrical power. It is composed of semiconductor material with at least three terminals for connection to an external circuit. A voltage or current applied to one pair of the transistor's terminals changes the current through another pair of terminals. Because the controlled (output) power can be higher than the controlling (input) power, a transistor can amplify a signal.



## Section 2: UNIVERSAL IC TESTER



Integrated Circuits (ICs)



**DICT-04 UNIVERSAL IC TESTER**

Universal IC Tester is used to test the goodness of Digital and Analog ICs commonly used during the experiments. It is used to test a wide range of Digital IC's such as TTL (74 Series), CMOS IC's (40/45 Series) as well as Analog IC's such Op-amp (741), and 555 Timers.

It can also be used to test Peripherals & Memory IC's like 8255, 8279, 8253, 8259, 8251, 8420, 6264, 62256, 2764, 27128, 27256 along with a wide range of 8 bit ADC, 8 bit DAC, Comparators.

It has Auto search facility for Digital IC's.

The Tester has a 20 Touch-keys Key pad with numerical & functional keys.

Place the IC in the given slot (Analog/Digital). Press RESET button and Enter the IC number printed on IC to be tested. Then press TEST button. If IC is working 'GOOD' will display on text screen else 'BAD' is displayed.

## Section 3: Testing and Measurement Instruments

### A. Multimeter

A Multimeter, also known as Multi tester, is an electronic measuring instrument which can measure Voltage, Current and Resistance. Hence, the name “Multi” meter, as it combines the functionalities of Voltmeter, Ammeter and Ohmmeter into a single device.

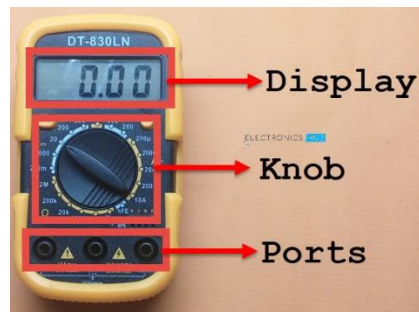


**A Multimeter with Probes**

### Parts of a Multimeter

A basic Multimeter consists of four parts. They are:

- Display
- Selection Knob
- Ports
- Probes

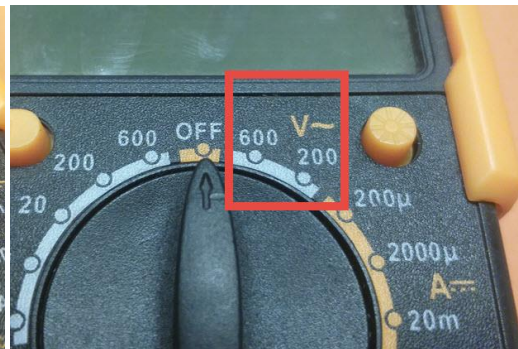


### AC and DC Voltage Measurement using Multimeter

1. Always connect the Black probe to the COM port. The Red probe is usually connected to the port with label VΩmA.
2. Set the knob for voltage measurements as shown in figure.
3. **WARNING:** Measure AC Voltage with extreme caution and preferably under a professional supervision. Make sure that the probes are properly inserted in to the Multimeter ports without any exposed metal. Do not touch the probes by the tips. AC Mains can be very dangerous. If in doubt, better not to use Multimeter for AC Mains Voltage measurement.



a. DC Voltage



b. AC Voltage

### Current Measurement:

Most Digital Multimeters can only measure DC Current. So, there will be a straight line adjacent to the A to indicate DC Current measurement.

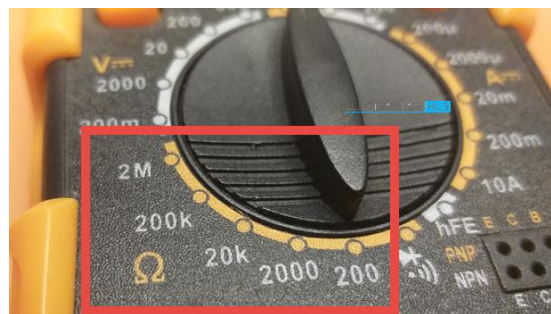
1. Use the other port with label 10ADC to measure DC Current up to 10A. The 10A port will usually be marked whether there is an internal fuse or not. Be very careful when using this port and do not use this port for long continuous durations (not more than 10s).
2. we have to make the Multimeter a part of the circuit so that same current passes through the Multimeter as in the component.





### **Measuring Resistance**

The Ohmmeter section of the Multimeter is represented by  $\Omega$  symbol. This meter can measure resistance up to  $2M\Omega$ .



### **Testing Continuity**

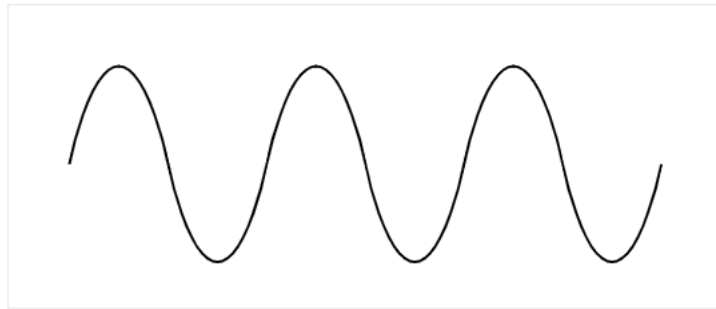
It is used to test continuity from point A to B in a circuit, whether a wire is conducting or not, whether a switch is properly functioning or not.

The continuity test function is usually represented by a “speaker” symbol.

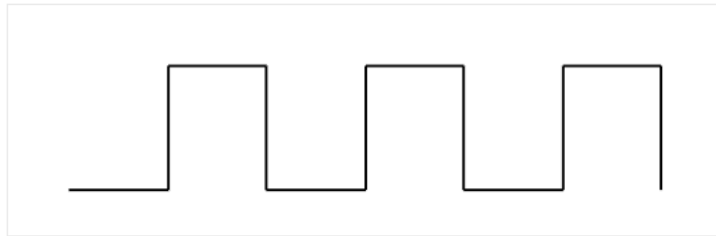


## **B. Function Generator**

A function generator is generally termed as a signal generator that gives multiple kinds of output waveforms (sine, square, sawtooth, and Triangular) based on the input signal. The device also provides the option of adjusting frequency ranges between a few Hz to some 100KHz. The other feature of a function generator is its ability to offer variation in the shape of the wave, magnitude, offset, and frequency whereas a load is necessary before doing the adjustment.



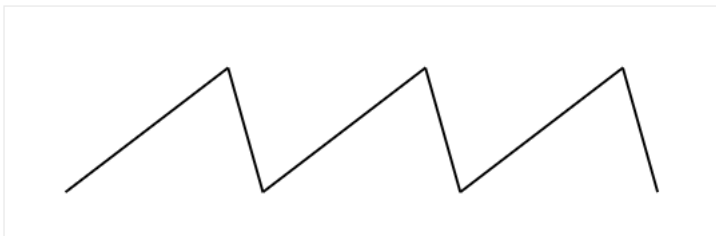
A.



B.

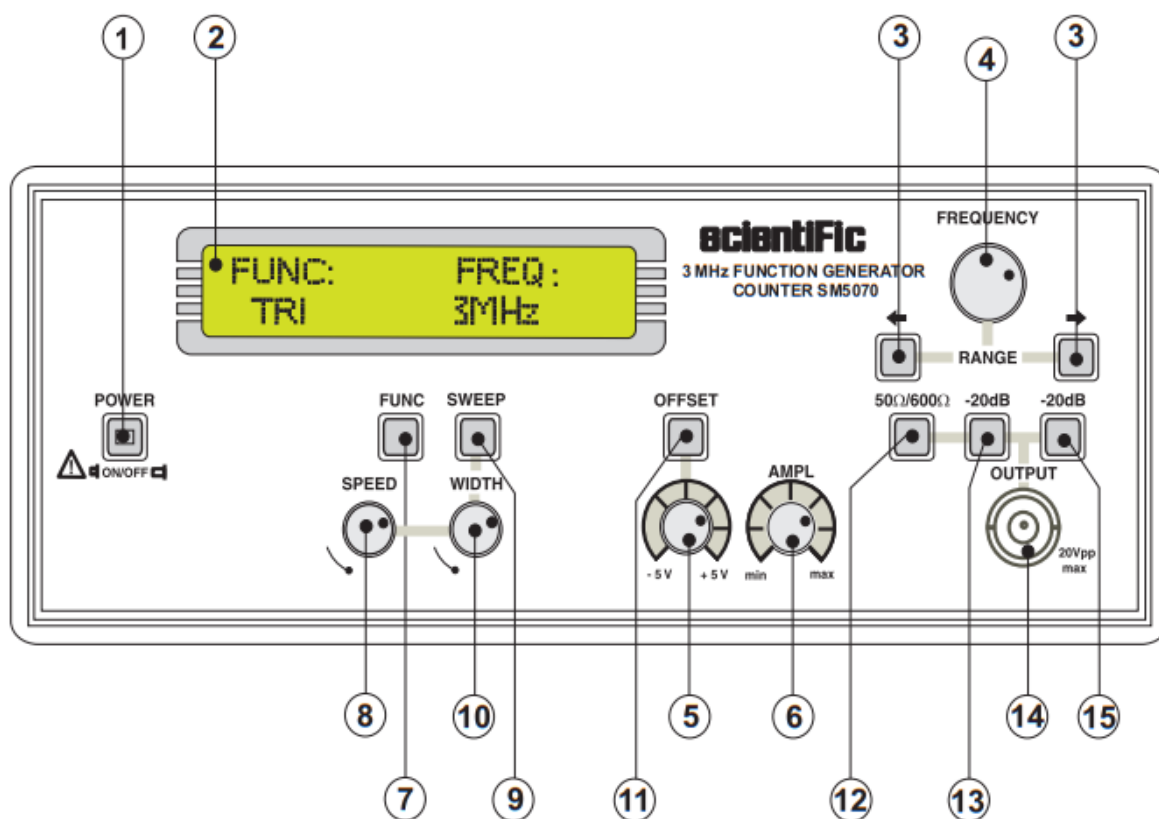


C.



D.

Signal Waveforms: A. Sine B. Square C. Triangular D. Sawtooth



**Function Generator Panel and Controls**

- ① **POWER** : Push button switch for supplying power to instrument.
- ② **DIGITAL DISPLAY** : 16\*2 dot matrix LCD display
- ③ **Range** : Frequency range selection from 0.3 Hz to 3 MHz in 7 decade steps
- ④ **FREQUENCY** : (adjusting knob) Continuous and linear frequency fine adjustment, overlapping the ranges selected with ③. Setting range from x0.09 to x1.1 of the selected range.
- ⑤ **OFFSET** : Adjustment of the positive or negative offset voltage. DC voltage can be superimposed on the output signal. The max. offset voltage is  $\pm 5\text{ V}$  (o.c.) or  $\pm 2.5\text{ V}$  when terminated with  $50\ \Omega$ .
- ⑥ **AMPLITUDE** : Continuous adjustment of the output amplitude from 0 to  $-20\text{ dB}$ .
- ⑦ **FUNCTION** : Mode selection switch (Triangle- Sine – Square – DC)
- ⑧ **SPEED** : Setting of wobulation speed in Sweep mode

- ⑨ **SWEEP** : Activates the internal Sweep mode
- ⑩ **WIDTH** : Setting of wobulation width
- ⑪ **OFFSET** : Activates the DC offset function
- ⑫ **50 $\Omega$ /600 $\Omega$** : Selects the output impedance at the output BNC
- ⑬ **-20 dB** : When pressed the output signal gets attenuated by 20 dB fixed attenuator.
- ⑭ **OUTPUT (BNC connector)** : Short-circuit-proof signal output of the generator.  
The output impedance is 50  $\Omega$ /600  $\Omega$ , and the max. output amplitude is 20 V<sub>pp</sub> (o.c.) or 10 V<sub>pp</sub> respectively when terminated with 50  $\Omega$
- ⑮ **-20 dB** : When pressed the output signal gets attenuated by 20 dB fixed attenuator. When both attenuator push buttons are activated, a total attenuation of 40dB results. Including the amplitude control the max. attenuation amounts to 60 dB (factor 1000).

### C. Cathode Ray Oscilloscope/ Digital Storage Oscilloscope

An oscilloscope is a test instrument which allows us to look at the 'shape' of electrical, signals by displaying a graph of voltage against time on its screen. It is like a voltmeter with the valuable extra function of showing how the voltage varies with time.

A graticule with a 1cm grid enables us to take measurements of voltage and time from the screen.



Oscilloscope circuit symbol

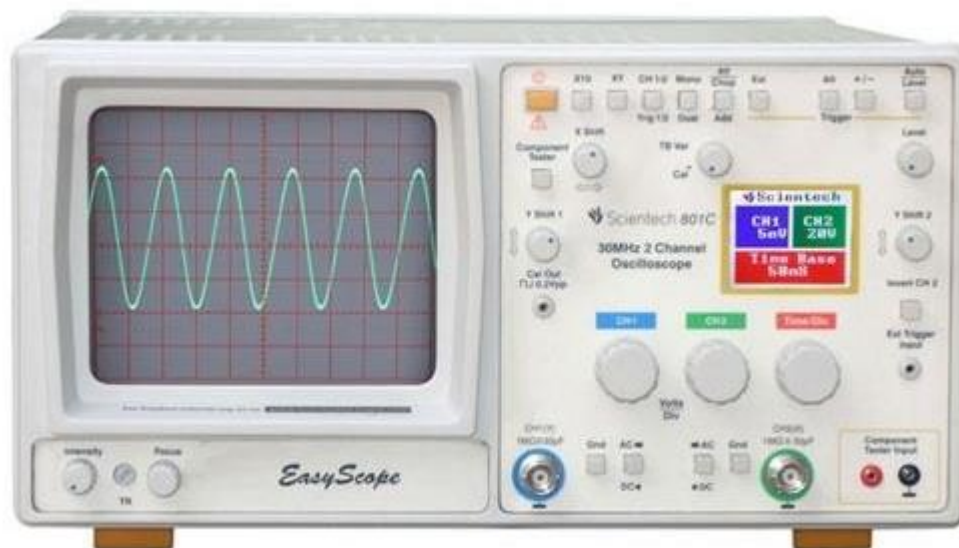
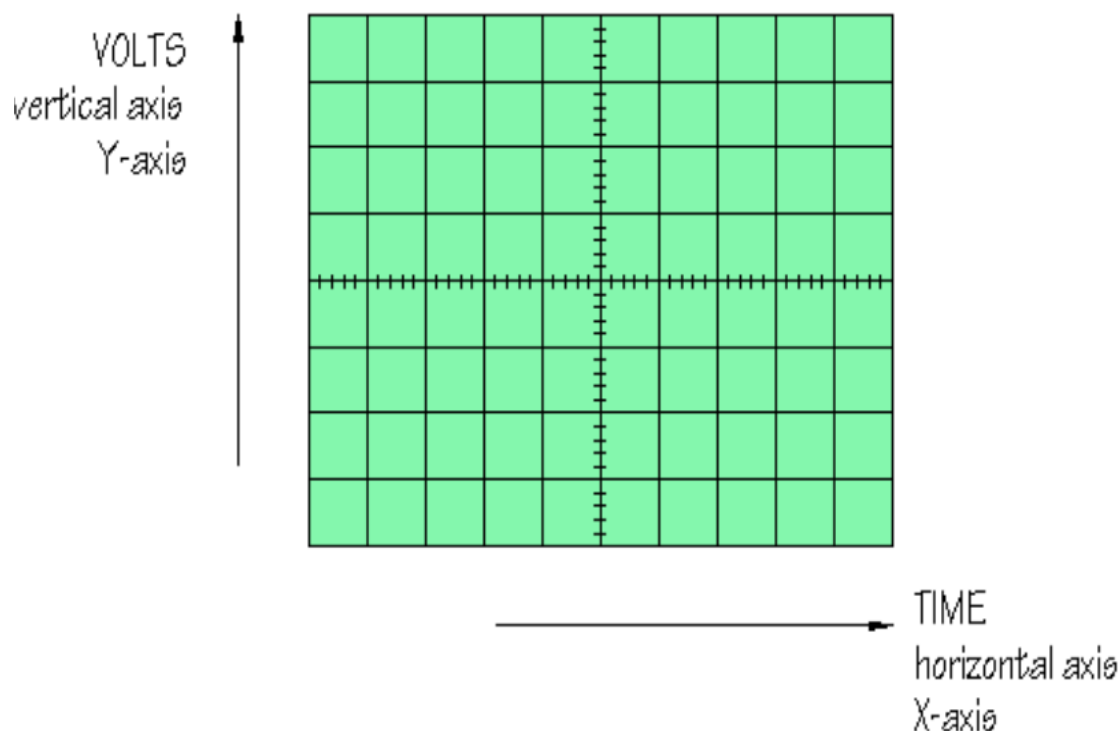


Figure: Front Panel of CRO

## Procedure

1. **Switch on** the oscilloscope to warm up (it takes a minute or two).
2. Do **not** connect the input lead at this stage.
3. Set the **AC/GND/DC** switch (by the Y INPUT) to **DC**.
4. Set the **SWP/X-Y** switch to **SWP** (sweep).
5. Set **Trigger Level** to **AUTO**.
6. Set **Trigger Source** to **INT** (internal, the y input).
7. Set the **Y AMPLIFIER** to **5V/cm** (a moderate value).
8. Set the **TIMEBASE** to **10ms/cm** (a moderate speed).
9. Turn the timebase **VARIABLE** control to **1** or **CAL**.
10. Adjust **Y SHIFT** (up/down) and **X SHIFT** (left/right) to give a **trace across the middle of the screen**, like the picture.
11. Adjust **INTENSITY** (brightness) and **FOCUS** to give a bright, sharp trace.
12. A **calibration point** is used to calibrate the CRO. It gives a steady square wave at a particular set frequency and voltage. It allows the accurate scaling of the trace. The standard calibration signal is 0V-2V at 1KHz.



After connecting the oscilloscope to the circuit you wish to test, **set the controls** to obtain a clear and stable trace on the screen. Most oscilloscopes have a **BNC socket** for the y input and the lead is connected with a **push and twist action**.

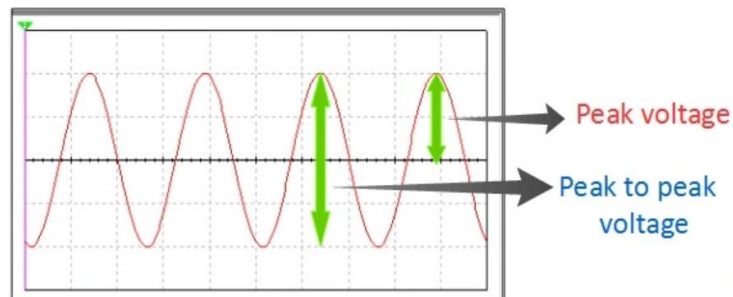
## Control Knobs:



- The **Y AMPLIFIER (VOLTS/CM)** control determines the height of the trace. Choose a setting so the trace occupies at least half the screen height, but does not disappear off the screen.
- The **TIMEBASE (TIME/CM)** control determines the rate at which the dot sweeps across the screen. Choose a setting so the trace shows at least one cycle of the signal across the screen. Note that a steady DC input signal gives a horizontal line trace for which the timebase setting is not critical.
- The **TRIGGER** control is usually best left set to AUTO.
- **AC/GND/DC switch:** The normal setting for this switch is **DC** for all signals - including AC signals! Switching to **GND** (ground) connects the y input to 0V and allows you to quickly check the position of 0V on the screen. Switching to **AC** inserts a capacitor in series with the input to block out any DC signal present and pass **only AC** signals.
- **Position:** Controls horizontal position of trace on screen.
- **DUAL BUTTON:** The oscilloscope has a capability to display both channel signals on the screen at the same time. This is known as DUAL MODE.

#### Measurement of peak-to-peak voltage and peak voltage:

- To measure the ac. voltage of sinusoidal waveform. The input ac. signal is applied from the signal generator to a channel of CRO. The voltage/div switch (Y-plates) and time base switch (X-plates) are adjusted such that a steady picture of the waveform is obtained on the screen.
- The vertical height (L) i.e. peak-to-peak height is measured. When this peak-to-peak height (L) is multiplied by the voltage/div. (voltage deflection sensitivity 'n') we get the peak-to-peak voltage ( $2V_o$ ).



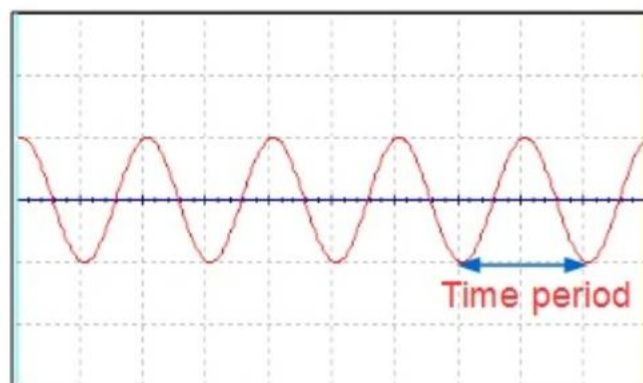
#### MEASUREMENT OF FREQUENCY

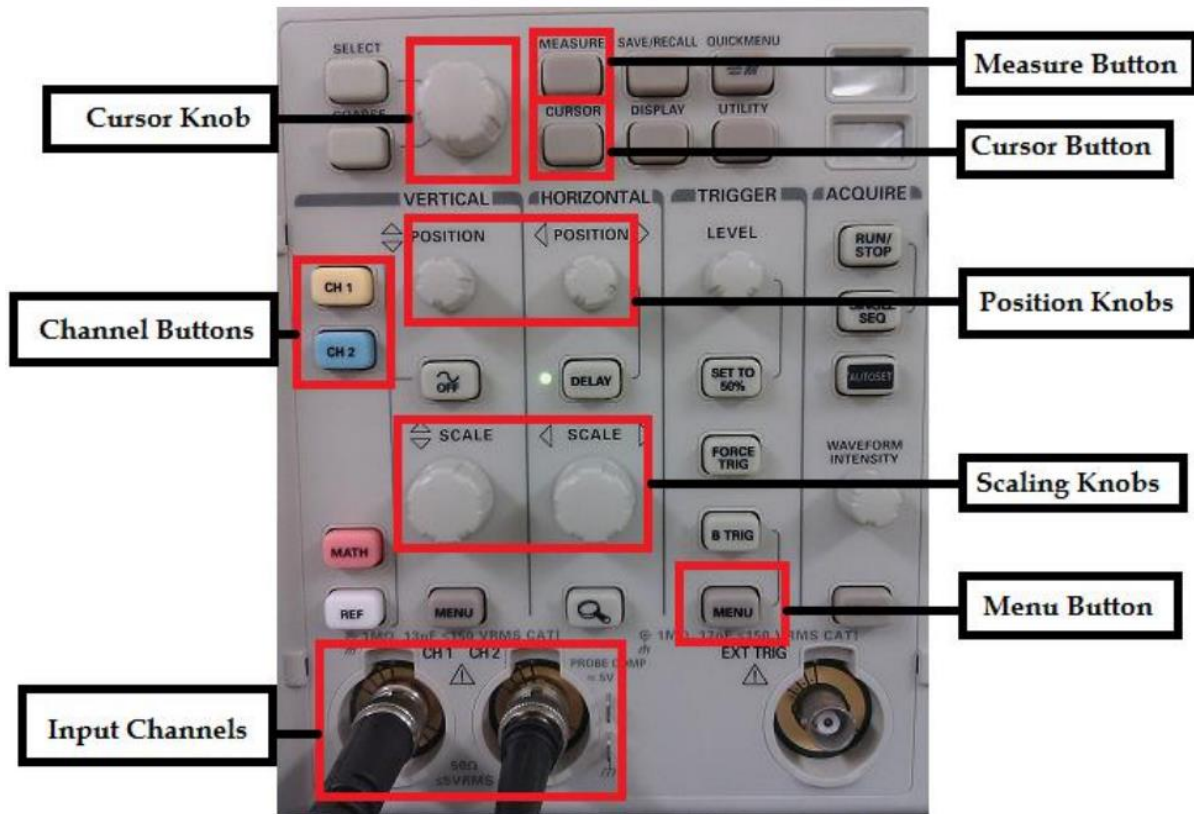
##### Using time-period:

From the trace the time period of the input signal is equal to 't' times the value of time/div setting.

Suppose that the time period of the input signal is T.

Then, the frequency of the signal  $= 1/T$





Digital Storage Oscilloscope Front Panel Controls

### Section 3: Calibration of Optical and Light Instruments

#### SPECTROMETER:

A **spectrometer** is an instrument (or optical instrument) used to measure the properties of light over a specific portion of electromagnetic spectrum. It is used in spectroscopy, for producing spectral lines and measuring their wavelength and intensities.



- It is used for the study of spectra, produced by prism & grating for the measurement of the dispersive powers, wavelengths of the spectral lines, the refractive indices of solid and liquid etc.
- It is used to break the light into its spectral components, digitize the signal as a function of wavelengths read it out and display it.
- It operates over a very wide range of wavelengths, from Gamma rays and X-rays into infrared rays.

### **EQUIPMENT**

The optical spectrometer provides a precise spectroscopic measurement, using either prism or diffraction grating as the diffracting elements. It is a scientific instrument used to investigate the structure of atom, it is a powerful tool for determining which atoms are present in a substance. Chemists use it to determine the constituents of molecules and the astronomers use it to determine the constituents of stars, which are millions of light years far from us. In general 'a spectrometer is nothing more than a prism and a protractor, however because of the need of a very sensitive detection and precise measurement it is made a bit more complicated.

>> The spectrometer includes, following elements.

**Collimator :**



Fig Collimator

**Telescope:**

It is an astronomical telescope fitted with a Ramsden's eye-piece (an optical instrument consists of two Plano-convex lenses) and cross wires. When a parallel beam of light coming out of the prism falls on the objectives, the spectrum is produced which can be viewed through the eye-piece. As like collimator, telescopes have approximately 178 mm diameters, achromatic objectives, and a clear aperture with 32 mm diameters. It can be leveled as, user wants.



**Fig. telescope and eye-piece**

**Rotating Bases:**



**Fig rotating base and vernier scale**

**Spectrometer table :**



**Fig. Spectrometer Table**

**Accessories :**

Accessories for the spectrometer includes a dense flint prism and two mounted clamps, 300 line or 300mm diffraction grating and mounting clamp, two thumbscrews for attaching the mounting clamp to the spectrometer table and a magnifying glass for reading the vernier scale, three allen keys for leveling the telescope and collimator, and a polished hardwood case.

### **ADJUSTMENT OF SPECTROMETER**

The following essential adjustments are to be made step by step in a spectrometer experiment :

**Alignment :** In the first step, you must see the alignment of the axis of the telescope with hat of collimator , so that they must intersect with the principal vertical axis of the telescope.

**Adjustment of telescope and collimator for parallel light :** The telescope is firstly directed towards a 'bright object' like lamp globe or the sky. The eye-piece is adjusted so that the cross wire became as sharp as possible, when some one see through through it. This fixes, p-osition of eye-piece relative to the 'cross wires'. The telescope is turned towards the collimator, with it's Slit illuminated with a monochromatic source of light for example- sodium tube. The collimator slit is then adjusted, until a direct image of the slit falls on the 'cross wires'. Now the instrument is then adjusted, so that parallel rays passes from the collimator to the telescope.

**Leveling the prism table :** Place the spirit level at the center of the prism table , parallel to the line joining two of the leveling screws of the prism-table. Bring the air bubble of the spirit level, at the centre by turning these two screws in the opposite directions. Place the spirit level perpendicular to the line joining the two screws and get the bubble at the centre by adjusting the third screw, whichmakes the top of the prism table horizontal.

**Adjusting cross wires and focusing image :** First of all, rotate the telescope towards any illuminated background. On looking through the eye-piece, you will found the cross wires appear blurred. Now move the eye-piece inwards the and outwards until the cross wires appears to be distinct. Now place the telescope in line to the collimator and look into the eye- piece, without any accumulation in the eye. (The image of the slit may appeared blurred) Make the image very sharp by turning the focusing knob of the telescope and also of the collimator. If the image does not appear vertical, then make it vertical by turning the slit in it's own plane. Adjust the width of the slit to get an image of the desired intensity.

#### **APPARATUS SET-UP**

##### **Focusing:**

1. Adjust the eye-piece so that you can see the cross hairs with the naked eye.
2. Now focus the telescope on infinity ( i.e, an object along away ). The telescope isnow set to receive and focus parallel light.
3. To see the sharp image, adjust the collimator. Doing this, the collimator will provide parallel light.
4. Adjust the slit just enough, to obtain an easily visible "line"

##### **Aligning the grating:**



**Fig Apparatus set-up**

1. The grating must be at right angles to the parallel light from the collimator. So before inserting the grating, set the telescope at 90 degree to collimator.
2. Now insert the grating so that, it "reflects" the light from collimator, into the telescope. It must be at 45 degree to the light beam.
3. Turn the grating to 45 degree so that it is at 90 degree to the collimator.



4. Reset the telescope to see an image of the object.
5. Note the telescope vernier reading carefully.

#### LASER:

- A laser is a device that emits the light through a process of **optical amplification**, which is based on “stimulated emission” of the electromagnetic radiation. Lasers are device that generate **coherent light**. A He-Ne lasers is a type of Gas-laser ,whose gain medium is consists of helium and neon (10:1) inside of a small bore capillary tube excited by the DC electrical discharge. It produces intense beam of light which are coherent, monochromatic and highly collimated and it's wavelength is extremely pure, comparing to other source of light. Also all of the energy (photon), which make-up the laser beam have the fixed phase relationship with respect to one another.
- It consists of mainly three essential components:
  - The laser tube.
  - High voltage power supply.
  - Structural packaging.

The construction of typical He-Ne laser plasma tube can be shown as:

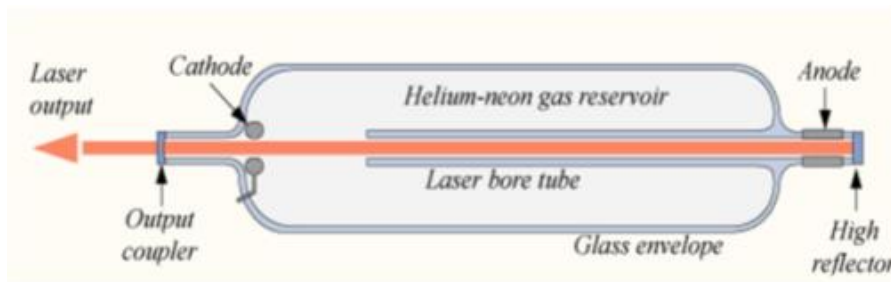


Fig. Schematic diagram of He-Ne laser.

#### WORKING PRINCIPLE

In the He-Ne laser, light is produced by the atomic transitions within the neon atom. Since the helium does not directly produce the laser light, but it acts as a buffer gas. It's purpose is to assist the atoms of the other gas to produce lasing in a manner. When the energy from the pumping source is applied to the He-Ne gas mixture, some of the energy is observed by helium atoms, so the helium atom achieves an excited state. When the helium atom moves within the laser-tube, they collide with the neon atoms. At each collision, some of the energy of helium atom is transferred to the neon atom and raises it to an excited mete-stable state. The meta-stable state is of finite lifetime, all the state-parameters reach and hold the stationary values, this state describes the extended time spent by an isolated system in the along-lived configuration, other then system's state of least energy. When a sufficient number of neon atoms reaches to this state the population inversion occurs and the lasing takes place.

This can be shown by the simplified energy level-diagram as:

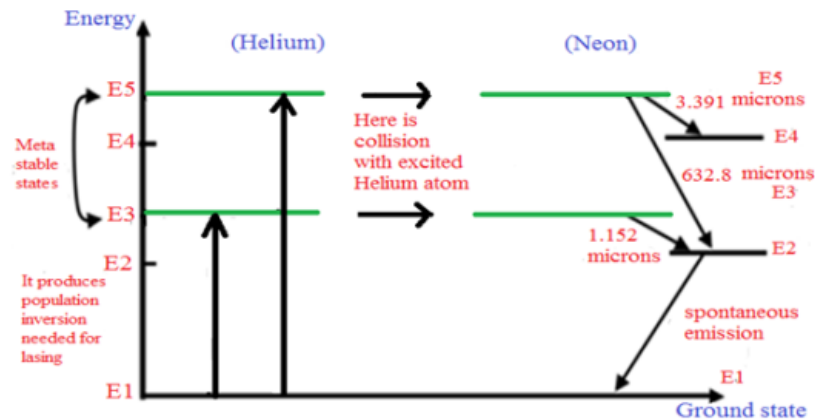


Fig. Energy-level diagram

In the above diagram the upward transition shows, absorption of energy from the pumping source by the helium atom. whereas the downward transition shows the emission of energy or lasing presents only in neon atom.

There are three downward energy transitions for neon that produces lasing. If the transition occurs at relatively small energy step from E5 to E4 then, low energy infra-red photon is released with a wavelength 3.391 microns. And if the transition occurs at E5 to E2, which a larger energy step, then it produces the short wavelength more energetic photon at 632.8 nm, this gives us red light which is more desirable for He-Ne laser application.

#### **PRECAUTIONS IN OPTICS LAB:**

- The telescope and collimator should individually set for parallel rays.
- The Slit should be as narrow as possible.
- The time when we, take the observations, the telescope and prism table should be clamped with the help of clamping screws.
- Both verniers should be read carefully.
- The prism should be properly placed on the prism-table for measurement of angle of the prism as well as for the angle of minimum deviation.
- Do not lift the spectrometer by its ARM. Handle it, carefully.
- Do not look at laser beam, directly
- Don't look at specular reflection of laser beam
- Take care while you move the laser and move the object in the beam path of the laser
- Be aware of high volts in case or enclosure of an operating laser in the open
- User should operate it in suitable place
- Do not leave an operating laser unattended and always unplug it, when not being used

### **Lab Safety Protocols and Guidelines**

- Always make sure power is disconnected when constructing or modifying your experimental circuit. It is possible to damage components or incur an electrical shock if you leave power connected when making changes.
- Experiments left unattended should be isolated from the power supplies.
- Whenever possible, use  $\frac{1}{4}$  watt resistors in your circuits.  $\frac{1}{2}$  watt resistors may be used when necessary; resistors of higher power ratings should never be inserted directly into a breadboard socket.
- Never force component leads into contact holes on the breadboard socket. Doing so can damage the contact and make it useless.
- For equipment like Oscilloscope, Function Generator, power supply etc. and potentiometer special care must be taken while using them. We should adhere to the following points to avoid electrical hazards:
  - Use only the power cord specified for each product and certified for the country of use.
  - When operating with AC power, this device is grounded through the grounding conductor of the power cord. To avoid electric shock, the grounding conductor must be connected to earth ground. Before making connections to the input or output terminals of the product, ensure that the device is properly grounded.
  - Do not operate the devices with covers or panels removed.
  - Do not slide sensitive components over any surface. Do not touch exposed connector pins. Handle sensitive components as little as possible.

- Power supplies are equipped with three wire line cords that ground the chassis to power line ground. Do not cut off or disable the ground plug.
- For function generators before applying power, ensure that the line selector is in the proper position for the power source being used.
- To prevent equipment overheating, provide proper ventilation.
- Know the correct handling, storage and disposal procedures for batteries, cells, capacitors, inductors and other high energy-storage devices.
- For fiber optics trainer: Do not look inside the connector of the Optical Sources when these are operating. Although nothing can be seen, as the emitted wavelength should be out of the visible range, it can be dangerous for your sight.

## References/ Interesting Weblinks:

1. <https://electronicsclub.info/cro.htm>
2. <https://www.electronicshub.org/how-to-use-a-multimeter/>
3. <http://www.kitektechnologies.com/ic-tester.php>
4. <https://www.electrical4u.com/potentiometer/>
5. [https://www.scientificindia.com/products/3-mhz-general-purpose-function\\_generator.aspx](https://www.scientificindia.com/products/3-mhz-general-purpose-function_generator.aspx)
6. [https://www3.nd.edu/~jott/Measurements/Lab\\_equipment/FunctionGeneratorOscilloscope.pdf](https://www3.nd.edu/~jott/Measurements/Lab_equipment/FunctionGeneratorOscilloscope.pdf)
7. <Emanuals/wordpress.com>

# *Standard Operating Procedures*

## *Autoclave*

### **Operating instructions:**

1. Load the material to be autoclaved and avoid crowding or stacking.
2. Check the water level mark. Add water if needed.
3. Close the lid of the machine tightly.
4. Switch on the mains, set the temperature to 121°C and allow the steam to build up.
5. As soon as steam starts to build up, close the steam release valve and allow the pressure to build up till 15psi.
6. Allow the autoclave to run for 20 minutes and then switch off the heating.
7. Slowly release the pressure by opening the pressure release valve.
8. Open the lid carefully and allow the contents to cool down.
9. Use heat resistant gloves to carefully transfer the containers to their designated area.
10. Close the autoclave door but do not seal it when not in use as this will shorten the life span of the rubber gasket on the door.

### **Do not autoclave materials containing:**

1. Solvents, volatile, chlorinated compounds (HCl, bleach) or corrosive chemicals (e.g. phenol, trichloroacetic acid, ether, chloroform) etc.
2. Materials contaminated with chemotherapeutic agents
3. Radioactive material (without prior approval)
4. Non autoclavable plastics
5. Heat sensitive materials (e.g. antibiotics, hormones, antibodies etc.)



**Daily/ Weekly Maintenance Activity:**

1. Disinfect the exterior surfaces of the autoclave.
2. Check door gaskets for wear.
3. Clean interior walls with trisodium phosphate, other mild detergent or as directed by the manufacturer. Rinse with tap water after cleaning.
4. Check both primary and secondary containers for integrity (stress fractures, cracks, chips etc.)

# *Centrifuge*

## **Operating instructions:**

1. Place the empty rotor along with the lid (without sample) on the centrifuge rotor shaft. Align the rotor properly and secure it with the screw.
2. Switch ON the mains and set the temperature. If set at a low temperature, then allow the centrifuge to attain the set temperature.
3. Load the samples symmetrically after balancing the tubes.
4. Close the rotor lid and the centrifuge lid.
5. Set the speed and timer and allow the run to proceed.
6. After the run is complete, press the brake button and allow the rotor to come to a halt.
7. Open the centrifuge lid and rotor lid and retrieve your samples.
8. Switch OFF the machine.

## **Maintenance instructions:**

1. After every run at low temperature, leave the centrifuge lid open and allow it to come to room temperature. Wipe dry all the water to prevent corrosion.
2. Clean all metal buckets thoroughly at regular intervals.
3. Periodically, wipe the drive shaft with a slightly greased rag to prevent corrosion.
4. Clean the centrifuge body with a mild cleaning agent.

## *Conductivity Meter*

### **Operating instructions:**

1. Turn on the main switch.
2. Turn on the switch of the instrument.
3. Wash the electrode, dipped in KCl solution, with distilled water and wipe it with a tissue paper.
4. Set the knob to 2-20 mho conductance sensitivity. This can be changed as per the requirement and the solution for which conductance is being measured.
5. For calibration, place the electrode in 0.9% NaCl standard solution and set the conductance to zero using "Calibration knob".
6. Now wash the electrode again with distilled water, wipe with a tissue and dip it in the sample solution. Note the conductance.
7. Wash the electrode with distilled water each time before dipping into other sample solution.
8. When done, finally wash the electrode with water, wipe with a tissue and place it in the KCl solution.

## ***Laminar Air Flow Hood***

### **Operating Instructions:**

1. Switch on the ultraviolet lamp to sterilize the work bench of the laminar flow hood for 15 minutes.
2. Turn off the ultraviolet lamp once laminar flow is in use. Turn on the fluorescent light lamp unless any chemical being used is photosensitive.
3. Keep the air flow on for at least 10 min before starting work.
4. Put on a lab coat and a pair of gloves.
5. Disinfect the work area with 70 % Ethanol.
6. Open the gas valve and put on the Bunsen burner. Adjust the flame. (Note: Keep any inflammable substances away from the burner).
7. Place items into the cabinet, at least 5 inches from the front and approximately 3 inches from the rear, without unnecessary disruption of the airflow.
8. Make sure that there is a biohazard waste container inside (Beaker containing 1% Teepol) and outside the cabinet.
9. Minimize the movement of arms and reduce the frequency of placing hands/ arms into the biosafety cabinet and taking them out.
10. Clean the hood after usage. Avoid leaving items near the hood. Dispose of all the live material, such as tubes of cells or container of tissue. Dispose of the biological waste in secure, biohazard containment units and seal these to prevent aerosols from re-entering the hood space and establishing new spots of contamination.
11. Close the gas valve when work is completed. Wipe the bottom and side surfaces of the biosafety cabinet with a disinfectant. Close the air flow and the biosafety cabinet shield.
12. Turn on the UV light system for 15 minutes.

**Maintenance instructions:**

1. Check that front cover and glass panels do not leak UV.
2. Once a month, clean beneath the internal shelves and work surfaces.
3. In case of spillage, immediately put 70% ethanol on the spill and clean it.
4. To remove marks on the hood work surface, put 1% SDS solution on the area, rub it and leave it for 5 minutes. Then clean it with water followed by 70% ethanol.
5. The HEPA filter should be regularly checked by the company personnel and replaced if necessary.



## ***Micropipette***

### **Operating instructions:**

1. Select the correct size micropipette and tips.
2. Dial the volume adjustment knob to set the proper volume in the volume indicator.
3. Hold the micropipette vertically over the solution and push the plunger down to the first stop.
4. Insert the tip into the solution.
5. Slowly release the plunger and note that the solution is drawn into the tip because of suction.
6. Look at the tip to be sure that there are no bubbles.
7. Dispense the solution touching the tip to the side of the target container. Slowly depress the plunger to the second stop. Before releasing the plunger, remove tip from target container.
8. Be sure the tip is empty. Then use the tip ejector to dispose of the tip into an appropriate disposal container.
9. Release the micropipette back to its maximum volume so as to avoid constraint on spring.

### **Maintenance instructions:**

1. Wipe the micropipettes with alcohol before and after use.
2. Expose the micropipettes to UV light for 20 minutes for aseptic work.
3. Micropipettes should never be left in wound state.
4. Do not pipette acids and strong volatile compounds/ solvents with a micropipette.

5. Do not invert/ tilt the micropipettes as the solution sucked up should not reach the plastic shaft. If the solution touches the shaft, immediately remove the tip and clean the shaft with tissue paper.

6. Care must be taken to use the micropipettes for pipetting volumes only within the prescribed range for the said micropipette

# *Microscope*

## **Operating instructions:**

1. Plug the cords into the microscope and switch on the mains.
2. Keep your slide to be viewed with the coverslip on the stage.
3. Always start and end with the lower power Objective with the lowest magnification.
4. Adjust the knobs to obtain a field of visibility.
5. Then focus step wise in the higher magnification.
6. Do not remove slides with the high power Objective into place. This will scratch the lens.
7. Clean the eye piece and objective.
8. Always wrap electric cords and cover the microscopes before returning them to the cabinet.

## **Maintenance and cleaning instructions:**

1. Microscopes should be stored with the low power Objective clicked into place.
2. Always carry microscopes by the arm and set the flat on your desk.
3. Always place the plastic cover over the microscopes when not in use to avoid accumulation of dust.
4. Clean all oculars and objectives with lens paper before and after each use.
5. Use immersion oil with oil immersion objective only.
6. After the use of immersion oil, lens must be immediately cleaned with Ethyl ether or Xylene.
7. Do not use alcohol, acetones or any other ketones for cleaning the lens as these can dissolve the sealants around the lens.

## *pH meter*

### **Operating instructions:**

1. Ensure that the plug for the pH meter is inserted into the socket. Turn on the switch.
2. Turn the power button on. Ensure the 'Mode' knob points to pH. Wipe clean the electrode gently with tissue paper.
3. Dip the electrode into standard buffer of pH 4.0. Set the pH to 4.0 by turning the knob marked 'Calibration'.
4. Wipe the electrode and dip into standard buffer of pH 9.0. Again set the pH to 9.0 by turning the knob marked 'Calibration'.
5. The device is now calibrated. For high sensitivity measurements, a third point calibration with standard buffer of pH 7.0 may be made.
6. Wipe the electrode again and dip into solution the pH of which is to be measured. Allow the reading to become steady. This is the pH of the solution.

### **Precautions:**

1. Handle the electrode very gently as it is extremely fragile.
2. Use a soft tissue to wipe the electrode.
3. Wipe the electrode before dipping into any new solution.
4. The electrode must not be allowed to dry at any point and should be kept in 3M KCl solution of pH 7.0.
5. When adjusting pH of a solution, care should be taken that acid/base being used to adjust it should not be poured directly onto electrode.

# *Spectrophotometer*

## **Operating Instructions:**

1. Turn on the main switch.
2. Turn on the switch of the instrument.
3. Set the required wavelength using the “Wavelength Knob”.
4. Set the filter to 1, 3 or 5 to set the “DARK”. To set “Dark”, set the transmittance to zero using “Set Zero” Knob without placing the cuvette in the cuvette holder.
5. Now change the filter according to the required wavelength.
6. Set up the “Instrument Blank” using distilled water. To set up the “Blank” set absorbance to zero using the calibration knob with distilled water in the cuvette.

Note: Transmittance must be 100 at this point.

7. Now, set up the “Reagent Blank”.
8. Take the reading of your samples.
9. When done, rinse the cuvette twice with distilled water, wipe with a tissue paper and keep it safely in the cuvette box.
10. Close the lid of the spectrophotometer, switch of the instrument button and finally switch off from the main switch.

## **Precautions:**

1. A warm up period of 15-20 minutes is essential.
2. Filter should be set in accordance to the wavelength chosen.
2. Do not touch the set zero knob after setting the dark.
3. Ensure the cuvette is only filled  $\frac{3}{4}$ <sup>th</sup> of the way.



4. Always hold the glass cuvette from its opaque sides.
5. Clean the outsides of the cuvette to ensure its dry before placing it in the instrument.
6. Ensure that the transparent sides of the cuvette lie in the path of the light when placed in the slot.
7. Avoid spilling any solution in the cuvette on or inside the instrument. Clean the slot in case of any spillage immediately.
8. Always zero the instrument with a blank.
9. The absorbance value should be noted after the reading has stabilized or after 30 seconds.
10. Appropriate cuvettes should be used. Glass or plastic cuvettes can be used for measurements from 380 to 780 nm and Quartz cuvette should be used for measurements below 380 nm i.e. UV range.
11. Polystyrene cuvettes should not be used or cleaned with chloroform, acetone, ether etc.
12. For cleaning the cuvettes with residues, dip hem in weak acid solution (nitric acid or chromic acid) for 10 minutes followed by rinsing them with water.
12. The instrument should be covered when not in use.

## ***Weighing Balance***

### **Operating instructions:**

1. Do not bump or place objects on the bench after zeroing the balance.
2. Close the balance door while weighing an object, in order to prevent air currents from disturbing the reading.
3. Never weigh chemicals directly in contact with the balance pan. Use containers such as beakers, flasks and weighing bottles.
4. Do not handle objects to be weighed with bare hands. Moisture, grease and dirt on fingers will affect the weight of the objects.
5. Let hot objects cool before massing. The object to be weighed should be at room temperature.
6. Mass hygroscopic materials rapidly since they will absorb water during massing.
7. When making repetitive massing, always use the same procedure.
8. There should be no spilling of any chemical inside the balance; transfer of chemicals should be done outside the balance.
9. Do not leave spilled chemicals on or around the balance. Clean it immediately after use.

### **Cleaning instructions:**

1. Use a small balance brush to gently sweep any residue from the balance.
2. Moisten a thin wipe with purified water and carefully clean the pan and around the scales. Wipe dry.
3. Remove the pan to facilitate more thorough cleaning.
4. If you've moved your scales and it has a leveling bubble, check that it's centered.

5. Do not press down on the balance pan as this can damage the internal mechanism.
6. Do not turn the scales upside down and shake it to help remove residue.
7. Do not use cleaning fluids that are harsh like ethanol as it will react with agar, salts and other common ingredients.
8. Do not leave salts on the scales. This can corrode the scales resulting in poorer performance.



SRI BALAJI AND SRI PADMAVATHI HOSTEL

SRI VENKATESWARA COLLEGE

**Information Bulletin**  
**2023-2024**

**ADMISSION SCHEDULE 2023-24 for 1<sup>st</sup> Year**

Invitation of Applications:	17.08.2023
Last date for application forms:	23.08.2023
Tentative date for display of shortlisted list of candidates on website:	26.08.2023
Fee payment by:	28.08.2023
Tentative date for the Interview of candidates	29.08.2023

For all information and update check College website [www.svc.ac.in](http://www.svc.ac.in).

Sri Venkateswara College  
Benito Juarez Road, Dhaula Kuan  
New Delhi- 110 021  
Phone Hostel - 011-24112197  
Phone: College-011-24112196, 24118590, Tele/Fax: 24118535

**Email contact-**

Hostel admission:	<a href="mailto:hostel@svc.ac.in">hostel@svc.ac.in</a>
Late Night and Night Out:	<a href="mailto:hostel_attendance@svc.ac.in">hostel_attendance@svc.ac.in</a>
Admin & Warden:	<a href="mailto:hostelwarden@svc.ac.in">hostelwarden@svc.ac.in</a>
Principal:	<a href="mailto:principal@svc.ac.in">principal@svc.ac.in</a>

  
अधीक्षक / Warden  
श्री वेंकटेश्वर महाविद्यालय छात्रावास  
Sri Venkateswara College Hostel  
धौला कुआं, नई दिल्ली / Dhaula Kuan, New Delhi-21

  
प्रधानाचार्य  
Principal  
श्री वेंकटेश्वर महाविद्यालय  
Sri Venkateswara College  
धौला कुआं, नई दिल्ली / Dhaula Kuan, New Delhi-21

## Principal's Message

Dear Applicant,

You have already been introduced to the vision that supports Sri Venkateswara College through the College prospectus. Having successfully waded through the initial throes of a general admission to the college, you are now evincing a desire to be part of the residential set-up. I thank you for your interest in the College Residences and welcome you to take a preliminary glimpse of the spirit that underlines this exceptional facility.

At SVC, we believe that 'education' is a wholesome, holistic exercise and as such we strive to give a whole new meaning to the word. Coupling this basic premise with the idea of a sense of belonging to one family- the SVC family- we look at ourselves as 'care-givers.' The *home* that we offer to you, within the premises of the college, is a major constituent of this effort at imparting a sensitive, well-balanced education.

At SVC then, we strive to give the comforts that will provide the matrix for a full-fledged immersion in the spirit of the college and an optimum ambience for the fulfilling pursuit of both the academic and the co-curricular. The residence, in being the hub of harmonious co-existence-multicultural, multi-ethnic and multi-religious is representative of the SVC character. In this effort then, we make our contribution to the nature of good human beings who have inculcated the qualities of respect for others and are thus well- equipped to meet the challenges of the world.

I wish you the best in gaining access to the singular advantage of being part of this set-up.

Prof. C. Sheela Reddy  
Principal



## **About the Hostel**

The Sri Venkateswara College Hostel, located within the College campus was set up in 2008. It consists of two blocks, The Sri Balaji Boys Hostel, Hostel and Sri Padmavathi Girls Hostel. Here we strive to give the comforts that will provide the matrix for a full-fledged immersion in the spirit of the College and an optimum ambience for the fulfillment of both the academic and the co- curricular pursuits. The residence, which is a harmonious coexistence of multicultural, multi-ethnic and multi-religious nature, is representative of the SVC character. The Hostel provides accommodations for 150 students, 75 each for Boys and Girls.

The on campus residential facility is offered to full time undergraduate students admitted to the first year are 25 each in the Boys and Girls Hostel. Only those students whose parents do not reside in or around the National Capital Region of Delhi (Gurgaon, Noida, greater Noida, Ghaziabad, Faridabad etc. are eligible for admission. Due to the limited availability of accommodations, admission to the hostel is granted based on academic merit. The allocation of hostel rooms is decided by the Hostel Committee. The Hostel administrative functionaries, in co-operation with the Hostel Students Association work towards the efficient and smooth function of the Hostel. They contribute to the maintenance of a harmonious community life. The home that we offer to you, within the premises of the College, is a major constituent of the Colleges effort at imparting a sensitive, well-balanced education.

The principal is the chairperson of the hostel committee and the detailed constitution of which is given in the Hostel Information Bulletin. For further enquiries and clarifications may be contacted in the Hostel Office

**Hostel Phone Number: 011-24112197**

## **Administration**

Principal	Prof. C. Sheela Reddy
Vice Principal	Prof. K.C. Singh
Bursar	Dr. S. Krishna Kumar
Warden (Sri Balaji Hostel)	Dr. Kameshwar Sharma
Warden (Sri Padmavathi Hostel)	Prof. Nabanipa Bhattacharjee
Warden (Sri Balaji Hostel) (Acting)	Mr. M. Jeevan
Junior Assistant cum Caretaker	Mr. Vikas Mishra
Junior Assistant cum Caretaker	Ms. S. Sharmila

The Hostel is managed by a committee which comprises the following:

Prof. C. Sheela Reddy, Principal	Chairperson
Prof. Nabanipa Bhattacharjee, Warden, Sri Padmavathi Hostel	Convener
Prof. K. C. Singh, Vice Principal	Member
Dr. S. Krishnakuma, Bursar	Member
Mr. M. Jeevan, Ag. Warden, Sri Balaji Hostel	Member
Dr. Kameshwar Sharma, Warden, Sri Balaji Hostel	Member
Dr. S. Venkata Kumar, Coordinator (Administration & Accounts)	Member
Dr. Anju Kaicker, Staff Council representative	Member
Dr. Nagendra Kumar Kalaparthi Staff Council representative	Member
President, Hostel Students Association (Sri Balaji Hostel)	Member
President, Hostel Students Association (Sri Padmavathi Hostel)	Member

Note: The Warden, who is a senior faculty member, will act as convener of the Hostel Committee.

The committee shall discuss and make recommendations on (a) admission to Hostel (b) discipline of resident students (c) maintenance and development of Hostel and (d) any other matter pertaining to the Hostel. Hostel committee has the right to amend /change /make new rules whenever required for smooth functioning of the Hostel. Any member of teaching staff / hostel student's association may be requested to attend the meeting of the Hostel Committee as and when required as a special invitee.

### Facilities

**Accommodation:** The Hostel provides accommodations for 150 students, 75 each for Boys and Girls. All the rooms are double seated and are furnished with ceiling fan, wardrobe, table, chair & bed for each student. In addition, each hostel has a visitor's room. The allocation of hostel rooms is decided by the hostel committee.

**Mess & Dining Hall:** The Mess is managed by a contractual agency recommended and approved by the Hostel Committee. Two separate dining halls are provided for boys and girls. Meal timings are as follows:

Breakfast	8.00 am to 9.00 am
Lunch	1.00 pm to 2.00 pm
Dinner	8.00 pm to 9.00 pm during summer 7.30 pm to 8.30 pm during winter

**Reading Room:** The hostel has two air-conditioned reading rooms (separate for Boys & Girls) where internet facilities are provided.

**Sports & Entertainment:** The hostel has two common rooms (separate for Boys & Girls) where facilities for indoor games like carrom board and chess, along with television viewing, are provided. The hostel is close to the College playground which has a basketball court, a lawn tennis court and practice cricket pitches. Besides, each Hostel has a table tennis room. Also, a few gym equipment have been installed in both Girls and Boys Hostel for use by residents.



**Medical:** Whenever needed residents may utilize the medical services provided at the W.U.S. Health Centre, located in South Campus, University of Delhi. The College Doctor is available from 10.00 am to 2.00 pm on alternate working days. In case of a medical emergency, a student is taken to the nearest hospital and the local guardian is duly informed. The local guardian is required to take charge thereafter and the entire responsibility for treatment and expenses will be borne by the parents / local guardian and the College will not be responsible in any way for the further course of treatment. A student is requested to provide at the time of admission information about any specific medical problems he / she is known to suffer from.

**Banking:** Union Bank of India is located in the College campus where residents should open a bank account.

**Telephone:** A telephone facility is available round the clock in the hostel premises where Local /STD calls can be received.

**Hot Water:** All bathrooms of the hostel are fitted with both Geysers and Solar water heating system.

#### **Hostel Students Association:**

The Hostel Students Association assists and participates in the efficient and smooth functioning of the Hostel. It contributes to the maintenance of harmonious community life. The office bearers are either directly elected or are appointed by the Principal on merit basis in consultation with the wardens. The office bearers will hold office for one academic session. The minimum eligibility conditions for appointment of the office bearers are as follows:

1. President (Boys & Girls) (2) III year student having 6.00 CGPA aggregate in I & II year
2. Sports Secretary (Boys & Girls) (2) II year students having 6.00 CGPA aggregate in I year
3. Cultural Secretary (Boys & Girls) (2) II year students having 6.00 CGPA aggregate in I year
4. Common Room Secretary (Boys & Girls) (2) III year students having 6.00 CGPA aggregate in I & II year
5. Mess Secretary (Boys & Girls) (2) III year students having 6.00 CGPA aggregate in I & II year
6. Cleanliness Secretary (Boys & Girls) (2) II year students having 6.00 CGPA aggregate in I & II year

The Principal and the Wardens shall have the right to attend any meeting of the Hostel Students Association.

## Hostel Rules & Regulations:

Applicants should go through the hostel rules and regulations and undertake to abide by them.

### Rules of Residence:

1. No resident is allowed to shift from one room to another without the prior written permission of the Warden. No furniture should be shifted from one room to another without the prior written permission of the hostel administration.
2. Residents must hand over the complete charge of their room after taking their luggage, before leaving the hostel at the end of each term and must obtain a clearance certificate from the hostel office. Copy/photocopy of clearance certificate is to be handed over to the Security Guard on duty before leaving the hostel premises. The Guard on duty should submit this copy to the hostel office for record.
3. Residents are not allowed to hand over the keys of their rooms to any person other than the one designated by the hostel authorities.
4. Residents will not engage any unauthorized person for personal service in the hostel. No employee of the hostel will be engaged by the resident for his personal job.
5. Residents are expected to come to the Dining Hall, Common Room and Visitor's Room properly dressed.
6. Residents should intimate in writing to the office immediately any changes in the addresses and telephone Number of Parents and Local Guardians duly verified by the guardian. The residents shall not be allowed to make use of the office telephone for personal work.
7. Residents are advised not to talk to visitors at the hostel gate.
8. Admission shall be terminated in case of a student against whom disciplinary action has been taken by Hostel /College /Dept. of University of Delhi.
9. No resident shall be allowed to stay in the hostel in case of pending mess and hostel over dues. Penal action as deemed fit by the Hostel Committee shall be taken against such resident if the hostel and mess dues are outstanding for two months (including late fee as applicable) or if it exceeds the caution money deposited in advance.
10. Residents are:
  - a. required to lock their rooms and not to leave it unlocked when they are not in their rooms in order to safeguard their personal belongings against theft,
  - b. not allowed to give their room keys to any unauthorized person,
  - c. allowed to entertain their guests only in Visitor's Room from 9 am to 7 pm. Violation of this rule



may be considered as misconduct.

### **Special Rules for availing Late Night and Night Out:**

- 1 Residents are requested to be back in the Hostel by 9:00 P.M. sharp every day, and get their attendance recorded. It is the responsibility of every resident who is present in the premises to get his/her presence marked in the attendance register at attendance time, i.e., 9:05 P.M.
- 2 A resident can avail at the most **04 Late Night and 04 Night Outs** per month.
- 3 If a resident wishes to avail a Late Night, an official e-mail from the Local Guardian or the Parent from their registered e-mail id to *hostel\_attendance@svc.ac.in* and *principal@svc.ac.in* need to be sent else Late Night will not be granted. This request should reach the concerned before 5.00.P.M.
- 4 If a resident wishes to avail a Night Out an official e-mail id from the Local Guardian or the Parent from their registered E-mail id to *hostel\_attendance@svc.ac.in* and *principal@svc.ac.in* need to be sent else Night Out will not be granted. This request should reach the concerned before 5.00.P.M.
- 5 Late Night permission is available till 10:30 P.M. **Hostel gates will close at 10:30 P.M.**
- 6 Students who are a part of any Association which is approved by college authorities need to get permission from the concerned Convener, which is accorded with supporting documents and prior sanction from the Principal to avail late night facility.
- 7 In case any resident remains away from the hostel for more than seven days without informing the hostel administration in writing, it will be presumed that he/she has left the hostel, and the hostel administration reserves the right to take possession of the room and re-allot it to another student. The luggage of the resident concerned, if any, will be deposited in the store/any other room of the hostel. If the luggage is not claimed within two weeks, the hostel administration may dispose it off in any manner considered suitable. A penal rent @ Rs.25/-per day in addition to the normal charges for the period during which the luggage remains unclaimed shall be payable by the person concerned.



## General Rules of Discipline:

- 1 Residents must maintain proper decorum in the hostel. They must behave properly with the staff and fellow residents.
- 2 Residents must carry the Hostel Identity Card with them and produce the same on demand by Security Guard and College / Hostel officials.
- 3 Since the College class rooms are in the proximity of the hostel rooms, care should be taken not to disturb the college atmosphere by playing loud music, etc.
- 4 Consumption of liquor and/or contraband drugs is strictly prohibited in the Hostel. Anyone found guilty of contravening this regulation will be expelled from the Hostel immediately.
- 5 Delhi University is partnering with Delhi Police and the World Lung Foundation South Asia in promoting a Tobacco Free Environment. As a step in this direction, smoking is banned in our Hostel and the college premises, a fine of Rs. 200/- will be imposed uniformly each time when this rule is violated.
- 6 Residents must keep their rooms, bathrooms and surroundings clean and tidy. Walls must not disfigure. They are accountable for any loss or misuse of hostel property.
- 7 Hostel dues should be cleared within 7 days of issuance or as announced by the hostel authorities from time to time.
- 8 Gross indiscipline of any kind, irregularity in payment of dues and poor class attendance record will be treated as disqualification and the student shall be expelled immediately on account of above reasons for readmission.
- 9 The Principal / Warden can without assigning any reason, change room allotted to a hostel inmate on compliance of any order in this regard is to be treated as a serious breach of discipline inviting penal action.
- 10 Any attempt or connivance leading to damage or loss of hostel property or damage to hostel building shall be treated as an act of gross indiscipline inviting penal action including fine as well as cancellation of seat.
- 11 Any record of indiscipline or conniving with others leading to indiscipline will disqualify a candidate from nomination to any post in the Hostel Students Association.

- 12 Motor Cycle / Car are strictly prohibited within the hostel premises. Any vehicle found on hostel premises will attract a fine of Rs.500/-per day.
- 13 A resident will have to vacate the hostel within two days of the last day of his/her examination failing which he/she will have to pay a surcharge of Rs.100/-per day.
- 14 Residents vacating rooms after taking their entire luggage are required to hand over the rooms to the Hostel Office Assistant and collect a No-Dues Form. The Form has to be presented at the time of readmission and its photocopy has to be attached to the form claiming refund of hostel security amount. Readmission will not be considered in the absence of the No-Dues Form.
- 15 Each resident is responsible for the care and maintenance of the room and furniture provided to him/her. As and when necessary the rooms may be inspected by the hostel authorities. The room may be inspected jointly by the Warden /Principal and Hostel Committee Members even in the absence of the resident. In case of any damage to the furniture, fixtures the cost will be recovered from the residents.
- 16 Use of electrical appliances such as immersion rod, heater, electric blower etc. inside rooms is strictly prohibited. Transistors, music systems may be allowed, provided other residents do not object. Residents are required to switch off the lights and fans while leaving the room.
- 17 Residents are advised not to paste posters directly on the walls and doors. Graffiti is strictly prohibited. If the room requires repairs beyond normal levels at the end of the session, the cost of the repairs will be adjusted against Hostel Security Amount/Caution Money.
- 18 Hostel rules & regulations are subject to change from time to time and these will be notified as and when required. Residents are liable to fine /expulsion for breach of these directives.

### **Mess Rules:**

1. It is compulsory for every resident to join the mess from the day he/she takes possession their room. Mess Charges must be cleared within seven days of the issuance of the mess bill, failing which a late fine of Rs.50 /- will be charged up to the end of a month. In the first week of the following month, the parent, local guardian will be informed and the resident (s) concerned will not be allowed to have food in the mess.
2. A resident going out of station should submit the mess rebate application form in the hostel office and sign off in the mess register before he/she leaving, failing which the mess bill be charged in full. Students can avail mess rebate if leave has been granted for more than 15 days. Principal's approval will be mandatory for the same.
3. No crockery or food can be taken out of the Dining Hall except during indisposition of the resident, for which permission in writing from the Hostel Warden has to be obtained. In such



cases only disposal plates will be used. In case of violation of this rule a fine of Rs. 50/- will be imposed.

### **Prohibition of and Punishment for ragging (Ord.XV-C)**

- 1 Ragging in any form is strictly prohibited within the premises of hostel /college/any part of University of Delhi system as well as on public transport.
- 2 Ragging in any form is not permissible on campus, not even for fun. This is an offence that is punishable under ordinance XV (B) & (C) of the university in the wake of the recent supreme court ruling. See website: for further information. The hard copy is available in the library.
- 3 Any individual or collective act or practice of ragging constitutes gross indiscipline and shall be dealt with under this Ordinance.
- 4 Ragging for the purpose of this Ordinance, ordinarily means any act, conduct or practice by which dominant power or status of senior student is brought to bear on students freshly enrolled or students who are in any way considered junior or inferior by other students and includes individuals or collective acts or practices which:
  - Involve physicals assault or threat to use of physical force;
  - Violate the status, dignity and honor of women students;
  - Violate the status, dignity and honor of students belonging to the scheduled castes and tribes;
  - Expose students to ridicule and contempt and affect their self esteem;
  - Entail verbal abuse and aggression, indecent gestures and obscene behavior.
- 5 The Principal of a College, the head of the Department or an institution, the authorities of College, of university hostel, of hall of residence shall take immediate action on any information of the occurrence of ragging not with standing anything in clause (IV) above, the Warden may also sue motto enquire into any incident of ragging and make a report to the Principal / Vice-Chancellor of the identity of those who have engaged in ragging and the nature of the incident.
- 6 The Warden may also submit an initial report establishing the identity of the perpetrators of Ragging and

The nature of the ragging incident. If the Principal of a College, Head of the Department of Institution or the Warden is satisfied that for some reason to be recorded in writing, it is not reasonably practical to hold such an enquiry he may so advise the Vice Chancellor accordingly.

On the receipt of a report under Clause (5) or (6) or a determination by the relevant authority under Clause (7) disclosing the occurrence of ragging incidents described in Clause 3(a), (b) and (c) the Principal/Vice-Chancellor shall direct or order rustication of a student /students for a specific numbers of years.



The Principal / Vice-Chancellor may in other cases of ragging order or direct that any student or students be expelled or be not for a stated period, admitted to a course of study in a college, departmental examinations for or more year on that the result of the student concerned in the examination or examinations in which they appeared be cancelled.

In case any students who have obtained degrees of Delhi University are found guilty under this Ordinance appropriate action under statue 15 for withdrawal of degrees conferred by the University shall be initiated.

For the purpose of this Ordinance, abetment to ragging whether by way of any act, practice or incitement of ragging will also amount to ragging.

All institutions within the Delhi University system shall be obligated to carry out instructions /directions under the Ordinance and to give aid and assistance to the Vice-Chancellor to achieve the effective implementation of the ordinance.

## **Prohibition of and Punishment for Sexual Harassment (Ord.XV-D)**

### **SHORT TITLE AND EXTENT:**

The present ordinance is based on the Policy against Sexual Harassment by the Delhi University and seeks to maintain and create an academic and work environment, free of sexual harassment for students, academic and non-teaching staff of the Delhi University .The ordinance will also apply to outsiders and residents on the Delhi University Campus, to the extent specified herein these rules and procedures.

### **DEFINITIONS:**

1. "Students" includes regular students as well as current ex- students of Delhi University.
2. "Teaching Staff" includes any person on the staff of the Delhi University or any Colleges or institutions affiliated to it, who is appointed to a teaching and /or research post, whether full time, temporary, ad-hoc, part-time, visiting, honorary, or on special duty or deputation and shall also include employees employed on a casual or project basis .
3. "Non Teaching Staff" includes any person on the staff of the Delhi University or of any colleges or institutions affiliated to it, who is not included in the teaching staff. It includes employee who are fulltime, temporary, ad-hoc, part time, visiting, honorary or on special duty or deputation and employees employed on a casual or project basis.
4. "Member of the University" includes all those included in categories i-iii above.
5. "Resident" includes any person who is a temporary or permanent resident of any of the accommodations or premises allotted to an employee by the University of Delhi or by any of its affiliated colleges or institutions.
6. "Outsider" includes any person who is not a member of the University or a resident. It also includes, but is not limited to any private person offering residential, food and other facilities to

students, teaching staff or non-teaching staff of the Delhi University or any college or institution affiliated to Delhi University.

7. "Campus" includes all places of work and residence in the Delhi University or any College or institutions affiliated to the Delhi University. It includes all places of instruction, research and administration as well as hostel, health centre, sports grounds, staff quarters and public places (including shopping centers, eating places, parks, streets and lanes) on the Delhi University campus or the campus of any college or institutions affiliated to the Delhi University.

8. "Sexual harassment" includes any unwelcome sexually determined behavior, whether directly or by implication and includes physical contact and advances, a demand or request of sexual favours, sexually-collared remarks, showing pornography or any other unwelcome physical, verbal, non-verbal conduct of sexual nature.

**Explanation** "Sexual Harassment" shall include, but will not be confined to, the following:

1. When submission to unwelcome sexual advances, requests for sexual favours, and verbal or physical conduct of a sexual nature are made, either implicitly or explicitly a ground for any decision relating to employment, academic performance, extracurricular activities, or entitlement to services or opportunities at the Delhi University.
2. When unwelcome sexual advances and verbal, non-verbal and / or physical conduct such as loaded comments, remarks or jokes, letters, phone calls or e-mail, gestures, exhibition of pornography, lurid stares, physical contact, stalking, sounds or display of a derogatory nature have the purpose and / or effect of interfering with individual's performance or creating an intimidating, hostile, or offensive environment.
3. When a person uses with a sexual purpose, the body or any part of its or any object as an extension of the body in relation to another person without the latter's consent or against the person's will such conduct will amount to sexual assault.
4. When deprecatory comments, conduct or any such behavior is based on the gender identity Sexual orientation of the person and / or when the class room or other public forum of the University is used to denigrate / discriminate against a person or create a hostile environment on the basis of a Person's gender identity/sexual orientation.



## **Admission:**

### **Criteria:**

1. Only those students who have secured admission into regular UG courses in Sri Venkateswara College, New Delhi, are eligible for Hostel accommodation. The allotment of hostel will be based on the marks obtained in the last qualifying examination i.e., merit, distance and admission interview.
2. Only those students whose parents do not reside in or around the National Capital Region of Delhi (Gurgaon, Noida, Greater Noida, Ghaziabad, Faridabad etc.). Proof of residence in the form of attested photocopy of Aadhar card or such other document which provides proof of their residence is to be submitted along with application. In the event of two candidates securing admission position; final admission will be given to the candidate whose permanent address is at a greater distance from Delhi.
3. Admission to the hostel can not be claimed as a matter of right.

### **Distributions of seats:**

The Boys Hostel has been exclusively funded for construction by College Management, TTD Trust, whereas the Girls Hostel has been partially funded by UGC and Management. Day to day functioning of the hostel is self-financed.

The total no. of seats available for students who are going to be admitted for 2023-24 academic year, are 25 each in Boys Hostel and Girls Hostel. (The allotment of seats is on merit basis following the Statutory Quota Norms and other criteria laid by the College. The College reserves the right of allotment/cancellation of any seat at any time without assigning any reasons thereof.)

### **Procedure for Admission:**

The prescribed application form appended at the end of the Hostel Information Bulletin is to be duly filled in all respects. Incomplete forms will be rejected. Applications will be received only after registration / admission in the College. The Application forms, complete in all respects along with the required enclosures, should be submitted to the Hostel Office. The Procedure for admission to the hostel is as follows:

1. The candidate has to appear personally at the time of admission for an interview. He/She is required to present the College fee receipt as proof of admission to the College.
2. Parents and local guardian of the candidate must accompany the applicant at the time of admission.



3. Parents are requested to authorize a responsible person, located in Delhi/NCR as the Local Guardian to the satisfaction of the authorities and also submit/(authorize) his/her photograph, along with the application form. If you do not have relative or friend in Delhi/NCR then a teacher from the concerned department will become the local guardian, if they agree.

4. Once admitted, the candidate must deposit hostel fee within two working days, failing which the admission to the Hostel will automatically stand cancelled.

5. Applications of foreign students are to be routed through the Foreign Students Advisor of the University and duly forwarded by the Embassy of the concerned country. Such students are also required to submit a medical certificate from the National Institution of Communicable Diseases, Sham Nath Marg, and Delhi.

**The applicant must attach the following documents (Photocopy) with the application form:**

1. College Fee Receipt by S.V. College
2. Date of Birth Certificate
3. 12<sup>th</sup> Class Mark Sheet / University Part I & II Examinations Mark Sheets
4. CUET score card
5. Residence Photo Id Proof (Approved by Government Authority)
6. OBC/SC/ST/FS and Persons with Disability (PwD) Certificate
7. Local Guardian Photo ID residence proof
8. Certificate of medical history for shortlisted candidates only at the time of admission
10. Affidavit by Parents/Guardians & Students for shortlisted candidates only at the time of admission

### **ADMISSION Criteria for II, III and IV years**

1. All the previous year residents who are promoted to the next class are required to apply afresh for admission. They are required to fill up the prescribed application form for admission to the hostel, providing appropriate information. The minimum eligibility criterion for admission is as follow:

- a). Students in Humanities Stream should get a minimum of 6.00 CGPA and above
- b). Students in Commerce Stream should get a minimum of 6.50 CGPA and above
- c). Students in Science Stream should get a minimum of 6.50 CGPA and above
- d). Residents who fail to have the required attendance of 70 % in class in the previous academic session will not be eligible to get readmission in the hostel.

2. However, admission cannot be claimed as a matter of right and may be denied as a matter of rule:

a). If the student has failed, dropped out or has been disallowed from appearing in the University Annual Examination of the University because of lack of required attendance, or has scored less than the above mentioned percentage in the exams.

b). If a student has violated hostel rules or has been held guilty of breach of hostel discipline or has committed an act of misconduct i.e. acts of vandalism, deliberate mischief, gross misdemeanor, frequent violation of late night, night out rules or non-payment of hostel dues and any fine has been imposed on him/her by Proctorial Committee/Warden/Principal.

## Hostel Fees

### I Annual Fee:

1. Admission Fee	Rs. 500.00
2. Furniture Fee	Rs. 750.00
3. Medical & Counseling Fee, WUS	Rs. 1000.00
4. Garden Fee	Rs. 150.00
5. Development/Welfare Fee	Rs. 2400.00
6. Hostel Sports and Cultural Fee	Rs. 1200.00
7. Caution Money (refundable/adjustable)	Rs. 5000.00
8. Mess Security (refundable/adjustable)	Rs. 5000.00

**Total I** **Rs 16, 000.00**

### II Monthly Fee:

1. Maintenance Charges*	Rs. 4250.00
(a) Housekeeping and Sanitation Charges (1500/-)	
(b) Campus Security Charges (1500/-)	
(c) Establishment Charges (750/-)	
(d) Service Charges (500/-)	
2. Room Rent**	Rs. 750.00
3. Electricity Charges**	Rs. 650.00
4. Water Charges**	Rs. 200.00
5. Common Room & Facilities Fee**	Rs. 300.00
6. Mess Charges	Rs. 3355.00/- (as per actual)

**Total II** **Rs. 9505.00**

\*Maintenance charges to be collected for 12 months irrespective of date of joining.

\*\*Other charges to be paid from date of joining.

Hostel fees will be paid in 4 Installments

1<sup>st</sup> Installment: Entire Annual fee of Rs. 16,000/- and the 1<sup>st</sup> Quarter Fee of three months (August to October) of Rs. 28,515/- will be paid at the time of admission or readmission.

2<sup>nd</sup> Installment: 2<sup>nd</sup> Quarter fee for three months (November to January) of Rs. 28,515/- will be paid in November,

3<sup>rd</sup> Installment: 3<sup>rd</sup> Quarter fee for three months (February to April) of Rs. 28,515/- will be paid in February.

4<sup>th</sup> Installment: 4<sup>th</sup> Quarter fee for three months (May to July) of Rs. 28,515/- will be paid in May.

**Fee subject to change on the decision of College Governing Body**



1. Hostel Security amount will be refundable only after the room has been vacated. Hostel Mess Security and Caution money are refundable through NEFT transfer only.
2. Application for withdrawal has to be made on a prescribed form along with the photocopy of the No Dues form and submitted to the hostel office.
3. Security Money has to be claimed within one year after leaving the hostel, beyond which the same lapses to the Hostel Account.
4. In case of withdrawal, annual charges will not be refunded. However, monthly charges will be realized only up to the month in which withdrawal is sought. It is calculated from the date of the written application's submission to the Warden for the withdrawal of admission.
5. In case a student after being admitted wants to get his /her admission cancelled, he/she will be entitled to refund of fees as per Hostel / College rules.
6. All fees should be paid by the 10<sup>th</sup> of each month except at the time of admission. The late fee fine structure is as follows.
  - Late fee will be charged at the rate of Rs.25/- per day in addition to the usual charges for each day of default during the first 30 days after the due date, and at the rate of Rs. 50 /- per day afterwards. If the bill remains unpaid till the last day of the month the meals of the resident may be stopped and eviction proceeding initiated.
  - A resident who fails to pay his quarterly hostel dues for more than one month may be asked to vacate the hostel accommodation with immediate effect.
  - The residents going on long leave are also required to pay the fees within the stipulated period of time either in advance or by post in case of extension of stay.
  - If a resident leaves the hostel without paying his full hostel and mess charges, hostel authorities could adjust his hostel dues against the Caution Money amount. Further, if the total outstanding dues exceed the caution money amount, in that case hostel administration / College would write to the examination branch to withhold his result.
  - Hostel will follow DU academic calendar similar and fee will be collected accordingly.
7. All hostel fees and mess charges is to be done through online at [www.collpoll.in](http://www.collpoll.in).

#### **Fees for Foreign Students:**

The foreign students admitted in the Hostel are required to pay one time registration fee of US \$200 or equivalent amount in rupees (Non - refundable) in addition to the usual Hostel fee at the time of initial admission. The SAARC country students may pay registration fee in Indian currency equivalent of US \$ 200, in case they are unable to pay in US dollars, for which prior permission of the Warden is needed.

  
 अधीक्षक / Warden  
 श्री वेंकटेश्वर महाविद्यालय छात्रावास  
 Sri Venkateswara College Hostel  
 धौला कुआं, नई दिल्ली / Dhoola Kuan, New Delhi-21

  
 प्रधानाचार्य  
 Principal  
 श्री वेंकटेश्वर महाविद्यालय  
 Sri Venkateswara College  
 धौला कुआं, नई दिल्ली / Dhoola Kuan, New Delhi-21