SRI VENKATESWARA COLLEGE

2020-21

ODD SEMESTER

TEACHING PLANS

Department of Mathematics
Sri Venkateswara College
Odd Semester Teaching Plan (August-December 2020)

Ms. Shakuntla Wadhwa

Month		Topics	Course	Paper Code/Name
August	**Theory 1**	First order exact differential equation including rules for finding integrating factors.	B.A.(P) Semester-V	DSE-I
	Theory 2	First order ordinary differential equations: Basic concepts and ideas.Exact differential equations, Integrating factors, Bernoulli equations, Orthogonal trajectories of curves.	B.Sc.(H) Electronics, Physics, Economics Sem-3	GE-3 Differential Equations
	Practical	1. Solution of first order differential equation 2. Plotting of second order solution family of differential equation	B.Sc.(H) Electronics, Physics, Economics Sem-3	GE-3 Differential Equations
	Tutorials	To discuss the doubts of students and various exercise questions related to first and second order ordinary differential equations	B.A.(P) Semester-V	DSE-I
September	**Theory 1**	First order higher degree equations solvable for x,y, p. Wronskian and itsproperties.	B.A.(P) Semester-V	DSE-I
	Theory 2	Existence and uniqueness of solutions, Second order differential equations: Homogenous linear equations of second order; related problems, Second order homogenous equations with constant coefficients, Differential operator, Euler-Cauchy equation,	B.Sc.(H) Electronics, Physics, Economics Sem-3	GE-3 Differential Equations
	Practical	3. Plotting of third order solution family of differential equation 4. Solution of differential equation by variation of parameter method. 5. Solution of system of ordinary differential equations.	B.Sc.(H) Electronics, Physics, Economics Sem-3	GE-3 Differential Equations

	Tutorials	To discuss the doubts of students and various exercise questions related to first and second order ordinary differential equations	B.A.(P) Semester-V	DSE-I
OCTOBER	**Theory 1**	Linear homogeneous equations with constant coefficients. The method of variation of parameters,	B.A.(P) Semester-V	DSE-I
	Theory 2	Existence and uniqueness theory, Wronskian, Non-homogenous ordinary differential equations, Solution by undetermined coefficients, Solution by variation of parameters; related problems, Conversion of nth order ODEs to a system, Basic concepts and ideas, Homogenous system with constant coefficients; related problems	B.Sc.(H) Electronics, Physics, Economics Sem-3	GE-3 Differential Equations
	Practicals	6. Solution of Cauchy problem for first order partial differential equation. 7. Plotting the characteristics for the first order partial differential equation.	B.Sc.(H) Electronics, Physics, Economics Sem-3	GE-3 Differential Equations
	Tutorials	To discuss the doubts of students and various exercise questions related to topics done so far.	B.A.(P) Semester-V	DSE-I
	Assignment	Problems covering all topics done duringAugust-September	B.A.(P) Semester-V	DSE-I
		Problems covering all topics done duringAugust-September	B.Sc.(H) Electronics, Physics, Economics Sem-3	GE-3 Differential Equations
	Test	An online internal test conducted on the basis of topics covered in the class.	B.A.(P) and GE	DSE-I and Differential Equations
NOVEMBER	**Theory 1**	Euler's equation, Simultaneous differential equations, Total differential equations	B.A.(P) Semester-V	DSE-I
	Theory 2	Higher order homogenous equations with constant coefficients, System of differential equations, System of differential equations; related problems	B.Sc.(H) Electronics, Physics, Economics Sem-3	GE-3 Differential Equations

	Practicals	8. Plot the integral surfaces of a given first order partial differential equation with initial data	B.Sc.(H) Electronics, Physics, Economics Sem-3	GE-3 Differential Equations
	Tutorials	To discuss the doubts of students and last years' question papers	B.A.(P) Semester-V	DSE-I

Dr. R. K. BUDHRAJA

Month		Topics	Course	Paper
August	**Theory**	Limits of Functions	B.Sc.(Hons) Maths Sem III B	BMATH 305 : Theory of Real Functions
	Practicals	Making basic programs in C++, compilation and execution. 1.Calculate the Sum of the series 1/1 + 1/2+ 1/3+…………+1/N for any positive integer N. 2. Write a user defined function to find the	B.Sc.(Hons) Maths Sem-V	DSE 1: C++ programming
	Tutorials	Questions based on Limits of Functions	B.Sc.(Hons) Maths Sem III B	BMATH 305 : Theory of Real Functions
September	**Theory**	Introduction to Continuity and Properties of Continuous functions	B.Sc.(Hons) Maths Sem III B	BMATH 305 : Theory of Real Functions
	Practicals	3. Calculate the factorial of any natural number. 4. Read floating numbers and the average of negative numbers and the average of positive numbers. 5. Write a program that prompts the user to input a positive integer. It should then output a message indicating whether the number is a prime number. 6. Write a program that prompts the user to input the value of a, b and c involved inthe equation ax^2 + bx + c = 0 and outputs the type of the roots of the equation. 7. Write a program that generates Fibonacci numbers. 8. Write a program that prompts the	B.Sc.(Hons) Maths Sem-V	DSE 1: C++ programming
	Tutorials	Questions based on Continuous Functions and properties of continuous functions.	B.Sc.(Hons) Maths Sem III B	BMATH 305 : Theory of Real Functions
October	**Theory**	Uniform Continuity, Differentiability of Functions, Mean Value Theorems	B.Sc.(Hons) Maths Sem III B	BMATH 305 : Theory of Real Functions

	Practicals	9. Write a program that uses *while* loops to prompt the user to input two integer, output all odd and even numbers between them, output the sum of all even numbers between them, output the sum of the square of the odd numbers between them. 10. Write a program that prompts the user to input five decimal numbers, then add them, convert the sum to the nearest integer, and print the result. 11. Write a program that prompts the user to enter the lengths of three sides of a triangle and then outputs a message indicating type of triangle. 12. Write a value returning function *smaller* to determine the smallest number	B.Sc.(Hons) Maths Sem-V	DSE 1: C++ programming
	Tutorials	Questions based on Uniform Continuity. Differentiability ofFunctions, Mean Value Theorems,	B.Sc.(Hons) Maths Sem III B	BMATH 305 : Theory of Real Functions
	Assignment	Based on Limits, Continuity & Uniform Continuity of Functions	B.Sc.(Hons) Maths Sem III B	BMATH 305 : Theory of Real Functions

November November	**Theory**	Taylor's Theorems, Maxima & Minima, Taylor's Series & Maclaurin's Series Expansions of e^x, sin x and cos x	B.Sc.(Hons) Maths Sem III B	BMATH 305 : Theory of Real Functions
	Practicals	13. Write a function that takes as a parameter an integer and returns the number of odd, even, and zero digits. 14. Enter 100 integers into an array and short them in an ascending/ descending order and print the largest/ smallest integers. 15. Enter 10 integers into an array and then search for a particular integer in the array. 16. Multiplication/ Addition of two matrices using two dimensional arrays. 17. Using arrays, read the vectors and compute the product and addition of	B.Sc.(Hons) Maths Sem-V	DSE 1: C++ programming

	Tutorials	Questions based on Taylor's Theorems, Maxima & Minima, Taylor's Series & Maclaurin's Series Expansions	B.Sc.(Hons) Maths Sem III B	BMATH 305 : Theory of Real Functions
	Test	Based on whatever have been taught at that point of time. (Oct. 15, 2020)	B.Sc.(Hons) Maths Sem III B	BMATH 305 : Theory of

Dr. Mainak Mukherjee

Month		Topics	Course	Paper Code/Name
AUGUST	**Theory:**	Metric spaces: definition and examples. Sequences in metric spaces. Cauchy sequences, Complete Metric Spaces, Open and closed balls, neighbourhood, open set, interior of a set, Limit point of a set, closed set, diameter of a set, Cantor's Theorem.	B.Sc(H) MathsSem-V	C 11- Metric Spaces
	Practicals	NA		
	Tutorial s:	To discuss the doubt of students and various exercise questions and examples related to Metric spaces, Cauchy sequences, Complete Metric Spaces, Open and closed balls, neighbourhood, open set, interior of a set, Limit point of a set, closed set, diameter of a set, Cantor's Theorem.		
	Practicals	1.Bisection method 2. Newton−Raphson method 3. Secant method 4. Regula−Falsi method	B.Sc(H) MathsSem V	Numerical Analysis

	Theory:	Subspaces, dense sets, separable spaces, Continuous mappings, sequential criterion and other characterizations of continuity, Uniform continuity.	B.Sc(H) Maths Sem-V	C 11- Metric Spaces
	Practicals:	NA		
	Tutorial s:	To discuss the doubt of students and various exercise questions and examples related to Subspaces, dense sets, separable spaces, Continuous mappings, sequential criterion and other characterizations of continuity, Uniform continuity.		

September	**Assignm Ents**	To be given assignment related to syllabus.		
	Practicals:	5. LU decomposition method 6. Gauss−Jacobi method 7. SOR method 8. Gauss−Seidel method 9. Lagrange interpolation 10. Newton interpolation	B.Sc.(H) Maths Sem-V	Numerical Analysis
OCTOBER	**Theory:**	Homeomorphism, Contraction mappings, Banach Fixed point Theorem. Connectedness, connected subsets of **R,** connectedness and continuous mappings. Compactness.	B.Sc(H) MathsSem-V	C 11- Metric Spaces
	Tutorial s:	To discuss the doubt of students and various exercise questions and examples related to Homeomorphism, Contraction mappings, Banach Fixed point Theorem. Connectedness, connected subsets of **R,** connectedness and continuous mappings. Compactness.		
	Test	To take internal Test.		
	Practicals:	11. Trapezoidal rule 12. Simpson's rule 13. Euler's method 14. Second order Runge−Kutta methods.	B.Sc.(H) Maths Sem-V	Numerical Analysis
	Test	To take internal Lab Test.		

NOVEMBER	**Theory:**	Compactness and boundedness, continuous functions on compact spaces and to revise whole syllabus, to discuss last previous year questions papers.	B.Sc(H) MathsSem-V	C 11- Metric Spaces
	Practicals:	NA		
	Tutorials:	To discuss the doubt of students and various exercise questions and examples related to compactness and boundedness, continuous functions on compact Spaces and to revise whole syllabus, to discuss last previous year questions papers.		
	Practicals:	Revision of Practical	B.Sc.(H) Maths Sem-V	Numerical Analysis

Ms. Pratibha Gaur

Month		Topics	Course	Paper Code/Name
AUGUEST	**Theory**	Techniques for sketching parabola	BA(P) Sem-III	Analytic Geometry and Applied Algebra
	Theory	Order and degree of partial differential equations, Concept of linear partial differential equations, Concept of non-linear partial differential equations.	BA(P) Sem-V	Differential Equations
	Tutorial	To discuss the doubt of students and to solve various exercise of Introduction to linear programming problem: Graphical method of solution, Basic feasible solutions, Linear programming and convexity.	GE-III	Linear Programming and Game Theory)
	Practicals	1. Solution of first order differential equation. 2. Plotting of second order solution family of differential equation. 3. Plotting of third order solution family of differential equation.	GE-III	Differential Equations
Sept	**Theory**	Techniques for sketching ellipse and hyperbola with problem solving.	BA(P) Sem-III	Analytic Geometry and Applied Algebra
	Theory	Formation of first order partial differential equations, Lagrange's method.	BA(P) Sem-V	Differential Equations
	Tutorial	To discuss the doubt of students and to solve various exercise of introduction to the simplex method: Theory of the simplex method, Optimality and unboundedness, Simplex tableau and examples, Artificial variables, Introduction to duality, Formulation of the dual problem with examples and interpretations. Statement of the	GE-III	Linear Programming and Game Theory)

			GE-III	Differential Equations
	Practicals:	4. Solution of differential equation by variation of parameter method. 5. Solution of system of ordinary differential equations. 6. Solution of Cauchy problem for first order partial differential equations		
Oct	**Theory**	Reflection properties of parabola, ellipse and hyperbola, .Classification of quadratic equation representing lines	BA(P) Sem-III	Analytic Geometry and Applied Algebra

	Theory	Question based on Lagrange's method and Charpit's method.	BA(P) Sem-V	Differential Equations
	Tutorial	To discuss the doubt of students and to solve various exercise of definition and mathematical formulation of transportation problems, Methods of finding initial basic feasible solutions, North West corner rule, Least-cost method, Vogel's approximation method, Algorithm for solving transportation problems, Mathematical formulation and	GE-III	Linear Programming and Game Theory
	Practicals	7. Plotting the characteristics of the first order partial differential equations. 8. Plot the integral surfaces of first order partial differential equations with initial data.	GE-III	Differential Equations
	Assignment	To give assignment related to syllabus / To take internal Test		
Nov	**Theory**	Classification of parabola, ellipse and hyperbola, Rotation of axis second degree equations.	BA(P) Sem-III	Analytic Geometry and Applied Algebra
	Theory	Classification of second order partial differential equations into elliptic, Parabolic and hyperbolic through illustrations only	BA(P) Sem-V	Differential Equations
	Tutorial	To discuss the doubt of students and to solve various exercise of introduction to game theory, Formulation of two-person zero-sum rectangular game, Solution of rectangular games with saddle points, mixed strategies, Dominance principle, Rectangular games without saddle	GE-III	Linear Programming and Game Theory
	Practicals:	Revisions of practicals	GE-III	Differential Equations

Dr. Swarn Singh

Month		Topics	Course	Paper Code/Name
AUGUST	**Theory:**	To introduce the concepts of Algorithms, Convergence, Bisection Method and various problems related to these and to discuss various theorems related to convergence of the method	B.Sc.(Hons.)Maths Sem VI	DSE-1(i) Numerical Method
	Practicals:	Basic concepts of Mathematica and Practical (i) of the list given in the syllabus: To	B.Sc.(Hons.)Maths Sem VI	DSE-1(i) Numerical Method
	Tutorials:	To discuss the doubt of students and various exercise questions and examples related to Automorphism, inner automorphism, automorphism groups, automorphism groups of finite and infinite	B.Sc.(Hons.)Maths Sem VI	C-12 Group Theory-II
SEPTEMBER	**Theory:**	False position method, Fixed point iteration method, Newton's method, Secant method, LU decomposition, Gauss-Jacobi method and various problems related to these and to discuss various theorems related to convergence of these methods.	B.Sc.(Hons.)Maths Sem VI	DSE-1(i) Numerical Method
	Practicals:	Practicals (ii) to find the absolute value of an integer, (iii) to enter 100 integers into an array and sort them in ascending order and (iv) Bisection method, Newton Raphson Method, Secant method, Regula Falsi Method	B.Sc.(Hons.)Maths Sem VI	DSE-1(i) Numerical Method
	Tutorials:	To discuss the doubt of students and various exercise questions and examples related to Characteristic subgroups, Commutator subgroup and its properties.	B.Sc.(Hons.)Maths Sem VI	C-12 Group Theory-II
OCTOBER	**Theory:**	Gauss-Seidel method, SOR iterative method and various problems related to these and to discuss various theorems related to convergence of these methods.	B.Sc.(Hons.)Maths Sem VI	DSE-1(i) Numerical Method
	Practicals:	Practicals (v) LU decomposition method and (vi) Gauss-Jacobi method	B.Sc.(Hons.)Maths Sem VI	DSE-1(i) Numerical Method

		To discuss the doubt of students and various exercise questions and examples related to properties of external direct products, the group of units modulo n as an external direct product, internal direct products, Fundamental Theorem of finite abelian groups	B.Sc.(Hons.)Maths Sem VI	C-12 Group Theory-II
	Tutorials:			
	Assignment	Assignment to be given related to syllabus.	B.Sc.(Hons.)Maths Sem VI	DSE-1(i) Numerical Method
NOVEMBER	**Theory**	Lagrange and Newton interpolation: linear and higher order, finite difference operators, Numerical differentiation: forward difference, backward difference and central difference	B.Sc.(Hons.)Maths Sem VI	DSE-1(i) Numerical Method
	Practicals:	Practicals (vii) SOR method, Gauss Siedel method and (viii) Lagrange Interploation, Newton Interpolation	B.Sc.(Hons.)Maths Sem VI	DSE-1(i) Numerical Method
	Tutorials:	To discuss the doubt of students and various exercise questions and examples related to Group actions, stabilizers and kernels, permutation representation associated with a given group action, Applications of group actions: Generalized Cayley's theorem, Index theorem.	B.Sc.(Hons.)Maths Sem VI	C-12 Group Theory-II
	Mid Term Test	To take internal Test based on the syllabus covered.	B.Sc.(Hons.)Maths Sem VI	DSE-1(i) Numerical Method
		To take internal Lab Test based on the syllabus covered.	B.Sc.(Hons.)Maths Sem VI	DSE-1(i) Numerical Method
DECEMBER	**Theory:**	Integration: trapezoidal rule, Simson's rule, Euler's method and to revise whole syllabus. To discuss previous year questions papers some of which are available on my Blog https://numericalmaths.wordpress.com/	B.Sc.(Hons.)Maths Sem VI	DSE-1(i) Numerical Method

Practicals:	Practical (ix):Simpson's rule and revise all practicals	B.Sc.(Hons.)Maths Sem VI	DSE-1(i) Numerical Method
Tutorials:	To discuss the doubt of students and various exercise questions and examples related to Groups acting on themselves by conjugation, class equation and consequences, conjugacy in Sn, p-groups, Sylow's theorems and consequences, Cauchy's theorem, Simplicity of An for n ≥ 5, non-simplicity tests.	B.Sc.(Hons.)Maths Sem VI	C-12 Group Theory-II

Dr. Deepti Jain

Month		Topics	Course	Paper Code/Name
AUGUST	**Theory**	Definition and examples of ordered sets, Chains and antichains, Order-isomorphism, The Covering Relation, Hasse Diagram, The dual of an ordered set and The Duality Principle, Top and Bottom, Maximal and minimal elements.	B.Sc.(H) Mathematics V Semester	DSE-II(ii) Discrete Mathematics
	Tutorial	Exercises and doubts based on Hasse diagram and Order-isomorphism, Verification or order-preserving, order-embedding and order-isomorphisms.		
	Practical	N/A		
	Theory	Introduction to TeX and LaTeX, Typesetting a simple document, Adding basic information to a document, Environments, Footnotes, Sectioning and displayed material.	B.Sc.(Hons) Mathematics III Semester	SEC: LaTeX and HTML
	Practical	Introduction to Latex: 1. What is Tex and Latex? 2. To create Latex file. 3. To add title, author and date 4. Mathematical Typesetting.	B.Sc.(Hons) Mathematics III Semester	SEC: LaTeX and HTML

SEPTEMBER	**Theory**	Sums of ordered sets, Product of ordered sets,Order-preservingmaps,Order-embedding map and order-isomorphism maps, Lattices as ordered sets, Lattices as algebraic structures, The Connecting Lemma, Sublattices, Product of lattices, Lattice homomorphism, Complete Lattices, Distributive and Modular lattices, The M3-N5 Theorem.	B.Sc.(H) Mathematics V Semester	DSE-II(ii) Discrete Mathematics
	Tutorial	Exercises based on join and meet in an ordered set, Examples of lattices and complete lattices, relationship between order-isomorphism and lattice-isomorphism, Construction of ordered sets and lattices satisfying given conditions.		
	Practical	N/A		
	Theory	Accents and symbols, Mathematical typesetting (elementary and advanced): Subscript/ Superscript, Fractions, Roots, Ellipsis, Mathematical Symbols, Arrays, Delimiters, Multiline formulas, Spacing and changing style in math mode.	B.Sc. (H) Mathematics III Semester	SEC: LaTeX and HTML
	Practical	5. Delimiters 6. Arrays 7. Multi-line Expressions	B.Sc.(H) Mathematics III Semester	SEC-I
OCTOBER	**Theory**	Boolean Algebras, Boolean Polynomials, minimal forms of Boolean polynomials, Quinn-McCluskey method, Karnaugh	B.Sc.(H) Mathematics V Semester	DSE-II(ii) Discrete Mathematics

		diagrams, Switching Circuits and applications of switching circuits.		
Tutorial	Exercises and doubts based on Boolean polynomials and switching circuits.			
Practical	N/A			
Assignment	Question from the topics including ordered sets, Lattices and Boolean Algebras.			
Theory	Graphics in LaTeX, Simple pictures using PSTricks, Plotting of functions, Beamer presentation.	B.Sc.(H) Mathematics III Semester	SEC: LaTeX and HTML	

	Assignment	Questions from the topics: Mathematical typesetting, PSTricks, Plotting of functions.		
	Practical	8. How to use Graphics. Assignments based on inserting graphics	B.Sc.(H) Mathmatics III Semester	SEC: LaTeX and HTML
NOVEMBER	**Theory**	Definition, examples and basic properties of graphs, pseudographs, Complete graphs, Bipartite graphs, Isomorphism of graphs, Paths and circuits, Eulerian circuits, Hamiltonian cycles, The adjacency matrix, Weighted graph, Travelling salesman problem, Shortest path, Dijkstra's algorithm.	B.Sc.(H) Mathematics V Semester	DSE-II(ii) Discrete Mathematics
	Tutorial	Exercises based on isomorphism of graphs, paths and circuits and adjacency matrix, algorithms of various shortest path problem.		
	Practical	N/A		
	Theory	HTML basics, Creating simple web pages, Images and links, Design of web pages.	B.Sc.(H) Mathematics III Semester	SEC: LaTeX and HTML
	Practical	Using PSTRICKS 1. Simple pictures 2. Plotting Functions 3. Plotting pictures with nodes 4. Beamer Presentation 5. HTML	B.Sc.(H) Mathmatics III Semester	SEC: LaTeX and HTML

Ninian Nauneet Kujur

Month		Topics	Course	Paper
August	**Theory**	Limits of functions (epsilon-delta approach), sequential criterion for limits, Divergence criteria, Limit theorems	Bsc(H) Maths-Sem III(B)	Theory of real functions
	Theory	Rectangular coordinates in 3-dimensional space, Spheres, Cylindrical surfaces, Cones, Vectors viewed geometrically,	BA(P) Sem III	Analytic Geometry and Applied Algebra
	Practicals	Introduction to TeX and LaTeX, Typesetting a simple document, Adding basic information to a document, Environments, Footnotes, Sectioning and displayed material	Bsc(H) Maths-Sem III(A)	SEC-1: LaTeX and HTML
	Tutorials	Exercise questions related to the concept of limits.	Bsc(H) Maths-Sem III(B)	Theory of real functions
September	**Theory**	One sided limits. Infinite limits & limits at infinity, Continuous functions, sequential criterion for continuity & discontinuity. Algebra of continuous functions, Properties of continuous functions on closed and bounded intervals. Uniform continuity, non-uniform continuity criteria, uniform continuity theorem.	Bsc(H) Maths-Sem III(B)	Theory of real functions
	Theory	Vectors in coordinate systems, Vectors determined by length and angle, Dot product,.	BA(P) Sem III	Analytic Geometry and Applied Algebra

	Practicals	Accents and symbols, Mathematical typesetting (elementary and advanced): Subscript/ Superscript, Fractions, Roots, Ellipsis, Mathematical Symbols, Arrays, Delimiters, Multiline formulas, Spacing and changing style in math mode	Bsc(H) Maths-Sem III(A)	SEC-1: LaTeX and HTML
	Tutorials	Exercise questions related to the concept of continuity.	Bsc(H) Maths-Sem III(B)	Theory of real functions
October	**Theory** **Test**	Differentiability of a function, Algebra of differentiable functions, Carathéodory's theorem, Chain rule.	Bsc(H) Maths-SemIII(B)	Theory of real functions
	Theory	Cross product and their geometrical properties, Parametric equations of lines in plane	BA(P) Sem III	Analytic Geometry and Applied Algebra
	Practicals:	Graphics in LaTeX, Simple pictures using PSTricks, Plotting of functions, Beamer presentation.	Bsc(H) Maths-SemIII(A)	SEC-1: LaTeX and HTML
	Tutorials	Questions related to Uniform continuity and differentiability.	Bsc(H) Maths-Sem III(B)	Theory of real functions

November	Theory:	Relative extrema, Interior extremum theorem. Rolle's theorem, Mean value theorem, and applications, Intermediate value property of derivatives, Darboux's theorem. Taylor Polynomial, Taylor's theorem with Lagrange's form of remainder, Application of Taylor's theorem in error estimation, Relative extrema and to establish a criterion for convexity, Taylor's series expansions of exponential function, sin x and cos x.	Bsc(H) Maths-SemIII(B)	Theory of real functions
	Theory	Planes in 3-dimensional space	BA(P) Sem III	Analytic Geometry and Applied Algebra
	Practicals	HTML basics, Creating simple web pages, Images and links, Design of web pages.	Bsc(H) Maths-SemIII(A)	SEC-1 LaTeX and HTML
	Tutorials	Questions based on mean value theorems, Taylor's and Lagrange's theorem. Expansion of various functions.	Bsc(H) Maths-SemIII(B)	Theory of real functions

Amit Kumar

Month		Topics	Course	Paper Code/Name
AUGUST	**Theory**	Introduction of group theory, symmetries of a square, Dihedral groups, definition and examples of groups. Examples of groups including permutation groups and quaternion groups (illustration through matrices), elementary	B.Sc(H) Maths Sem-III B	C6- Group Theory-I
	Tutorials	To discuss the doubt of students and various exercise questions and examples related to examples of groups including permutation groups and quaternion groups (illustration through matrices), elementary properties of groups. Subgroups and examples of subgroups, centralizer, normalizer, center of a group, product of two subgroups. Properties of cyclic groups, classification of subgroups of cyclic groups.	B.Sc(H) Maths Sem-III B	C6- Group Theory-I
	Theory	Introduction of Differential equation, Ordinary and partial differential equations, First order exact differential equations, Integrating factors and rules to find integrating factors, Examples and Exercise Questions	GE-III	Differential Equaton
	Practicals	1. Solution of first order differential equation. 2. Plotting of second order solution family of differential equation. 3. Plotting of third order solution family of differential equation.	GE-III	Differential Equations

Test	To take class test related to syllabus and lab test related to above Practicals.	B.Sc(H)-III/ GE-III	C6- Group Theory-I / Differential Equations

September	Theory	Subgroups and examples of subgroups, centralizer, normalizer, center of a group, product of two subgroups. Properties of cyclic groups, classification of subgroups of cyclic groups. Cycle notation for permutations, properties of permutations, even and odd permutations, alternating group, properties of cosets,	B.Sc(H) Maths Sem-III B	C6- Group Theory-I
	Tutorials	To discuss the doubt of students and various exercise questions and examples related to cycle notation for permutations, properties of permutations, even and odd permutations, alternating group, properties of cosets, Lagrange's theorem and consequences including Fermat's Little theorem.	B.Sc(H) Maths Sem-III B	C6- Group Theory-I
	Tutorials:	To discuss the doubt of students and various exercise questions and examples related to Differential Equation.	GE-III	Differential Equation
	Theory	Linear equations and Bernoulli equations, Orthogonal trajectories and oblique trajectories, Basic theory of higher order linear differential equations, Wronskian and its properties; Solving differential equation by reducing its order.	GE-III	Differential Equation
	Assignments	To be given assignment related to syllabus.	B.Sc(H) Maths Sem-III B/GE-III	C6- Group Theory-I /Differential Equation
	Practicals	4. Solution of differential equation by variation of parameter method. 5. Solution of system of ordinary differential equations. 6. Solution of Cauchy problem for first order partial		GE-III
OCTOBER	Theory	External direct product of a finite number of groups, normal subgroups, factor groups, Cauchy's theorem for finite abelian groups and group homomorphisms.	B.Sc(H) Maths Sem-III B	C6- Group Theory-I

Tutorials	To discuss the doubt of students and various exercise questions and examples related External direct product of a finite number of groups, normal subgroups, factor groups, Cauchy's theorem for finite abelian groups and Group homomorphisms.	B.Sc(H) Maths Sem-III B	C6- Group Theory-I
Tutorials:	To discuss the doubt of students and various exercise questions and examples related work done in Theory Class.	B.Sc(H) Maths Sem-IA	Algebra
Theory	Linear homogenous equations with constant coefficients, Linear non–homogenous equations, Method of undetermined coefficients.	GE-III	Differential Equation
Practicals	7. Plotting the characteristics of the first order partial differential equations. 8. Plot the integral surfaces of first order partial	GE-III	Differential Equations
Test	To take internal test related to syllabus And internal lab test related to above Practicals.	B.Sc(H) Maths Sem-III B/GE-III	C6- Group Theory-I / Differential Equation

NOVEMBER	**Theory**	Cayley's theorem, properties of isomorphism, First, Second and Third isomorphism theorems and revise whole syllabus, to discuss previous year questions papers.	B.Sc(H) Maths Sem-III B	C6- Group Theory-I
	Tutorials	To discuss the doubt of students and various exercise questions and examples related to Properties of homomorphisms, Cayley's theorem, properties of isomorphisms, First, Second and Third	B.Sc(H) Maths Sem-III B	C6- Group Theory-I
	Theory	Method of variation of parameters, Cauchy–Euler equations, Simultaneous differential equations and revise whole syllabus, to discuss last previous year questions papers.	GE-III	Differential Equation
	Tutorials:	To discuss the doubt of students and various exercise questions and examples related to whole syllabus and discuss previous year questions papers	GE-III	Differential Equation
	Practicals	Revision of Practicals	GE-III	Differential Equations

Dr. Nisha Bohra

Month		Topics	Course	Paper Name and code
August	Theory 1	Automorphisms, Inner automorphisms, Automorphism groups of finite cyclic groups	B.Sc. (H) Mathematics III B	Group Theory II, C!2
	Theory 2	Metric Spaces: Definitions and examples	B.Sc. (H) Mathematics III A	Metric spaces, C11
	Tutorial Theory 1	To discuss the doubt of the students and exercise problems based on the topic covered in the class.	B.Sc. (H) Mathematics III B	Group Theory II, C!2
	Tutorial Theory 2	To discuss the doubt of the students and exercise problems based on the topic covered in the class.	B.Sc. (H) Mathematics III A	Metric spaces, C11
	Practical 1	1. Discuss the limit of the given functions of x as x tends to zero 2. Draw the given surfaces and find level curves at the given heights 3. To draw the given regions and check whether they are of type I and type II.	B.Sc. (H) Mathematics II year	Multivariate calculus, C7
September	Theory 1	Automorphism groups of infinite cyclic groups Application of factor groups to Automorphism groups	B.Sc. (H) Mathematics III A	Group Theory II, C!2
	Theory 2	Sequences in metric spaces, Cauchy sequences, Complete metric spaces, open and closed balls, Neighborhood, open set, Interior of a set, Limit point of a set.	B.Sc. (H) Mathematics III B	Metric spaces, C11
	Tutorial Theory 1	To discuss the doubt of the students and exercise problems based on the topic covered in the class.	B.Sc. (H) Mathematics III B	Group Theory II, C!2
	Tutorial Theory 2	To discuss the doubt of the students and exercise problems based on the topic covered in the class.	B.Sc. (H) Mathematics III A	Metric spaces, C11
	Practical 1	4. Discuss the limit of the given functions of x as x tends to infinity. 5. Draw the given surfaces and check whether limit exists or not. 6. Discuss the continuity of	B.Sc. (H) Mathematics II year	Multivariate calculus, C7

		given functions of x at x=0. 7. 10 Taylor series- visualization by creating graphs.		
October	Theory 1	Characteristic subgroups, Commutator subgroups External direct products, Internal direct products	B.Sc. (H) Mathematics III B	Group Theory II, C!2
	Theory 2	Closed set, diameter of a set, Cantor's Theorem, Subspaces, dense sets, separable spaces, Continuous mappings, Sequential criteria and other characterizations of continuity	B.Sc. (H) Mathematics III A	Metric spaces, C11
	Tutorial Theory 1	To discuss the doubt of the students and exercise problems based on the topic covered in the class.	B.Sc. (H) Mathematics III B	Group Theory II, C!2
	Tutorial Theory 2	To discuss the doubt of the students and exercise problems based on the topic covered in the class.	B.Sc. (H) Mathematics III B	Metric spaces, C11
	Practical 1	8. Illustrate the geometric meaning of Rolle's theorem of the given functions on the given interval. 9. Illustrate the geometric meaning of Lagrange's theorem of the given functions on the given interval. 10. To draw the tangent plane to the given surfaces. 11. On incremental approximation	B.Sc. (H) Mathematics II year	Multivariate calculus, C7
	Internal Test	Internal Exam conducted on the basis of topics covered in the class	B.Sc. (H) Mathematics III A and III B	Group Theory II and Metric Spaces
	Assignment	Assignment given on the topics covered in the class before mid-semester break	B.Sc. (H) Mathematics III A and III B	Group Theoy-II and Metric Spaces

November	Theory 1	Fundamental theorem of finite abelian groups	B.Sc. (H) Mathematics III B	Group Theory II, C!2
	Theory-2	Uniform continuity, Homeomorphism, Contraction mappings, Banach Fixed point theorem, Connectedness, connectedness and continuous mappings	B.Sc. (H) Mathematics III A	Metric spaces, C11
	Tutorial Theory 1	To discuss the doubt of the students and exercise problems based on the topic covered in the class.	B.Sc. (H) Mathematics III B	Group Theory II, C!2
	Tutorial Theory 2	To discuss the doubt of the students and exercise problems based on the topic covered in the class.	B.Sc. (H) Mathematics III A	Metric spaces, C11
	Practical 1	12. Verification of Maximum-minimum theorem, boundedness theorem and intermediate value theorem for various functions and the failure of conclusion in case of any of the hypothesis is weakened. 13. locating points of relative and absolute extremum for different functions 14. Relation of monotonicity and derivatives along with verification of first derivative test.	B.Sc. (H) Mathematics II year	Multivariate calculus, C7

Mr.SudhakarYadav

Month		Topics	Course	Paper Code/Name
AUGUEST	**Theory**	Introduction of group theory, symmetries of a square, Dihedral groups, definition and examples of groups. Examples of groups including permutation groups and quaternion groups (illustration through matrices), elementary properties of groups.	B.Sc(H) MathsSem-III A	C6- Group Theory-I
	Tutorials	To discuss the doubt of students and various exercise questions and examples related to examples of groups including permutation groups and quaternion groups (illustration through matrices), elementary properties of groups. Subgroups and examples of subgroups, centralizer, normalizer, center of a group, product of two subgroups. Properties of cyclic groups, classification of subgroups of cyclic groups.	B.Sc(H) MathsSem-III A	C6- Group Theory-I
	Tutorials:	To discuss the doubt of students and various exercise questions and examples related to complex numbers, equivalence relations and functions.	B.Sc(H) MathsSem-IA	Algebra

Theory	Introduction of Group Theory –II Group actions and examples Permutation representations, Stabilizers and kernels of group actions. Groups acting on themselves by left multiplication and consequences, Conjugacy in .Sn.	B.Sc(H) MathsSem-V A	C12- Group Theory-II
Practicals	1. Solution of first order differential equation. 2. Plotting of second order solution family of differential equation. 3. Plotting of third order solution family of differential equation.	GE-III	Differential Equations
Test	To take class test related to syllabus and lab test related to above Practicals.	B.Sc(H) MathsSem-III A/V B	C6- Group Theory-I / C12- Group Theory-II/ Differential Equations

September	**Theory**	Subgroups and examples of subgroups, centralizer, normalizer, center of a group, product of two subgroups. Properties of cyclic groups, classification of subgroups of cyclic groups. Cycle notation for permutations, properties of permutations, evenand odd permutations, alternating group, properties of cosets, Lagrange's theorem and consequences including Fermat's Littletheorem.	B.Sc(H) MathsSem-III A	C6- Group Theory-I
	Tutorials	To discuss the doubt of students and various exercise questions and examples related to cycle notation for permutations, properties of permutations, even and odd permutations, alternating group, properties of cosets, Lagrange's theorem and consequences including Fermat's Little theorem.	B.Sc(H) MathsSem-III A	C6- Group Theory-I
	Tutorials:	To discuss the doubt of students and various exercise questions and examples related to Basic Number Theory.	B.Sc(H) MathsSem-IA	Algebra
	Theory	Conjugacy classes, The class equation, *p*-groups, The Sylow theorems and consequences, Applications of Sylow theorems and Finite simple groups.	B.Sc(H) MathsSem-V A	C12- Group Theory-II
	Assignments	To give assignment related to syllabus.	B.Sc(H) MathsSem-III A/V B	C6- Group Theory-I / C12- Group Theory-II
	Practicals	4. Solution of differential equation by variation of parameter method. 5. Solution of system of ordinary differential equations. 6. Solution of Cauchy problem for first order partial differential equations		GE-III

OCTOBER	Theory	External direct product of a finite number of groups, normal subgroups, factor groups, Cauchy's theorem for finite abelian groups and group homomorphisms.	B.Sc(H) MathsSem-III A	C6- Group Theory-I
	Tutorials	To discuss the doubt of students and various exercise questions and examples related External direct product of a finite number of groups, normal subgroups, factor groups, Cauchy's theorem for finite abelian groups and Group homomorphisms.	B.Sc(H) MathsSem-III A	C6- Group Theory-I
	Tutorials:	To discuss the doubt of students and various exercise questions and examples related to row echelon form of matrices and applications.	B.Sc(H) MathsSem-IA	Algebra
	Theory	Non-simplicity tests; Generalized Cayley's theorem, Index theorem, Embedding theorem and applications.	B.Sc(H) MathsSem-V A	C12- Group Theory-II
	Practicals	7. Plotting the characteristics of the first order partial differential equations. 8. Plot the integral surfaces of first order partial differential equations with initial data.	GE-III	Differential Equations
	Test	To take internal test related to syllabus And internal lab test related to above Practicals.	B.Sc(H) MathsSem-III A/V B	C6- Group Theory-I / C12- Group Theory-II/ Differential Equations

NOVEMBER	Theory	Cayley's theorem, properties of isomorphism, First, Second and Third isomorphism theorems and revise whole syllabus, to discuss previous year questions papers.	B.Sc(H) MathsSem-III A	C6- Group Theory-I
	Tutorials	To discuss the doubt of students and various exercise questions and examples related to Properties of homomorphisms, Cayley's theorem, properties of isomorphisms, First, Second and Third isomorphism theorems.	B.Sc(H) MathsSem-III A	C6- Group Theory-I
	Tutorials:	To discuss the doubt of students and various exercise questions and examples related to whole syllabus and discuss previous year questions papers	B.Sc(H) MathsSem-IA	Algebra
	Theory	Simplicity of A5, Fundamental theorem of finite Abelian groups and its isomorphism classes and revise whole syllabus, to discuss last previous year questionspapers.	B.Sc(H) MathsSem-V A	C12- Group Theory-II
	Practicals	Revision of Practicals	GE-III	Differential Equations

Dr RajniArora

Month			Topics	Course	Paper Code/Name
AUGUST	**Theory 1**		Introduction to structured programming: data types-simple data types, floating data types, character data types, string data types	B.Sc.(H) Maths Sem-V DSE-I	C++ programming
	Theory 2		Introduction, Using R as calculator, reading and getting data into R: combine and scan commands	B.A. (P) Sem-V	Statistical Software: R (SEC-3)
	Theory 3		Partial differential equations: Basic concepts and definitions. Mathematical problems; Classification of First order	Other courses	GE-3 Differential Equations
	Practical 1		Making basic programs in C++, compilation and execution.	B.Sc.(H) Maths Sem-V DSE-I	C++ programming
	Practical 2		Downloading and installing statistical software R, R as calculator, reading and getting data into R: combine and scan commands	B.A. (P) Sem-V	Statistical Software: R (SEC-3)
SEPTEMBER	**Theory 1**		Arithmetic operators and operator precedence, variables and constant declarations, expressions Input using the extraction operator and cin, output using the insertion operator and cout, pre-processor directives, increment (++) and decrement (--) operations, creating a C++ program, input/ output, relational operators, logical operators and logical expressions, if and if-else statement, switch and break statements; related problems.	B.Sc.(H) Maths Sem-V DSE-I	C++ programming
	Theory 2		Viewing named objects and removing objects from R, types and structure of data items with their properties, working with history commands and saving work in R.	B.A. (P) Sem-V	Statistical Software: R (SEC-3)
	Theory 3		Classification, Construction, Geometrical interpretation of first order PDE, Method of characteristics, General solutions of first order partial differential equations; Canonical forms and method of separation of variables for first order partial differential equations;	Other courses	**GE-3 Differential Equations**

	Practical 1	1.Calculate the Sum of the series $1/1 + 1/2 + 1/3 + \ldots + 1/N$ for any positive integer N. 2. Write a user defined function to find the absolute value of an integer. 3. Calculate the factorial of any natural number. 4. Read floating numbers and the average of negative numbers and the average of positive numbers. 5. Write a program that prompts the user to input a positive integer. It should then output a message indicating whether the number is a prime number. 6. Write a program that prompts the user to input the value of a, b and c involved inthe equation $ax^2 + bx + c = 0$ and outputs the type of the roots of the equation. And related problems.	B.Sc.(H) Maths Sem-V DSE-I	**C++ programming**
	Practical 2	Viewing named objects and removing objects from R, types and structure of data items with their properties, working with history commands and saving work in R.	B.A. (P) Sem-V	Statistical Software: R (SEC-3)
OCTOBER	**Theory 1**	"for", "while" and "do-while" loops and continue statement, nested control statement, value returning functions, value versus reference parameters; related problems	B.Sc.(H) Maths Sem-V DSE-I	**C++ programming**
	Theory 2	Manipulating vectors, data frames, matrices and lists, viewing objects within objects, constructing data objects and conversions, summary commands, stem and leaf plot, histogram, scatter plot, pairs plot, bar charts	B.A. (P) Sem-V	Statistical Software: R (SEC-3)
	Theory 3	Classification of second order partial differential equations; Reduction to canonical forms;	Other Courses	**GE-3 Differential Equations**

	Practical 1	7. Write a program that generates Fibonacci numbers. 8. Write a program that prompts the user to input five decimal numbers, converts each decimal number to the nearest integer, prints the sum and average of them. 9. Write a program that uses *while* loops to prompt the user to input two integer, output all odd and even numbers between them, output the sum of all even numbers between them, output the sum of the square of the odd numbers between them. 10. Write a program that prompts the user to input five decimal numbers, then add them, convert the sum to the nearestinteger, and print the result. 11. Write a program that prompts the user to enter the lengths of three sides of a triangle and then outputs a message	B.Sc.(H) Maths Sem-V DSE-I	**C++ programming**
	Practical 2	Exercises based on: manipulating vectors, data frames, matrices and lists, viewing objects within objects, constructing data objects and conversions, summary commands, stem and leaf plot, histogram, scatter plot, pairs plot, bar charts	B.A. (P) Sem-V	Statistical Software: R (SEC-3)
	Assignment	Problems covering all topics done till date	B.Sc.(H) Maths Sem-V DSE-I	**C++ programming**
	Assignment	Problems covering all topics done till date	B.A. (P) Sem-V	Statistical Software: R (SEC-3)
	Assignment	Problems covering all topics done till date	Other courses	**GE-3 Differential Equations**
NOVEMBER	**Theory 1**	local and global variables, one dimensional array, two-dimensional array, pointer data and pointer variables.	B.Sc.(H) Maths Sem-V DSE-I	**C++ programming**
	Theory 2	Stem and leaf plot, histogram, density function and its plotting, box whisker plots, scatter plot, pairs plot, bar charts, line charts, pie chart, Cleveland Dot chart, saving graphs.	B.A. (P) Sem-V	Statistical Software: R (SEC-3)
	Theory 3	Second order partial differential equations with constant coefficients, General solutions	Other courses	**GE-3 Differential Equations**

	Practical 1	13. Write a function that takes as a parameter an integer and returns the number of odd, even, and zero digits. 14. Enter 100 integers into an array and short them in an ascending/ descending order and print the largest/ smallest integers. 15. Enter 10 integers into an array and then search for a particular integer in the array. 16. Multiplication/ Addition of two matrices using two dimensional arrays. 17. Using arrays, read the vectors and compute the product and addition of these vectors. 18. Read from a text file and write to a text file. 19. Write a program to create the grids using for loops: 20. Write a function that takes an integer as a parameter and returns the number with its digits reversed	B.Sc.(H) Maths Sem-V DSE-I	**C++ programming**
	Practical 2	Stem and leaf plot, histogram, density function and its plotting, box whisker plots, scatter plot, pairs plot, bar charts, line charts, pie chart, Cleveland Dot chart, saving graphs.	B.A. (P) Sem-V	Statistical Software: R (SEC-3)
	Test	Problems from all the topics covered till date	B.Sc.(H) Maths Sem-V DSE-I	**C++ programming**
	Test	Problems from all the topics covered in class till date	B.A. (P) Sem-V	Statistical Software: R (SEC-3)
	Test	Problems from all the topics covered in class till date	B.Sc. (H) Chemistry Sem-3	**GE-3 Differential Equations**

Dr. Shahna

Month		Topics	Course	Paper Code/Name
AUGUST	**Theory**	Functions of several variables, Level curves and surfaces, Limits and continuity, Partial differentiation, Higher order partial derivative, Tangent planes, Total differential and differentiability, Chain rule.	B.Sc(H) Maths Sem-III A	C7-Multivariate Calculus
	Theory	Introduction to TeX and LaTeX, Typesetting a simple document, Adding basic information to a document, Environments, Footnotes, Sectioning and displayed material.	B.Sc(H) Maths Sem-III A	SEC-1 Latex and HTML
	Theory	Graphical method of solution, Basic feasible solutions, Linear programming and convexity; Introduction to the simplex method: Theory of the simplex method, Optimality and unboundedness.	Sem III BA(Hons) and Bsc(Hons) Other than BSc(Hons) Mathematics	GE-III Linear programming and Game Theory
	Practicals	Introduction to TeX and LaTeX, Typesetting a simple document, Adding basic information to a document, Environments, Footnotes, Sectioning and displayed material.	B.Sc(H) Maths Sem-III A	SEC-1 Latex and HTML
	Practicals	1 Discuss the limit of the following functions using epsilon- delta definition. 2. Discuss the limit of the given functions when x tends to 0. 3. Discuss the limit of the given functions when x tends to infinity.	B.Sc(H) Maths Sem-III A	C7-Multivariate Calculus
	Assignment	To give assignments to some students of the above courses		
SEPTEMBER	**Theory:**	Directional derivatives, The gradient, Maximal and normal property of the gradient, Tangent planes and normal lines. Extrema of functions of two variables, Method of Lagrange multipliers, Constrained optimization problems; Definition of vector field, Divergence and curl.	B.Sc(H) Maths Sem-III A	C7-Multivariate Calculus

	Theory	Accents and symbols, Mathematical typesetting (elementary and advanced): Subscript/ Superscript, Fractions, Roots, Ellipsis, Mathematical Symbols, Arrays, Delimiters, Multiline formulas, Spacing and changing style in math mode.	B.Sc(H) Maths Sem-III A	SEC-1 Latex and HTML
	Theory	Simplex tableau and examples, Artificial variables; Introduction to duality, Formulation of the dual problem with examples and interpretations, Duality theorem. Definition and mathematical formulation of transportation problems, Methods of finding initial basic feasible solutions, North West corner rule, Least-cost method.	Sem III BA(Hons) and Bsc(Hons) Other than BSc(Hons) Mathematics	GE-III Linear programming and Game Theory
	Practicals	Accents and symbols, Mathematical typesetting (elementary and advanced): Subscript/ Superscript, Fractions, Roots, Ellipsis, Mathematical Symbols, Arrays, Delimiters, Multiline formulas, Spacing and changing style in math mode.	B.Sc(H) Maths Sem-III A	SEC-1 Latex and HTML
	Practicals	4. Discuss the continuity of the functions at x = 0 in the Practical 2. 5. Illustrate the geometric meaning of Rolle's theorem of the functions on the given interval. 6. Illustrate the geometric meaning of Lagrange's mean value theorem of the functions on the given interval.	B.Sc(H) Maths Sem-III A	C7-Multivariate Calculus
	Assignment :	To give assignment to some students of the above courses		
OCTOBER	**Theory**:	Double integration over rectangular and nonrectangular regions, Double integrals in polar coordinates, Triple integral over a parallelopiped and solid regions, Volume by triple integrals, Triple integration in cylindrical and spherical coordinates, Change of variables in double and triple integrals.	B.Sc(H) Maths Sem-III A	C7-Multivariate Calculus
	Theory	Graphics in LaTeX, Simple pictures using PSTricks, Plotting of functions, Beamer presentation.	B.Sc(H) Maths Sem-III A	SEC-1 Latex and HTML

	Theory	Vogel's approximation method, Algorithm for solving transportation problems; Mathematical formulation and Hungarian method of solving assignment problems. Introduction to game theory, Formulation of two-person zero-sum rectangular game, Solution of rectangular games with saddle points.	Sem III BA(Hons) and Bsc(Hons) Other than BSc(Hons) Mathematics	GE-III Linear programming and Game Theory
	Practicals	Graphics in LaTeX, Simple pictures using PSTricks, Plotting of functions, Beamer presentation.	B.Sc(H) Maths Sem-III A	SEC-1 Latex and HTML
	Practicals	7. Draw the surfaces and find level curves at the given heights. 8. Draw the surfaces and discuss whether limit exits or not. Find the limit, if it exists. 9. Draw the tangent plane to the given surfaces at the given point.	B.Sc(H) Maths Sem-III A	C7-Multivariate Calculus
	Test	**To take** internal lab test of the above Practicals.		
	Assignment :	To give assignment to some students of the above courses		
NOVEMBER	**Theory**:	Line integrals, Applications of line integrals: Mass and Work, Fundamental theorem for line integrals, Conservative vector fields, Green's theorem, Area as a line integral, Surface integrals, Stokes' theorem, Gauss divergence theorem.	B.Sc(H) Maths Sem-III A	C7-Multivariate Calculus
	Theory	HTML basics, Creating simple web pages, Images and links, Design of web pages.	B.Sc(H) Maths Sem-III A	SEC-1 Latex and HTML
	Theory	Mixed strategies, Dominance principle, Rectangular games without saddle points, Graphical and linear programming solution of rectangular games.	Sem III BA(Hons) and Bsc(Hons) Other than BSc(Hons) Mathematics	GE-III Linear programming and Game Theory
	Practicals	HTML basics, Creating simple web pages, Images and links, Design of web pages.	B.Sc(H) Maths Sem-III A	SEC-1 Latex and HTML

	Practicals	10. Use an incremental approximation to estimate the given functions at the given point and compare it with calculated value. 11. Find critical points and identify relative maxima, relative minima or saddle points to the given surfaces, if it exists. 12. Draw the given regions D and check whether these regions are of Type I or Type II.	B.Sc(H) Maths Sem-III A	C7-Multivariate Calculus
	Assignment	To give assignment to some students of the above courses		

Dr. Garima V. Arora

Month		Topics	Course	Paper Code/Name
AUGUST	**Theory**	Functions of several variables, limit and continuity of functions of two variables, partial differentiation, total differentiation, sufficient condition for differentiability, Chain rule for one and two independent parameters, directional derivatives, the gradient, maximal and normal property of the gradient, tangent planes, Extrema of functions of two variables	B.Sc(H) Maths Sem-III B	C7-Multivariate Calculus
	Theory	Automorphism, Inner automorphism, automorphism groups, automorphism groups of finite and infinite cyclic groups, application of factor groups, characteristic subgroups, commutator subgroups	B.Sc(H) Maths Sem-V A	C12- Group Theory-II

SEPTEMBER	**Theory**	Method of Lagrange multipliers, constrained optimization problems, Definition of vector field, divergence and curl, double integration over rectangular region, Double integration over nonrectangular region, Double integrals in polar co-ordinates.	B.Sc(H) Maths Sem-III B	C7-Multivariate Calculus
	Practical	Practical 1- To draw surfaces and level curves. Practical 2-To draw surfaces and discuss whether limit exits or not as approaches to the given points. Find the limit, if it exists Practical 3-To Draw the tangent planes Practical 4- Use incremental approximations to estimate functions.	B.Sc(H) Maths Sem-III B	C7-Multivariate Calculus
	Theory	Properties of EDP, IDP, Fundamental Theorem of finite abelian groups, Group actions.	B.Sc(H) Maths Sem-V A	C12- Group Theory-II
OCTOBER	**Theory**	Triple integrals, Triple integral over a parallelopiped and solid regions, Volume by triple integrals, cylindrical and spherical co-ordinates, Change of variables in double integrals and triple integrals , Line integrals, Applications of line integrals: Mass and work. Fundamental theorem for line integrals, conservative vector fields, independence of path. Green's theorem.	B.Sc(H) Maths Sem-III B	C7-Multivariate Calculus
	Practical:	Practical 5-To find critical points and identify relative maxima, relative minima or saddle points to surfaces, if it exists. Practical 6- To draw and check type-I and type-II regions Practical 7- using epsilon-delta definition Practical 8- discussing the limit of the functions Practical 9- discussing the limit Practical 10- discuss the continuity of the functions	B.Sc(H) Maths Sem-III B	C7-Multivariate Calculus

		Theory	Stabilizers and kernels, permutation representation, Generalized Cayley's theorem, Index Theorem, groups acting on themselves by conjugation, Class equation and consequences.	B.Sc(H) Maths Sem-V A	C12- Group Theory-II
NOVEMBER		Theory:	Surface integrals, Integrals over parametrically defined surfaces, Stokes' theorem, The Divergence theorem.	B.Sc(H) Maths Sem-III B	C7-Multivariate Calculus
		Practical	Practical 11- Rolles theorem Practical 12 – Lagranges theorem Practical 13- uniform continuity Practical 14- Maximum minimum theorem, boundedness theorem, intermediate value theorem. Practical 15-To locate points of relative & absolute extremum for different functions. Practical 16- Relation of monotonicity & derivatives along with verification of first derivative test. Practical 17- Taylor's series	B.Sc(H) Maths Sem-III B	C7-Multivariate Calculus
		Theory	Conjugacy in Sn, p-groups, Sylow's theorems and consequence, Sylow's Theorems and consequences, Cauchy's theorem, Simplicity of An for n ≥ 5, non-simplicity tests.	B.Sc(H) Maths Sem-V A	C12- Group Theory-II
		Practical	**Plotting in R, Box-whisker plot, scatter plot, line charts, pie charts, dot charts, bar charts, saving graphs**	BA(P)-III	SEC-3- Statistical Software: R

Department of Mathematics
Sri Venkateswara College
Semester Teaching Plan (Nov 2020-Mar 2021)

Mr.Anirban Chatterjee

Month		Topics	Course	Paper Code/Name
December	Theory	The first-derivative test for relative extrema, Concavity and inflection points, Second derivative test for relative extrema, Curve sketching using first and second derivative tests. Limits to infinity and infinite limits, Graphs with asymptotes, Vertical tangents and cusps, L'Hôpital's rule. Applications of derivatives in business, economics and life sciences. Higher order derivatives and Leibniz rule for higher order derivatives for the product of two functions.	B.Sc(H) Maths Sem-I A	BMATH101/ CALCULUS
	Theory	The first derivative test, Concavity and inflection points, Second derivative test, Curve sketching using first and second derivative test. Limits at infinity, Horizontal asymptotes, Vertical asymptotes, Graphs with asymptotes; L'Hôpital's rule.	B.Sc(H) Sem-IA	GE-1/CALCULUS
	Practical	Plotting the graphs of the following functions: $ax, [x]$(greatest integer function),√(ax+b) $\|ax + b\|, c \pm \|ax + b\|, x^{\pm n}, x^{1/n}(n \in \mathbb{Z}), \|x\|/x, \sin(1/x)$ xsin(1/x), and $©^{\pm 1/x}$, for $x \neq 0$,$©^{(ax+b)}$, log ($ax + b$), 1/($ax + b$), sin ($ax + b$), cos($ax + b$), $\|\sin(ax + b)\|, \|\cos(ax + b)\|$. Observe and discuss the effect of changes in the real constants a, b and c on the graphs.Plotting the graphs of polynomial of degree 4 and 5, and their first and second derivatives,and analysis of these graphs in context of the concepts covered in Unit 1.	B.Sc(H) Maths Sem-I A	BMATH101/ CALCULUS
January	Theory	Applications of derivatives in business, economics and life	B.Sc(H) Maths Sem-I A	BMATH101/ CALCULUS

		sciences. Higher order derivatives and Leibniz rule for higher order derivatives for the product of two functions. Volumes by slicing disks and method of washers, Volumes by cylindrical shells, Arc length, Arc length of parametric curves.		
		Volumes by slicing, Volumes of solids of revolution by the disk method, Volumes of solids of revolution by the washer method, Volume by cylindrical shells. Length of plane curves, Arc length of parametric curves, Area of surface of revolution. Techniques of sketching conics, Reflection properties of conics.	B.Sc(H) Sem-IA	GE-1/CALCULUS
February	Theory	Reduction formulae, and to obtain the iterative formulae for the integrals of the form:$\int \sin_n x\, dx$, $\int \cos_n x\, dx$, $\int \tan_n x\, dx$, $\int \sec_n x\, dx$ and $\int \sin_m x\, \cos_n x\, dx$. Introduction to vector functions and their graphs, Operations with vector functions, Limits and continuity of vector functions, Differentiation and tangent vectors.	B.Sc(H) Maths Sem-I A	BMATH101/ CALCULUS
	Theory	Polar coordinates, Graphing in polar coordinates.Vector-valued functions**:** Limit, continuity, Derivatives, Integrals, Arc length, Unit tangent vector, Curvature, Unit normal vector. Functions of several variables: Graphs, Level curves, Limits and continuity, Partial derivatives and differentiability. Functions of several variables**:** The chain rule, Directional derivatives and gradient vectors.	B.Sc(H) Sem-IA	GE-1/CALCULUS
March	Theory	Properties of vector derivatives and integration of vector functions	B.Sc(H) Maths Sem-I A	BMATH101/ CALCULUS
	Theory	Functions of several variables**:** Tangent plane and normal line, Extreme values and saddle points.	B.Sc(H) Sem-IA	GE-1/CALCULUS

Dr. Neelesh Kumar

Month		Topics	Course	Paper Name/Code
November	Theory	Introduction to algebraic equations, Examples of algebraic equations, Polynomials, degree of polynomials along with some examples of polynomials	B.Sc.(H) Maths Sem-I, Sec-B	Algebra (BMATH102)
	Tutorials	To discuss doubts of students and solving more questions on polynomials.	B.Sc.(H) Maths Sem-I, Sec-B	Algebra (BMATH102)

	Theory	Introduction to algebraic equations, Examples of algebraic equations, Polynomials, degree of polynomials along with some examples of polynomials	B.Sc.(H) Maths Sem-I, Sec-A	Algebra (BMATH102)
	Tutorials	To discuss doubts of students and solving more questions on polynomials.	B.Sc.(H) Maths Sem-I, Sec-A	Algebra (BMATH102)
	Theory	Introduction to some basic functions and introductions and definitions of Limits and Continuity.	B.A. (programme) Sem-I	Calculus
December	Theory	The remainder and factor theorem, Synthetic division, Factored form of a polynomial, Fundamental theorem of algebra, Relations between the roots and the coefficients of polynomial equations, Theorems on imaginary, integral and rational roots. Polar representation of complex numbers, De Moivre's theorem for integer and rational indices and their applications. The nth roots of unity. Systems of linear equations, Row reduction and echelon forms	B.Sc.(H) Maths Sem-I, Sec-B	Algebra (BMATH102)
	Tutorials	To discuss doubts of students and solving more questions on finding roots of polynomial equations. To discuss questions on polar representation of complex numbers and nth roots of complex numbers, in particular cube roots of unity.	B.Sc.(H) Maths Sem-I, Sec-B	Algebra (BMATH102)
	Theory	The remainder and factor theorem, Synthetic division, Factored form of a polynomial, Fundamental theorem of algebra, Relations between the roots and the coefficients of polynomial equations, Theorems on imaginary, integral and rational roots.	B.Sc.(H) Maths Sem-I, Sec-A	Algebra (BMATH102)

		Polar representation of complex numbers, De Moivre's theorem for integer and rational indices and their applications. The nth roots of unity.		
	Tutorials	To discuss doubts of students and solving more questions on finding roots of polynomial equations. To discuss questions on polar representation of complex numbers and nth roots of complex numbers, in particular cube roots of unity.	B.Sc.(H) Maths Sem-I, Sec-A	Algebra (BMATH102)
	Theory	Limits and Continuity, Types of discontinuities; Differentiability of functions, Successive differentiation, Leibnitz theorem; Partial differentiation, Euler's theorem on homogeneous functions.	B.A. (programme) Sem-I	Calculus
	Class Test	To take class tests related to the syllabus covered so far.		
January	Theory	Systems of linear equations, Row reduction and echelon forms, Vector equations, The matrix equation Ax = b, Solution sets of linear systems, The inverse of a matrix; Subspaces, Linear independence, Basis and dimension, The rank of a matrix and applications; Introduction to linear transformations, The matrix of a linear transformation; Applications to computer graphics,	B.Sc.(H) Maths Sem-I, Sec-B	Algebra (BMATH102)

	Tutorials	To discuss doubts of students and solving more questions on linear systems and solutions of the linear systems in matrix form, vector form. To discuss some applications to computer graphics.	B.Sc.(H) Maths Sem-I, Sec-B	Algebra (BMATH102)
	Practicals	To discuss and plot curves of some algebraic, trigonometric, exponential and logarithmic functions, polynomials and parametric curves. All plots will be drawn using Mathematica	B.Sc.(H) Maths Sem-I, Sec-B	Calculus (BMATH101)
	Theory	Tangents and normals, Curvature, Singular points, Asymptotes, Tracing of curves.	B.A. (programme) Sem-I	Calculus
	Class test	To take class tests related to covered syllabus and lab test related to the Practicals discussed so far.		
	Assignment	To be given assignment related to syllabus.		
February	Theory	Eigenvalues and eigenvectors, The characteristic equation and CayleyHamilton theorem. Equivalence relations, Functions, Composition of functions, Invertibility and inverse of functions, One-to-one correspondence, the cardinality of a set. Well ordering principle, The division algorithm in $\mathbb{Z}$, Divisibility and the Euclidean algorithm,Modular arithmetic and basic properties of congruences,	B.Sc.(H) Maths Sem-I, Sec-B	Algebra (BMATH102)
	Tutorials	To discuss doubts of students and solving more questions on Eigenvalues and eigenvectors, The characteristic equation, relations, Functions, division algorithm in $\mathbb{Z}$,	B.Sc.(H) Maths Sem-I, Sec-B	Algebra (BMATH102)

		modular arithmetic.		
	Practicals	To discuss tracing of conics and revolution of some curves.To discuss plot of some hyperbolic functions. Computations of limit, differentiation and integrations using mathematica. Find numbers between two real numbers and plot a finite and infinite subset of R.	B.Sc.(H) Maths Sem-I, Sec-B	Calculus (BMATH101)
	Theory	Rolle's theorem, Mean value theorems, Applications of mean value theorems to monotonic functions and inequalities; Taylor's theorem with Lagrange's and Cauchy's forms of remainder, Taylor's series, Maclaurin's series expansion of exp(x), sin x , cos x , log(1 +x) and (1 + x)^m;	B.A. (programme) Sem-I	Calculus
	Class test	To take class test related to syllabus and lab test related to above Practicals.		
	Assignment	To be given assignment related to Syllabus.		
March	Theory	Statements of the fundamental theorem of arithmetic and principle of mathematical induction	B.Sc.(H) Maths Sem-I, Sec-B	Algebra (BMATH102)
	Tutorials	To discuss doubts of students and solving more questions the theory of equations, complex numbers, linear systems and matrices, fundamental theorem of arithmetic and principle of mathematical induction.	B.Sc.(H) Maths Sem-I, Sec-B	Algebra (BMATH102)
	Practicals	To perform matrix operations e.g. addition, multiplication, inverse, transpose in mathematica.	B.Sc.(H) Maths Sem-I, Sec-B	Calculus (BMATH101)

		verifyCayley Hamilton theorem after finding eigenvalues and eigenvectors using mathematica. To solve linear system in mathematica		
	Theory	Maxima and minima; Indeterminate forms.	B.A. (programme) Sem-I	Calculus

Ms. Aanchal

Month		Topics	Course	Paper Name/Code
November	Theory	Introduction to some basic functions and their derivatives.	B.Sc.(H) Maths Sem-I, Sec-B	Calculus
	Theory	Introduction to some basic functions and their derivatives.	GE Sem-I, Sec-B	Calculus
December	Theory	The first derivative test for relative extrema,concavity and inflection points,Second derivative testfor relative extrema,Curve sketching using first and Second derivative test,Limits to infinity and infinite limits.	B.Sc.(H) Maths Sem-I, Sec-B	Calculus
	Practicals	To discuss and plot curves of some algebraic, trigonometric, exponential and logarithmic functions, polynomials and parametric curves. All plots will be drawn using Mathematica	B.Sc.(H) Maths Sem-I, Sec-B	Calculus (BMATH101)
	Theory	The first derivative test,concavity and inflection points,Second derivative test,Curve sketching using first and Second derivative test,Limits at	GE Sem-I, Sec-B	Calculus

		infinity,Horizontalasymptotes,Graphs with asymptotes, L' Hopital rule		
January	Theory	Horizontal asymptotes,Graphs with asymptotes, Vertical tangents and cusps, L' Hopitalrule, Applications in business,economics and life sciences, Higher order derivatives, Leibnitz rule.	B.Sc.(H) Maths Sem-I, Sec-B	Calculus
	Practicals	To discuss tracing of conics and revolution of some curves. To discuss plot of some hyperbolic functions.	B.Sc.(H) Maths Sem-I, Sec-B	Calculus (BMATH101)
	Theory	Volumes by slicing,Volumes of solids of revolution by the disk method,Volumes of solids of revolution by washer method,Volume by cylindrical shells,Length of plane curve,Arc length of parametric curves,Area of surface of revolution.Techniques of sketching conics,Reflection properties of conics.	GE Sem-I, Sec-B	Calculus
	Class test	To take class tests related to covered syllabus and lab test related to the Practicals discussed so far.		
	Assignment	To be given assignment related to syllabus.		
February	Theory	Volumes by slicing, Volumes of solids of revolution by the disk method, Volumes of solids of revolution by washer method, Volume by cylindrical shells, Arc length, Arc length of parametric curves.	B.Sc.(H) Maths Sem-I, Sec-B	Calculus
	Practicals	Computations of limit, differentiation and integrations using mathematica. Find numbers between two real numbers and	B.Sc.(H) Maths Sem-I, Sec-B	Calculus (BMATH101)

		plot a finite and infinite subset of R.		
	Theory	Polar coordinates,graphing in polar coordinates,Vector valued functions,Limitcontinuity,Derivatives,Integrals,Arclength,Unit tangent vector,Curvature,Unit normal vector,Functions of several variables,Graphs, level curves,Limit and continuity,Partial derivatives and differentiability, Functions of several variables,chainrule,directionalderivatives,gradient vectors.	GE Sem-I, Sec-B	Calculus
	Class test	To take class test related to syllabus and lab test related to above Practicals.		
	Assignment	To be given assignment related to Syllabus.		
March	Theory	Area of surface of revolution, Hyperbolic functions, Reduction formulae.	B.Sc.(H) Maths Sem-I, Sec-B	Calculus
	Practicals	To perform matrix operations e.g. addition, multiplication, inverse, transpose in mathematica. verify Cayley Hamilton theorem after finding eigenvalues and eigenvectors using mathematica. To solve linear system in mathematica	B.Sc.(H) Maths Sem-I, Sec-B	Calculus (BMATH101)
	Theory	Functions of several variables,Tangent plane and normal line,extreme values and saddle points.	GE Sem-I, Sec-B	Calculus

SEMESTER WISE TEACHING PLAN
(2020-2021)

SRI VENKATESWARA COLLEGE

Name of the Faculty: M. Krishna Rao   **Department: Sanskrit**

Semester: I/II/IV/

Month		Topics	Course	Paper Code/Name
DECEMBER	**Theory**	SECTION 'A': VEDIC LITERATURE	B.A. 1ST YEAR (H)	C-2 CRITICAL SURVEY OF SANSKRIT LITERATURE
		Unit: III SHISHUPALAVADHAM CANTO II, INTRODUCTION (Author and Text)	B.A. 1ST YEAR	DSC-1 SANSKRIT POETRY
		UNIT: I HITOPADESHA FIRST STORY FROM MITRALABHA	B.A. 1ST YEAR	MIL-A1 SANSKRIT LITERATURE
		MA IN Sankrit	. MA 1ST SEM	TUTORIALS has been taken

	Tutorials	TUTORIALS REGARDING THE TOPICS WILL BE TAKEN.		
JANUARY	**Theory:**	SECTION 'B': RAMAYANA	B.A. 1ST YEAR (H)	C-2 CRITICAL SURVEY OF SANSKRIT LITERATURE
		SECTION 'A': SURVEY OF SANSKRIT LITERATURE IN THE WORLD	B.A. 2nd YEAR 4th SEMESTER (H)	SANSKRIT AND WORLD LITERATURE
		Unit: III SHISHUPALAVADHAM, CANTO II, VERSE- 26-37	B.A. 1ST YEAR	DSC-1 SANSKRIT POETRY
		UNIT: 2 HITOPADESHA SECOND STORY FROM MITRALABHA	B.A. 1ST YEAR	MIL-A1 SANSKRIT LITERATURE
		MA IN SANSKRIT	MA 1ST SEM MA 4TH SEM	TUTORIALS has been taken
	Tutorials:	TUTORIALS REGARDING THE TOPICS WILL BE TAKEN.		

	Assignment :	ASSIGNMENTS WILL BE GIVEN REGARDING THE TOPICS		
FEBRUARY	**Theory:**	SECTION 'C': MAHABHARATA SECTION 'D': PURANAS	B.A. 1ST YEAR (H)	C-2 CRITICAL SURVEY OF SANSKRIT LITERATURE
		SECTION-B UPANISADS AND GITA IN WORLD LITERATURE	B.A. 2ND YEAR (H)	SANSKRIT AND WORLD LITERATURE
		SECTION-'C' SANSKRIT FABLES IN WORLD LITERATURE.	B.A. 2ND YEAR (H)	SANSKRIT AND WORLD LITERATURE
		Unit: III SHISHUPALAVADHAM, CANTO II, VERSE- 42-50	B.A. 1ST YEAR	DSC-1 SANSKRIT POETRY
		UNIT: III CHANAKYANITI CHANAKYANITI- (CHAPTER: 1)	B.A. 1ST YEAR	MIL-A1 SANSKRIT LITERATURE
	Tutorials:	TUTORIALS REGARDING THE TOPICS WILL BE TAKEN.		
	Test	TESTS WILL BE TAKEN TIMELY		
MARCH	**Theory:**	SECTION- 'E' GENERAL INTRODUCTION TO VYAKARANA AND SAHITYA. SECTION- 'F' GENERAL	B.A. 1ST YEAR (H)	C-2 CRITICAL SURVEY OF SANSKRIT LITERATURE

		SECTION-'D' RAMAYANA AND MAHABHARATA IN SOUTH EAST ASIAN COUNTRIES	B.A. 2ND YEAR (H)	SANSKRIT AND WORLD LITERATURE
		UNIT: 4 CHANAKYANITI CHANAKYANITI- (CHAPTER: 2)	B.A. 1ST YEAR	MIL-A1 SANSKRIT LITERATURE
		Unit: III SHISHUPALAVADHAM, CANTO II, VERSE- 50-56	B.A. 1ST YEAR	DSC-1 SANSKRIT POETRY
		MA IN SANSKRIT	MA 1ST SEM MA 4TH SEM	TUTORIALS has been taken
	Tutorials:	TUTORIALS REGARDING THE TOPICS WILL BE TAKEN.		

APRIL	**Theory:**	SECTION -E KALIDASA LITERATURE IN WORLD LITERATURE	B.A. 2ND YEAR (H	SANSKRIT AND WORLD LITERATURE
		SECTION –F SANSKRIT STUDIES ACROSS THE WORLD: PAT AND PRESENT	B.A. 2ND YEAR (H	SANSKRIT AND WORLD LITERATURE
		UNIT-1 SUKANASOPADESHA	B.A. 1ST YEAR	DSC-2 SANSKRIT PROSE
	Tutorials:	TUTORIALS REGARDING THE TOPICS WILL BE TAKEN.		

SEMESTER WISE TEACHING PLAN
(2020-201)

SRI VENKATESWARA COLLEGE

Name of the Faculty: Dr. Sunita Atal   **Department: Sanskrit**

Semester: I/III/V

Month		Topics	Course	Paper Code/Name
JULY	**Theory**	SECTION-A THEATRE - TYPES AND CONSTRUCTION TYPES OF THEATRE	B.A ³rd year(H)	THEATRE AND DRAMATURGY IN SANSKRIT
		SECTION-C ISSUES OF PERSONAL CONDUCT	B.A. (p) 3rd year	ETHICAL AND MORAL ISSUES IN SANSKRIT LITERATURE
	Tutorials	TUTORIALS REGARDING THE TOPICS WILL BE TAKEN.		
AUGUST	**Theory:**	TYPES OF THEATRE SECTION-B DRAMA -VASTU (SUBJECT)	B.A ³rd year(H)	THEATRE AND DRAMATURGY IN SANSKRIT
		SECTION-C ISSUES OF PERSONAL CONDUCT	B.A. (p) 3rd year	ETHICAL AND MORAL ISSUES IN SANSKRIT LITERATURE
	Tutorials:	TUTORIALS REGARDING THE TOPICS WILL BE TAKEN.		

	Assignment:	ASSIGNMENTS WILL BE GIVEN REGARDING THE TOPICS		
SEPTEMBER	**Theory:**	SECTION-B DRAMA :RASA	B.A ^{3rd} year(H)	THEATRE AND DRAMATURGY IN SANSKRIT
		SECTION-D ISSUES IN FREEDOM	B.A. (p) 3rd year	ETHICAL AND MORAL ISSUES IN SANSKRIT LITERATURE
	Tutorials:	TUTORIALS REGARDING THE TOPICS WILL BE TAKEN.		
	Test	TESTS WILL BE TAKEN TIMELY.		
OCTOBER	**Theory:**	TYPES OF THEATRE SECTION-B DRAMA -HERO (TYPES HEROS)	B.A ^{3rd} year(H)	THEATRE AND DRAMATURGY IN SANSKRIT
		SECTION-D UNIT -2 ISSUES IN FREEDOM	B.A. (p) 3rd year	ETHICAL AND MORAL ISSUES IN SANSKRIT LITERATURE
	Tutorials:	TUTORIALS REGARDING THE TOPICS WILL BE TAKEN.		

NOVEMBER	**Theory:**	SECTION-C TRADITION AND HISTORY OF INDIAN THEATRE	B.A 3rd year(H)	THEATRE AND DRAMATURGY IN SANSKRIT
		SECTION- A CONCEPTS OF INDIAN NATIONALISM	B.A 1st YEAR (GE)	NATIONALISAM AND INDIAN LITERATURE
		SECTION -A	B.A.(P)2YEAR	MIL
	Tutorials:	TUTORIALS REGARDING THE TOPICS WILL BE TAKEN.		
DECEMBER		SECTION- B NATIONALISM AND INDIAN CONCEPT OF "RASTRA" IN SANSKRIT	B.A 1st YEAR (GE)	NATIONALISAM AND INDIAN LITERATURE
	Tutorials:	TUTORIALS REGARDING THE TOPICS WILL BE TAKEN.		
JANUARY		SECTION- C RISE OF INDIAN NATIONALISM AND MODERN INDIAN LITERATURE	B.A 1st YEAR (GE)	NATIONALISAM AND INDIAN LITERATURE
	Test	TESTS WILL BE TAKEN TIMELY.		
	Assignment:	ASSIGNMENTS WILL BE GIVEN REGARDING THE TOPICS		

FEBRUARY		SECTION- C RISE OF INDIAN NATIONALISM AND MODERN INDIAN LITERATURE	B.A 1st YEAR (GE)	NATIONALISAM AND INDIAN LITERATURE
	Tutorials:	TUTORIALS REGARDING THE TOPICS WILL BE TAKEN.		

SEMESTER WISE TEACHING PLAN
(2020-201)

SRI VENKATESWARA COLLEGE

Name of the Faculty: Dr. Sunita Atal   **Department: Sanskrit**

Semester: I/III/V

Month		Topics	Course	Paper Code/Name
JULY	**Theory**	SECTION-A THEATRE - TYPES AND CONSTRUCTION TYPES OF THEATRE	B.A 3rd year(H)	THEATRE AND DRAMATURGY IN SANSKRIT
		SECTION-C ISSUES OF PERSONAL CONDUCT	B.A. (p) 3rd year	ETHICAL AND MORAL ISSUES IN SANSKRIT LITERATURE
	Tutorials	TUTORIALS REGARDING THE TOPICS WILL BE TAKEN.		
AUGUST	**Theory:**	TYPES OF THEATRE SECTION-B DRAMA -VASTU (SUBJECT)	B.A 3rd year(H)	THEATRE AND DRAMATURGY IN SANSKRIT
		SECTION-C ISSUES OF PERSONAL CONDUCT	B.A. (p) 3rd year	ETHICAL AND MORAL ISSUES IN SANSKRIT LITERATURE
	Tutorials:	TUTORIALS REGARDING THE TOPICS WILL BE TAKEN.		

	Assignment:	ASSIGNMENTS WILL BE GIVEN REGARDING THE TOPICS		
SEPTEMBER	Theory:	SECTION-B DRAMA :RASA	B.A ^{3rd} year(H)	THEATRE AND DRAMATURGY IN SANSKRIT
		SECTION-D ISSUES IN FREEDOM	B.A. (p) 3rd year	ETHICAL AND MORAL ISSUES IN SANSKRIT LITERATURE
	Tutorials:	TUTORIALS REGARDING THE TOPICS WILL BE TAKEN.		
	Test	TESTS WILL BE TAKEN TIMELY.		
OCTOBER	Theory:	TYPES OF THEATRE SECTION-B DRAMA -HERO (TYPES HEROS)	B.A ^{3rd} year(H)	THEATRE AND DRAMATURGY IN SANSKRIT
		SECTION-D UNIT -2 ISSUES IN FREEDOM	B.A. (p) 3rd year	ETHICAL AND MORAL ISSUES IN SANSKRIT LITERATURE
	Tutorials:	TUTORIALS REGARDING THE TOPICS WILL BE TAKEN.		

NOVEMBER	**Theory:**	SECTION-C TRADITION AND HISTORY OF INDIAN THEATRE	B.A ^{3rd} year(H)	THEATRE AND DRAMATURGY IN SANSKRIT
		SECTION- A CONCEPTS OF INDIAN NATIONALISM	B.A 1st YEAR (GE)	NATIONALISAM AND INDIAN LITERATURE
		SECTION -A	B.A.(P)2YEAR	MIL
	Tutorials:	TUTORIALS REGARDING THE TOPICS WILL BE TAKEN.		
DECEMBER		SECTION- B NATIONALISM AND INDIAN CONCEPT OF "RASTRA" IN SANSKRIT	B.A 1st YEAR (GE)	NATIONALISAM AND INDIAN LITERATURE
	Tutorials:	TUTORIALS REGARDING THE TOPICS WILL BE TAKEN.		
JANUARY		SECTION- C RISE OF INDIAN NATIONALISM AND MODERN INDIAN LITERATURE	B.A 1st YEAR (GE)	NATIONALISAM AND INDIAN LITERATURE
	Test	TESTS WILL BE TAKEN TIMELY.		
	Assignment:	ASSIGNMENTS WILL BE GIVEN REGARDING THE TOPICS		

FEBRUARY		SECTION- C RISE OF INDIAN NATIONALISM AND MODERN INDIAN LITERATURE	B.A 1st YEAR (GE)	NATIONALISAM AND INDIAN LITERATURE
	Tutorials:	TUTORIALS REGARDING THE TOPICS WILL BE TAKEN.		

SEMESTER WISE TEACHING PLAN (2020-2021)

SRI VENKATESWARA COLLEGE

Name of the Faculty: Dr. Kanwar Singh   **Department: Sanskrit**

Semester: I/III/V

Month		Topics	Course	Paper Code/Name
AUGUST	**Theory:**	UNIT I: INTRODUCTION TO SANSKRIT POETICS	B.A. 2ND YEAR (H)	C-6 POETICS AND LITERARY CRITICISM
		UNIT I: SANGHYA PRAKARAN AND ACH SANDHI	B.A. 3RD YEAR (H)	C-12 SANSKRIT GRAMMAR
		UNIT III: CHANAKYANITI	B.A. 1ST YEAR (H) AECC	AECC-1 SANSKRIT LITERATURE
DECEMBER	**Tutorials:**	TUTORIALS REGARDING THE TOPICS WILL BE TAKEN.		

		ASSIGNMENTS WILL BE GIVEN REGARDING THE TOPICS.		
SEPTEMBER	**Theory:**	UNIT II: FORMS OF KAVYA LITERATURE	B.A. 2ND YEAR (H)	C-6 POETICS AND LITERARY CRITICISM
		UNIT II: HAL AND VISARG SANDHI UNIT III: PRACTICE OF APPLICATIONS OF SANDHIS IN PRESCRIBED TEXTS LITERARY TEXTS	B.A. 3RD YEAR (H)	C-12 SANSKRIT GRAMMAR
		UNIT III: CHANAKYANITI	B.A. 1ST YEAR (H) AECC	AECC-1 SANSKRIT LITERATURE
JANUARY	**Tutorials:**	TUTORIALS REGARDING THE TOPICS WILL BE TAKEN.		
	Test	TESTS WILL BE TAKEN TIMELY.		
OCTOBER	**Theory:**	UNIT III:SABDA SAKTI (POWER OF WORD) UNIT IV: RASA-SUTRA	B.A. 2ND YEAR (H)	C-6 POETICS AND LITERARY CRITICISM
		UNIT IV: AVAYIYBHAV AND TATPURUS SAMAS	B.A. 3RD YEAR (H)	C-12 SANSKRIT GRAMMAR

		UNIT III: CHANAKYANITI	B.A. 1ST YEAR (H) AECC	AECC-1 SANSKRIT LITERATURE
FEBRUARY	**Tutorials:**	TUTORIALS REGARDING THE TOPICS WILL BE TAKEN.		

NOVEMBER	**Theory:**	UNIT V: ALANKARA (FIGURES OF SPEECH) UNIT VI: CHANDASA (METRE)	B.A. 2ND YEAR (H)	C-6 POETICS AND LITERARY CRITICISM
		UNIT V: BAHUVRIHI AND DWANDVA SAMAS UNIT VI: KRIDANT PRATYA	B.A. 3RD YEAR (H)	C-12 SANSKRIT GRAMMAR
	Tutorials:	TUTORIALS REGARDING THE TOPICS WILL BE TAKEN.		

SEMESTER WISE TEACHING PLAN (2020-2021)

SRI VENKATESWARA COLLEGE

Name of the Faculty: Dr. Shakuntala Meena   **Department: Sanskrit**

Semester: I/III/V

Month		Topics	Course	Paper Code/Name
AUGUST	**Theory**	SECTION 'A': INDIAN SOCIAL INSTITUTIONS : NATURE AND CONCEPT	B.A. 2ND YEAR (H) C-7	C-7 Indian Social Institutions and Polity
		UNIT I: ACTING	B.A. 2ND YEAR (H) AEEC-1	AEEC-1 ACTING & SCRIPT WRITING
	Tutorials	TUTORIALS REGARDING THE TOPICS WILL BE TAKEN.		
SEPTEMBER	**Theory:**	SECTION 'B': STRUCTURE OF SOCIETY AND VALUES OF LIFE	B.A. 2ND YEAR (H) C-7	C-7 Indian Social Institutions and Polity
		UNIT I: CASTE SYSTEM		
		UNIT II: POSITION OF WOMEN IN SOCIETY		

		UNIT II: DEFINITION, ASSIGNMENTS AND KINDS OF ROLES UNIT III: TYPE AND NATURE OF PLOT	B.A. 2ND YEAR (H) AEEC-1	AEEC-1 ACTING & SCRIPT WRITING
	Tutorials:	TUTORIALS REGARDING THE TOPICS WILL BE TAKEN.		

	Assignment :	ASSIGNMENTS WILL BE GIVEN REGARDING THE TOPICS		
OCTOBER	**Theory:**	SECTION 'B': STRUCTURE OF SOCIETY AND VALUES OF LIFE UNIT III: SOCIAL VALUES OF LIFE	B.A. 2ND YEAR (H) C-7	C-7 Indian Social Institutions and Polity
		UNIT IV: DEVELOPMENT OF PLOT UNIT V: DIALOGUE WRITING	B.A. 2ND YEAR (H) AEEC-1	AEEC-1 ACTING & SCRIPT WRITING
	Tutorials:	TUTORIALS REGARDING THE TOPICS WILL BE TAKEN.		
	Test	TESTS WILL BE TAKEN TIMELY		

NOVEMBER	**Theory:**	SECTION 'C': INDIAN POLITY : ORIGIN AND DEVELOPMENT	B.A. 2ND YEAR (H) C-7	C-7 Indian Social Institutions and Polity
		UNIT VI: ARRANGEMENT OF PLAY AND ANALYSIS OF ABHIJNANASAKUNTALAM	B.A. 2ND YEAR (H) AEEC-1	AEEC-1 ACTING & SCRIPT WRITING
		SECTION 'A': PAÑCATANTRA UNIT I : kapaakakathā, siha-kāraka-murkhabrāhmaa kathā	B.A. 1ST YEAR (P) MIL-C1	MIL-C1 Nīti Literature
		SECTION 'A': RAGHUVAŚAM	B.A. 1ST YEAR (P) DSC-1	DSC-1 Sanskrit Poetry
	Tutorials:	TUTORIALS REGARDING THE TOPICS WILL BE TAKEN.		

DECEMBER	**Theory:**	SECTION 'A': PAÑCATANTRA UNIT I : kapaakakathā, siha-kāraka-	B.A. 1ST YEAR (P) MIL-C1	MIL-C1 Nīti Literature

		murkhabrāhmaa kathā		
		SECTION 'B': ŚIŚUPĀLAVADHAM UNIT I: VERSES 26-37	B.A. 1ST YEAR (P) DSC-1	DSC-1 Sanskrit Poetry
	Tutorials:	TUTORIALS REGARDING THE TOPICS WILL BE TAKEN.		
	Test	TESTS WILL BE TAKEN TIMELY		

JANUARY	**Theory:**	SECTION 'B': NĪTIŚATAKAM UNIT I: INTRODUCTION TO NĪTIŚATAKAM	B.A. 1ST YEAR (P) MIL-C1	MIL-C1 Nīti Literature
		SECTION 'B': ŚIŚUPĀLAVADHAM UNIT II: VERSES 42-56	B.A. 1ST YEAR (P) DSC-1	DSC-1 Sanskrit Poetry
	Tutorials:	TUTORIALS REGARDING THE TOPICS WILL BE TAKEN.		

	Test	TESTS WILL BE TAKEN TIMELY		

FEBRUARY	**Theory:**	SECTION 'B': NĪTIŚATAKAM UNIT II: TEXT READING OF NĪTIŚATAKAM FROM VERSES: 11-30	B.A. 1ST YEAR (P) MIL-C1	MIL-C1 Nīti Literature
		SECTION 'C': NĪTIŚATAKAM UNIT I: VERSES 1-10	B.A. 1ST YEAR (P) DSC-1	DSC-1 Sanskrit Poetry
	Tutorials:	TUTORIALS REGARDING THE TOPICS WILL BE TAKEN.		
	Test	TESTS WILL BE TAKEN TIMELY		

MARCH	**Theory:**	SECTION 'C': GENERAL INTRODUCTION TO SANSKRIT LITERATURE UNIT I: MAHĀKĀVYA AND PROSE	B.A. 1ST YEAR (P) MIL-C1	MIL-C1 Nīti Literature

		SECTION 'C': NĪTIŚATAKAM UNIT I: VERSES 11-20	B.A. 1ST YEAR (P) DSC-1	DSC-1 Sanskrit Poetry
	Tutorials:	TUTORIALS REGARDING THE TOPICS WILL BE TAKEN.		
	Test	TESTS WILL BE TAKEN TIMELY		

APRIL	Theory:	SECTION 'C': GENERAL INTRODUCTION TO SANSKRIT LITERATURE UNIT II: DRAMA	B.A. 1ST YEAR (P) MIL-C1	MIL-C1 Nīti Literature
		SECTION 'D': HISTORY OF SANSKRIT POETRY	B.A. 1ST YEAR (P) DSC-1	DSC-1 Sanskrit Poetry
	Tutorials:	TUTORIALS REGARDING THE TOPICS WILL BE TAKEN.		
	Test	TESTS WILL BE TAKEN TIMELY		

Name of the Faculty: Dr. S. Venkata Kumar   **Department: Commerce**   **Semester: I**

Month	Type of Class	Topics	Course	Paper Code/Name
JULY-2020	Theory	1. **The Indian Contract Act 1872: (a)** Meaning, characteristics and kinds. (b) Essentials of a valid contracts- offer and acceptance,	1. B.Com. (Hons) – IA	1. BCH 1.3: Business Laws
	Practicals			
	Tutorials	1. Case laws of offer and acceptance presented by students**.**	1. B.Com. (Hons) - IA	1. BCH 1.3: Business Laws

Month	Type of Class	Topics	Course	Paper Code/Name
AUGUST-2020	Theory	1. The Indian contract Act 1872: consideration, contractual capacity, free consent, legality of objects, void agreements,	1.Com. (Hons) – IA	1. BCH 1.3: Business Laws
	Practicals			
	Tutorials	**1.** Presentation of case studies vis-à-vis rules.	1. B.Com. (Hons) - IA	1. BCH 1.3: Business Laws

Month	Type of Class	Topics	Course	Paper Code/Name
SEPTEMBER-2020	Theory	1. **The Indian contract Act, 1872:** discharge of contracts- modes of discharge including breach and its remedies, contingent contracts, quasi contracts, contract of indemnity and guarantee, contract of bailment and contract of Agency. 2. **The sales of goods Act, 1930**: the contract of sale, meaning and difference between sale and agreement to sell,	1. B.Com. (Hons) – IA	1. BCH1.3: Business Laws
	Practicals			

	Tutorials	1. Case study on contractual capacity & legality of objects	1. B.Com. (Hons) - IA	1. Business Laws
	Assignment	1. Topic allots for 1st assignment and collect it and topic allot for 2nd Assignment also.	1. B.Com. (Hons) – IA	1.BCH 1.3: Business Laws
Month	**Type of Class**	**Topics**	**Course**	**Paper Code/Name**
OCTOBER-2020	Theory	1. **The sales of goods Act, 1930:** Conditions and warranties, transfer of ownerships in goods including sale by non-owners, performance of contract of sale.	1.B.Com. (Hons) – IA	1. BCH 1.3 Business Laws
	Practicals			
	Tutorials	1. Case study presentation by student on sale of Goods Act 1930.	1. B.Com. (Hons) - IA	1. BCH 1.3: Business Laws
	Test	1. 2nd week of October give Notice for conducting Internal Examination date Schedule and collect 2nd Assignment also.	1 B.Com. (Hons) - IA	1. BCH 1.3: Business Laws
Month	**Type of Class**	**Topics**	**Course**	**Paper Code/Name**
NOVEMBER-2020	Theory	1. **The sales of goods Act, 1930:** unpaid seller: meaning and rights of unpaid seller against the goods and the buyer.	1. B.Com. (Hons) – IA	1. BCH 1.3: Business Laws
	Practicals			
	Tutorials	1. Case study presentation by student on sale of Goods Act 1930.	1. B.Com. (Hons) - IA	1.BCH 1.3: Business Laws
	Test	1. Conduct internal examination and finalize the internal Assessment.	1.B.Com (Hons)-IA	1. BCH 1.3: Business Laws.

Name of the Faculty: Mrs. Sunita Chhabra

Department: Commerce

Semester: 5th

Month		Topics	Course	Paper Code/Name
July – August 2020	**Theory**	1. Introduction: Meaning, Nature and scope of marketing; Evolution of marketing concept and modern marketing concept; Marketing mix. 2. Marketing Environment- macro and micro environmental concepts; Consumer buying process; Factors influencing consumer buying decisions. 3. Market segmentation – meaning, benefits, and Bases of segmentation; Positioning – meaning and importance; Major bases of positioning a product	B.Com. (Hons.) 5th Semester CBCS	Paper BCH 5.1 Principles of Marketing
	Tutorials	1. Nature of marketing. 2. Difference between marketing and selling. 3. Marketing mix and its components. 4. Marketing Environment – explain customer supplier, social cultural technological environment.		
September 2020	**Theory**	1. Product: Concept, Product classification; Major product decisions: Product attributes Branding, Packaging and labeling; After-sales service; Product life cycle, new product development. 2. Pricing: Significance, factors affecting price determination, major pricing methods; pricing policies and strategies. 3. Promotion: Nature and importance, promotion mix, Promotion tools, advertising personal selling, public relation, sales promotion and publicity.	B.Com. (Hons.) 5th Semester CBCS	Paper BCH 5.1 Principles of Marketing
	Tutorials	1. Dimensions of product in 5 layers. 2. Branding. 3. Product life cycle. 4. Pricing		

	Assignment	1. Consumer Behaviour. 2. Write note on marketing and selling, significance of marketing.		
October 2020	**Theory**	1. Factors affecting promotion mix, integrated marketing communication approach. 2. Distribution: Channels of distribution – Meaning, importance, and functions; Factors affecting choice of distribution channel; Distribution logistics: Meaning, importance and decisions. 3. Retailing: Store based, Non store based, specialty store, super market, retail vending machine, mail order house.	B.Com. (Hons.) 5th Semester CBCS	Paper BCH 5.1 Principles of Marketing
	Tutorials	1. Pricing policies and factors affecting pricing. 2. Skimming and penetration pricing. 3. Distribution logistics. 4. Retailing – store based and non-store based.		
	Test	1. Introduction 2. Consumer Behavior 3. Market selection 4. Product 5. Pricing 6. Promotion		
November 2020	**Theory**	1. Management of Retailing; an overview in India changing scenario. 2. Development and Issues in Marketing: Rural, Social, Online, Direct, Services, Green and relationship marketing, marketing ethics.	B.Com. (Hons.) 5th Semester CBCS	Paper BCH 5.1 Principles of Marketing
	Tutorials	1. Promotion mix 2. Relationship, green, online and direct marketing.		

Name of the Faculty: Dr. Mamta Arora
Department: Commerce
Course: B.Com (H)
Semester: V

Month	Type of Class	Topics	Course	Paper Code/Name
AUGUST 2020	**Theory**	1. Nature, Scope and Objectives of financial management, Time value of money, Risk & Return – (including Capital Asset Pricing Model); Long-term investment decisions: The capital budgeting process, cash flow estimation, pay-back period method, Accounting rate of return, net present value, net terminal value, internal rate of return and Profitability Index	1. B.Com. (Hons) - V	1. BCH 5.2:Fundamental of Financial Management
Month	**Type of Class**	**Topics**	**Course**	**Paper Code/Name**
SEPTEMBER 2020	**Theory**	1. Financing Decisions: Sources of long-term financing, Estimation of components of cost of capital, methods of calculating cost of equity, cost of retained earnings, cost of debt and preference capital, weighted average cost of capital, capital structure: theories of capital structure (Net Income, Net Operating Income, MM Hypothesis, Traditional approach), Operating and Financing Leverage, Determinants of capital structure.	1. B.Com. (Hons) - V	1. BCH 5.2:Fundamental of Financial Management
Month	**Type of Class**	**Topics**	**Course**	**Paper Code/Name**
OCTOBER 2020	**Theory**	1. Dividend Decisions: Theories of relevance and irrelevance of dividend decisions for corporate valuation: Walter's Model, Gordon's model, MM Approach, Cash and stock dividends, Dividend	1. B.Com. (Hons) - V	1. BCH 5.2:Fundamental of Financial Management

Month	Type of Class	Topics	Course	Paper Code/Name
		policies in practice		
	Assignment	1. Topics were allotted for making the assignments.	1. B.Com. (Hons) - V	1. BCH 5.2:Fundamental of Financial Management
Month	**Type of Class**	**Topics**	**Course**	**Paper Code/Name**
NOVEMBER 2020	**Theory**	1. Working capital decisions: concepts of working capital, operating & cash cycles, sources of short-term finance, working capital estimation, cash management, receivables management, inventory management	1. B.Com. (Hons) - V	1. BCH 5.2:Fundamental of Financial Management
	Test	1. Test would be conducted on the concerned subject.	1. B.Com. (Hons) - V	1. BCH 5.2:Fundamental of Financial Management

Name of the Faculty: Dr. Shruti Mathur
Department: Commerce   **Semester: 3rd Section A**

Month			Topics	Course	Paper Code/Name
August	**Theory**		**Unit 1- Introduction** • Meaning and importance of management; • Coordination mechanisms in organisations, • management as an eclectic modern discipline; • Managerial functions, • Managerial roles (Mintzberg), • Managerial levels and • Managerial competencies.	B.Com. (Hons.)	Paper BCH 3.3: Management Principles and Applications
	Tutorials		• Case studies/ presentations/ management games related to the topics done in theory	B.Com. (Hons.)	Paper BCH 3.3: Management Principles and Applications
September	**Theory**		**Unit 2- Planning** • Organisational objective setting; • Decision Making: environment (certainty, risk, uncertainty), • techniques for individual and group decision-making; • Forecasting and Scheduling; • Planning vis-à-vis Strategy- • meaning and elements of environment of business firm • SWOT • Industry structure,/ Porter's Five Force Analysis • Business-level strategic planning. Porter's Strategies	B.Com. (Hons.)	Paper BCH 3.3: Management Principles and Applications
	Tutorials		• Case studies/ presentations/ management games related to the topics done in theory	B.Com. (Hons.)	Paper BCH 3.3: Management Principles and Applications
	Assignment		• Assignment on various topics from the course	B.Com. (Hons.)	Paper BCH 3.3: Management Principles and Applications

October	Theory	**Unit 4- Unit IV: Directing and Controlling** • Motivation- meaning, importance • Factors affecting motivation; • Maslow's Theory; • Herzberg's Theory • Theory X and Y • Leadership – meaning, importance • factors affecting leadership, • leadership styles, • Managerial Grid • Fiedler's theory of leadership • Transactional & Transformational Leadership • followership; • Principles of controlling; • relationship amongst planning, organizing, directing and controlling; • Performing controlling function; • Measures of controlling • Financial Ratios, Budgetary Control, Networking Analysis (PERT/CPM), Balance Scorecard, and EVA • Accountability for performance	B.Com. (Hons.)	Paper BCH 3.3: Management Principles and Applications

	Tutorials	• Case studies/ presentations/ management games related to the topics done in theory	B.Com. (Hons.)	Paper BCH 3.3: Management Principles and Applications
	Test	• Unit I – Introduction, • Unit II – Planning	B.Com. (Hons.)	Paper BCH 3.3: Management Principles and Applications
November	**Theory**	**Unit 3: Organizing** • Organisational forms (Mintzberg); • Factors affecting organisational design; • Departmentalization; • Organisational structures • Organograms- traditional and modern - comparative suitability and changes over time, • formal- informal organisations' interface. **Unit 5 Salient Developments and Contemporary Issues in Management** • Management challenges of the 21st Century; • Factors reshaping and redesigning management purpose, performance and reward perceptions- • Internationalization ; • Digitalization; • Entrepreneurship & innovation; • Values & ethics, • holistic purpose and measures of firm performance; • Workplace diversity; • Democracy and Sociocracy; • Subaltern management ideas from India	B.Com. (Hons.)	Paper BCH 3.3: Management Principles and Applications
	Tutorials	• Case studies/ presentations/ management games related to the topics done in theory	B.Com. (Hons.)	Paper BCH 3.3: Management Principles and Applications

Name of the Faculty: Dr. Shruti Mathur
Department: Commerce   **Semester: 3rd B**

Month		Topics	Course	Paper Code/Name
August	**Theory**	**Unit 1- Introduction** • Meaning and importance of management; • Coordination mechanisms in organisations, • management as an eclectic modern discipline; • Managerial functions, • Managerial roles (Mintzberg),	B.Com. (Hons.)	Paper BCH 3.3: Management Principles and Applications
	Tutorials	• Case studies/ presentations/ management games related to the topics done in theory	B.Com. (Hons.)	Paper BCH 3.3: Management Principles and Applications
September	**Theory**	**Unit 1- Introduction** • Managerial levels and • Managerial competencies. **Unit 2- Planning** • Organisational objective setting; • Decision Making: environment (certainty, risk, uncertainty), • techniques for individual and group decision-making; • Forecasting and Scheduling; • Planning vis-à-vis Strategy- • Meaning and elements of environment of business firm	B.Com. (Hons.)	Paper BCH 3.3: Management Principles and Applications
	Tutorials	• Case studies/ presentations/ management games related to the topics done in theory	B.Com. (Hons.)	Paper BCH 3.3: Management Principles and Applications
	Assignment	• Assignment on various topics from the course	B.Com. (Hons.)	Paper BCH 3.3: Management Principles and Applications

October	Theory	Unit 2- Planning • SWOT • Industry structure,/ Porter's Five Force Analysis • Business-level strategic planning. Porter's Strategies **Unit 4- <u>Unit IV: Directing and Controlling</u>** • Motivation- meaning, importance • Factors affecting motivation; • Maslow's Theory; • Herzberg's Theory • Theory X and Y • Leadership – meaning, importance • factors affecting leadership, • leadership styles, • Managerial Grid • Fiedler's theory of leadership • Transactional & Transformational Leadership • Followership	B.Com. (Hons.)	Paper BCH 3.3: Management Principles and Applications

	Tutorials	• Case studies/ presentations/ management games related to the topics done in theory	B.Com. (Hons.)	Paper BCH 3.3: Management Principles and Applications
	Test	• Unit I – Introduction, • Unit II – Planning	B.Com. (Hons.)	Paper BCH 3.3: Management Principles and Applications

| November | Theory | Unit 4- **Unit IV: Directing and Controlling**
 • Principles of controlling;
 • relationship amongst planning, organizing, directing and controlling;
 • Performing controlling function;
 • Measures of controlling
 • Financial Ratios, Budgetary Control, Networking Analysis (PERT/CPM), Balance Scorecard, and EVA
 • Accountability for performance

 Unit 5 Salient Developments and Contemporary Issues in Management
 • Management challenges of the 21st Century;
 • Factors reshaping and redesigning management purpose, performance and reward perceptions-
 • Internationalization ;
 • Digitalization;
 • Entrepreneurship & innovation;
 • Values & ethics,
 • holistic purpose and measures of firm performance;
 • Workplace diversity;
 • Democracy and Sociocracy;
 • Subaltern management ideas from India | B.Com. (Hons.) | Paper BCH 3.3: Management Principles and Applications |
| | Tutorials | • Case studies/ presentations/ management games related to the topics done in theory | B.Com. (Hons.) | Paper BCH 3.3: Management Principles and Applications |

Name of the Faculty: Ms Pooja Jain   **Department: Commerce**   **Semester: I/III/V**

Month	Type of Class	Topics	Course	Paper Code/Name
AUGUST	**Theory**	**1.Unit I**:Nature and Scope, Difference between cost accounting and management accounting, cost control, cost reduction, cost management, difference between cost control, cost reduction and cost management. **Unit IV:** a. Absorption versus variable costing: Distinctive features and income determination. **2. Unit 1: Introduction:** Meaning, nature, concepts, advantages, disadvantages and reasons for transacting online, types of E-commerce	1. **B.Com. (Hons) – V A+B** 2. **B.Com. (Hons) – III A+B**	1. BCH 5.3/Management Accounting 2. BCH 3.5 E-Commerce
	Practicals	Introduction to HTML, Creating and viewing a Webpage and basic HTML tags.	1. B.Com. (Hons) – III A 2. B.Com. (Hons) – III B	1. BCH 3.5 E-Commerce Practical
Month	Type of Class	Topics	Course	Paper Code/Name
SEPTEMBER	**Theory**	**1. Unit IV:** Cost-Volume-Profit Analysis: Break-even analysis-algebraic and graphic methods. Contribution / sales ratio, key factor. Margin of safety. Angle of incidence. Determination of cost indifference point. **Unit II**: Budgeting and budgetary control: Concept of budget and budgetary control, objectives, merits, and limitations, Budget administration, Functional budgets, Fixed and flexible budgets, Zero base budget, Programme and performance budgets. **2. UNIT 1: Introduction: E**-commerce business models (introduction, key elements of a business model and categorizing major E-commerce business	1. **B.Com. (Hons) – V A+B** 2. **B.Com. (Hons) – III A+B**	1. BCH 5.3/Management Accounting 2. BCH 3.5 E-Commerce

		models), forces behind e-commerce. Technology used in e-commerce: The dynamics of world wide web and internet (meaning, evaluation and features); Designing, building and launching e-commerce website(A systematic approach involving decisions regarding selection of hardware, software, outsourcing vs. In house development of website.)		
	Practicals	Text Formatting tags, Images and hyperlinks	1. **B.Com. (Hons) – III A** 2. **B.Com. (Hons) – III B**	1. BCH 3.5 E-Commerce Practical
	Assignment	One home assignment will be given from the topic: Absorption and variable Costing and CVP analysis	1. **B.Com. (Hons) – V A** 2. **B.Com. (Hons) – V B**	BCH 5.3/Management Accounting
Month	**Type of Class**	**Topics**	**Course**	**Paper Code/Name**
OCTOBER	**Theory**	**Unit V:** Decision making: Costs for decision making, variable costing and differential analysis as aids in making decisions – fixation of selling price, exploring new markets, make or buy, product mix, operate or shut down, sell or process further Responsibility Accounting: Concept, Significance, Different Responsibility Centres, Divisional Performance Measurement – Financial Measures. **2. UNIT V** Needs and concepts, the e-commerce security environment : (dimension, definition and scope of e-security) Security threats in e-commerce environment(security intrusions and breaches, attacking methods like	1. **B.Com. (Hons) – V A+B** 2. **B.Com. (Hons) – III A+B**	1. BCH 5.3/Management Accounting 2. BCH 3.5 E-Commerce

		hacking, sniffing, cyber- vandalism etc.), technology solutions (Encryption, security channels of communication, protecting networks and protecting servers and clients). Threats in E-commerce , security of clients and service provider; cyber laws – Relevant provisions of information technology act 2000, offences , secure electronic records and digital signatures penalties and adjudication.		
	Practicals	Lists, Tables and Forms	1. **B.Com. (Hons) –IIIA** 2. **B.Com. (Hons) – IIIB**	1.BCH 3.5 E-Commerce Practical Part C
	Test	1. Class Test will be conducted in the middle of the month from these topics: a. Nature and scope of management accounting b. Absorption and variable costing c. C-V-P Analysis d. Budgeting 2. Class Test will be conducted in the middle of the month from these topics: **a.** Introduction to E-commerce **b.** Security and Encryption **c.** E-payment system models and methods of e-payments	1. **B.Com. (Hons) – V A+B** 2. **B.Com. (Hons) – III A+B**	1. BCH 5.3/Management Accounting 2. BCH 3.5 E-Commerce
Month	**Type of Class**	**Topics**	**Course**	**Paper Code/Name**
NOVEMBER	**Theory**	**1. Unit III**: Standard costing and variance analysis: Meaning of standard cost and standard costing: advantages, limitations and applications, Variance analysis – material, labour, and sales variances, Disposition of variances, Control ratios. Standard Costing and Variance analysis: Overhead variance **2. UNIT IV:** E-payment system models and methods of e-payments (Debit cards, Credit cards, Smart cards,	1. **B.Com. (Hons) – V A+B** 2. **B.Com. (Hons) – III A+B**	1. BCH 5.3/Management Accounting 2. BCH 3.5 E-Commerce

e-money), digital signatures (Procedures, working and legal position), payment gateways, online banking(meaning, concepts, importance, electronic fund transfer, automated clearing house, automated ledger posting), risks involved in e-payments.

UNIT II :On-line business transactions:

Meaning, purposes ,advantages and disadvantages of transacting online, E-commerce application in various industries like {banking ,insurance, payment of utility bills, online marketing, E-tailing (popularity ,benefits ,problems ,and features), online services (financial, travel and career), auctions (online portal ,online learning, publishing and entertainment) online shopping (amazon ,snapdeal, alibaba, flipkart , etc)

	Practicals	Forms, Frames and Cascading style sheets	1. **B.Com. (Hons) – V A** 2. **B.Com. (Hons) – V B**	1. BCH 3.5 E-Commerce Practical Part C

SEMESTER WISE TEACHING PLAN
SRI VENKATESWARA COLLEGE

Name of the Faculty: Dr. Sindhu Mani Bag **Department: Commerce** **Semester: I/III/V**

Month	Type of Class	Topics	Course	Paper Code/Name
August-2020	**Theory**	1. Introduction, meaning and features, Administration of company laws, kinds of companies. 2. **Conceptual framework of corporate governance: theories model and benefit of corporate governance, Board committee and their functions, Insider trading Rting Agencies,, Green governance, E-Governance, clause 49 of listing agreements, class action, whistle blowing, shareholders activism.**	1. B.Com(P)-III 2. B.Com (P)-Sem-V	1.BC 3.1: Company Laws 2.BC5. 1:Auditing and corporate Governance.
	Computer Lab	1. Income Tax Return	1.B,com (p) III(A&B)	1. BCH 3.2: Income Tax Laws & Practices
	Tutorials	1. Case laws present by the students. 2. Case law of corporate Governance	1. B.Com. (P) – III 2.B.Com. (P) – V	1. BC 3.1:Company Laws 2. BC. 5.1:Auditing and corporate Governance.
Month	Type of Class	Topics	Course	Paper Code/Name
September - 2020	**Theory**	1. Formation of Companies, Memorandum of Association, Articles of Association. Prospectus and Shares and share capital. 2. **Major Corporate Governance Failures: BCCI (UK),Maxwell Communication (UK), Enron (USA), Anderson Worldwide (USA), Vivendi (France), Harshad Mehta Scam, Satyam Computer Service Limited and Kingfisher Airlines, common governance problems noticed in various corporate failures, Codes and standard on corporate governance, Initiatives in**	1. B.Com. (P) – III 2. B.Com (p)-V	1. BC 3.1:Company Laws 2. BC.5. 1: Auditing and corporate Governance.

Month	Type of Class	Topics	Course	Paper Code/Name
		India.		
	Computer Lab	1. Income Tax Practical: Income tax Return Filing	B.Com (p)-III(A&B)	1. BC 3.2: Income Tax Laws and Practice.
	Tutorials	1. Case study present by the students. 2. case study present by the students.	1. B.Com. (P) – III 2. B.Com. (p) – V	1. BC 3.1 Company Laws **2.** BC. 5.1:Auditing and corporate Governance.
Month	**Type of Class**	**Topics**	**Course**	**Paper Code/Name**
October-2020	**Theory**	1. Members and Shareholders, Director and Key Managerial Personnel, Shareholders Meeting, Accounts and Audit. 2. **Business Ethics and CSR: Morality and Ethics, Business Value and Ethics, Various approaches to business Ethics, Ethical theories, Ethical Governance, Corporate Ethics, Benefit of adopting Ethics in business. Ethics programme, codes of Ethics, Ethics committee.**	1. B.Com. (P) – III 2. B.Com. (P) – V	1.BC 3.1:Company Laws 2.BC.5.1:Auditing and corporate Governance.
	Computer Lab	1.Income tax Practical: Income tax Return Filing	1.B.Com(p)-III (A&B)	1, BC. 3.2: Income Tax Laws & Practices
	Tutorials	1. Case laws present by the students. 2. Case laws present by the students.	1. B.Com. (P) – III 2. B.Com. (P) – V	1. BC 3.1 Company Laws 2. BC.5. 1:Auditing and corporate Governance.

Month	Type of Class	Topics	Course	Paper Code/Name
November-2020	**Theory**	1. Winding up of Companies, Tribunal and Court. The Depository System 2. Concept of corporate Philanthropy, CSR, CR, Corporate Sustainability, Environmental Aspects of CSR, CSR provision under the companies Act-2013, CSR Committees, CSR Reporting, CSR Models, Drivers of CSR, Codes and standard on CSR, Global Reporting Initiatives,ISO-26000.	1. B.Com. (P) – III 2. B.Com (P) –V	1. BC 3.1: Company Laws **BC.5.1:Auditing and corporate Governance.** .
	Computer lab.	1. Income Tax Practical: Income tax Return Filing	1. B.Com (P)-III(A&B)	1. BC3.2: Income Tax Laws & Practices
	Tutorials	1. Case laws present by the students. 2. Case laws present by the students.	1. B.Com. (P) – III 2. B.Com. (P) – V	1.BC 3.1: Company Laws 2.BC.5. 1:Auditing and corporate Governance.
	Assignment	1.Topic allotment for1stassignment & collected (Mr. Ashish Jain) 2. Topics allotment and collected of 1st Assignment (Ms. Priyanka).	B.Com. (P) – III 2. B.Com. (P) – V	1.BC 3.1:Company Laws 2.BC. 1:Auditing and corporate Governance.

	Test	1. Notification of date schedule and conduct of the Internal Examination . 2. 2. Notification of date schedule and conduct of the Internal Examination.	1. B.Com. (P) – III 2. B.Com. (P) –V	1.BC 3.1:Company Laws 2.BC.5. 1:Auditing and corporate Governance.
	Computer Lab	Conducting of Practical Examination	B.Com (p)-III (A&B)	1. BC 3.2: Income Tax Laws & Practices
		Finalisation of Internal Assessment		

SEMESTER WISE TEACHING PLAN
SRI VENKATESWARA COLLEGE
(2020-21) (Odd-Semester)

Name of the Faculty: Dr. Vinod Kumar
Department: Commerce
Course: B.Com (H)/B.Com
Semester: V

Month	Type of Class	Topics	Course	Paper Code/Name
AUGUST 2020	**Theory**	1. Nature, Scope and Objectives of financial management, Time value of money, Risk & Return – (including Capital Asset Pricing Model); Long-term investment decisions: The capital budgeting process, cash flow estimation, pay-back period method, Accounting rate of return, net present value, net terminal value, internal rate of return and Profitability Index 2. Overview of financial services industry	1. B.Com. (Hons) - V 2. B.Com. - V 3. B. Com (H) - V	1. BCH 5.2:Fundamental of Financial Management 2. BC 5.2: Fundamental of Financial Management 3. BCH 5.4 (C): Financial Markets, Institutions and Financial Services
	Practical	1. Capital Budgeting methods with MS-EXCEL Software	1. B.Com. – (H) - V	1. BCH 5.2: Fundamentals of Financial Management
Month	**Type of Class**	**Topics**	**Course**	**Paper Code/Name**
SEPTEMBER 2020	**Theory**	1. Financing Decisions: Sources of long-term financing, Estimation of components of cost of capital, methods of calculating cost of equity, cost of retained earnings, cost of debt and preference capital, weighted average cost of capital, capital structure: theories of capital structure (Net Income, Net Operating Income, MM Hypothesis, Traditional approach), Operating and Financing Leverage, Determinants of capital structure. 2. Merchant Banking – Pre and Post Issue Management, Underwriting, Regulatory Framework relating to Merchant Banking in India	1. B.Com. (Hons) - V 2. B.Com. – V 3. B. Com (H) - V	1. BCH 5.2:Fundamental of Financial Management 2. BC 5.2: Fundamental of Financial Management 3. BCH 5.4 (C): Financial Markets, Institutions and Financial Services

Month	Type of Class	Topics	Course	Paper Code/Name
	Practical	1. Capital Budgeting methods with MS-EXCEL Software	1. B.Com. – (H) - V	1. BCH 5.2: Fundamentals of Financial Management
OCTOBER 2020	**Theory**	1. Dividend Decisions: Theories of relevance and irrelevance of dividend decisions for corporate valuation: Walter's Model, Gordon's model, MM Approach, Cash and stock dividends, Dividend policies in practice 2. Leasing, Hire purchase, Consumer finance, Housing finance, Venture capital finance	1. B.Com. (Hons) - V 2. B.Com. – V 3. B. Com (H) - V	1. BCH 5.2:Fundamental of Financial Management 2. BC 5.2: Fundamental of Financial Management 3. BCH 5.4 (C): Financial Markets, Institutions and Financial Services
	Practicals	1. Cost of capital and financing decisions	1. B.Com. (H) -V	1. BCH 5.2: Fundamentals of Financial Management
	Assignment	1. Topics were allotted for making the assignments. 2. Topics were allotted for making the assignments.	1. B.Com. (Hons) - V 2. B.Com. - V	1. BCH 5.2:Fundamental of Financial Management 2. BC 5.2: Fundamental of Financial Management
Month	**Type of Class**	**Topics**	**Course**	**Paper Code/Name**
NOVEMBER 2020	**Theory**	1. Working capital decisions: concepts of working capital, operating & cash cycles, sources of short-term finance, working capital estimation, cash management, receivables management, inventory management 2. Factoring services, credit rating, financial counseling and portfolio management services	1. B.Com. (Hons) - V 2. B.Com. - V 3. B. Com (H) - V	1. BCH 5.2:Fundamental of Financial Management 2. BC 5.2: Fundamental of Financial Management 3. BCH 5.4 (C): Financial Markets, Institutions and Financial Services
	Practicals	1. Capital Budgeting methods , cost of capital and financing decisions	1. B.Com. (H) -V	1. BC 5.2(a): Fundamentals of Financial Management
	Test	1. Test would be conducted on the concerned subject. 2. Test would be conducted on the concerned subject.	1. B.Com. (Hons) - V 2. B.Com. - V	1. BCH 5.2:Fundamental of Financial Management 2. BC 5.2: Fundamental of Financial Management

SEMESTER WISE TEACHING PLAN
SRI VENKATESWARA COLLEGE

Name of the Faculty: Dr. Neha Singhal   **Department: Commerce**   **Semester : III/V**

Month		Topics	Course	Paper Code/Name
AUGUST	**Theory:**	1. Scope of Total Income and Residential Status, Income Under the Head Salaries. 2. Deductions to be made in computing Total Income, Income Under the Head House Property. 3. Vouching, Verification of Assets, Verification of Liabilities, Appointment and Removal of Auditor, Rights and Duties of a Company Auditor.	1. B.Com-V 2. B.com -III	1. BC-3.2/Income Tax 2. BC-5.1 (c) Auditing and CG
	Practicals:	1. MS WORD	1.B.com-III	1. BC-3.4 (a)/Computer Applications in Business
	Assignment	1. Assignment form Chapter –Income under the head Salary. 2. Assignment from Chapter- Verification, Appointment, Rights and Duties of an Auditor	1) B.Com-III 2) B.Com -V	1. BC-3.2/ Income Tax Law and Practice\ 2. BC-5.1 (c) Auditing
SEPTEMBER	**Theory**	1. Income under the head House Property, Income under the head Business/ Profession. 2. Auditor's Report, Liabilities of Auditor, Cost Audit, Management Audit, Tax Audit and Introduction to EDP Auditing. 3. CG-Theories, Models and Committees.	1. B.Com-V 2. B.com-III	1. BC-3.2/Income Tax 2. BC-5.1(c) Auditing and CG
	Practicals	1. MS POWERPOINT	1.B.com-III	1. BC-3.4 (a)/Computer Applications in Business

OCTOBER	**Theory**	1. Income under the head Business/ Profession, Income under the head Capital Gains, Income under the head Other Sources. 2. Set off or Carry forwards and set off of losses. 3. CG-Insider Trading, Rating Agencies, Clause 49, Green Governance, Whistle Blowing and Introduction to scams	1. B.Com-V 2. B.com-III	1. BC-3.2/Income Tax 2. BC-5.1 (c) Auditing and CG
	Practicals	1. MS POWERPOINT	1.B.com-III	BC-3.4 (a)/ Computer Applications in Business
	Test	1. Test from Chapter- Residential Status and Income under the head Salary. 2. Test from Chapter- Types of Audit, Internal Control System, Appointment and Removal of an Auditor, Rights and Duties of Auditor.	1. B.com -III 2. B.Com -V	1. BC-3.2/Income Tax Law and Practices 2. BC-5.1 (c) Auditing and CG
	Assignment	1. Assignment from Chapter- Income under the head Business/ Profession	1. B.Com-III	1. BC-3.2/Income Tax Law and Practice
NOVEMBER	**Theory**	1. Clubbing of Income, Set off or Carry forwards and set off of losses, Deductions to be made in computing Total Income, Agricultural Income, Assessment of Individuals. 2. Clubbing of Income, Leading case of Supreme Court. 3. Corporate Scams, Business Ethics and CSR	1. B.Com-V 2. B.com -III	1. BC-3.2/Income Tax 2. BC-5.1 (c) Auditing and CG
	Practicals	1. Questions on MS WORD and MS POWERPOINT	1.B.com-III	1. BC-3.4 (a)/Computer Applications in

SEMESTER WISE TEACHING PLAN
SRI VENKATESWARA COLLEGE

Name of the Faculty: SHILPA

Department: COMMERCE   **Semester: III/V**

Month		Topics	Course	Paper Code/Name
August 2020	**Theory**	Introduction Unit -1	B.com(H) semester III (B)	BCH 3.1/Human Resource Management
		Introduction Unit -1	B.com semester V	BC 5.3(b) /Advertising
	Practicals Microsoft excel-basic introduction ,formatting etc B.com (P) semester III BC3.4(a)/Computer Application in Busines			
September 2020	**Theory:**	Recruitment,selection and development –Unit 2	B.com(H) semester III (B)	BCH 3.1/Human Resource Management
		Media Decisions –Unit 2	B.Com Semester V	BC 5.3(b) /Advertising
	Practicals: Microsoft excel-mathematical formulae,Loan sheet B.com (P) semester III BC3.4(a)/Computer Application in Business			
October 2020	**Theory:**	Unit 3&4-Performance Appraisal and Compensation	B.com(H) semester III (B)	BCH 3.1/Human Resource Management
		Unit 3&4 –Message Development and measuring advertisement effectiveness	B.Com Semester V	BC 5.3(b) /Advertising
	Practicals: Microsoft excel Ratio Analysis ,Regression Analysis , payrol B.com (P) semester III BC3.4(a)/Computer Application in Business			
	Assignment :	Unit 1&2	B.com(H) semester III (B)	BCH 3.1/Human Resource Management
		Unit 1&2	B.Com Semester V	BC 5.3(b) /Advertising
November 2020	**Theory:**	Employee Maintenance and Emerging Issues in HRM - Unit -5	B.com(H) semester III (B)	BCH 3.1/Human Resource Management
		Organizational Arrangements -Unit-5	B.Com Semester V	BC 5.3(b) /Advertising
	Practicals: Microsoft Excel capital budgeting B.com (P) semester III BC3.4(a)/Computer Application in Business			

Test	Unit 3&4	B.com(H) semester III (B)	BCH 3.1/Human Resource Management
	Unit 3&4	B.Com Semester V	
			BC 5.3(b) /Advertising

SEMESTER WISE TEACHING PLAN
SRI VENKATESWARA COLLEGE

Name of the Faculty: **Department:**

Semester : II/IV/VI

Month		Topics	Course	Paper Code/Name
JANUARY	**Theory**			
	Practicals			
	Tutorials			
FEBRUARY	**Theory:**			
	Practicals:			
	Tutorials:			

	Assignment :			
MARCH	**Theory:**			
	Practicals:			
	Tutorials:			
	Test			
APRIL	**Theory:**			
	Practicals:			
	Tutorials:			

MAY	**Theory:**			
	Practicals:			
	Tutorials:			

Name of the Faculty: Dr. Arpita Kaul   **Department:Commerce**

Semester : III,V

Month		Topics	Course	Paper Code/Name

AUGUST	**Theory**	Introduction to E- Commerce Concepts and significance of E-commerce, driving forces of E-commerce. E-commerce business models - key elements of a business model and categories. Mechanism Dynamics of World Wide Web and internet- evolution and features; Design and launch of E-commerce website - decisions regarding Selection of hardware and software; Outsourcing vs in house development of a website	B.COM H III	BCH 3.5 (a)E COMMERCE
		INTRODUCTION: Nature, Scope and importance of marketing, Evolution of marketing concepts, Marketing Mix https://www.youtube.com/watch?v=F9Oza QPlQvs, Marketing environment. Micro and Macro environmental factors - *https://www.youtube.com/watch?v=4vcZW J-AhLw* *Buland bharat ki buland tasweer* *https://theprint.in/features/brandma/liril-and-lalitaji-a-tale-of-two-ads-and-how-they-captured-indias-attention/177169/* *Liril* *https://www.youtube.com/watch?v=IRkXL9 rRbmk&feature=emb_rel_end* *Lalita Ji* *https://www.youtube.com/watch?v=ALxiXk HxqCc*	B.Com H V	BCH 5.2 PRINCIPLES OF MARKETING
		Introduction: Organisational Theories: Classical, Neo-classical and Contemporary **https://www.youtube.com/watch?v=sI5d xHfKGaI**. Organisational Behaviour: concepts, determinants, challenges and Formal and Informal structures; Flat and Tall structures. Opportunities of OB. Contributing disciplines of OB. Organizational Behaviour Models. Individual Behaviour Personality- Type A and B, Big Five personality types, Factors influencing personality **https://www.youtube.com/watch?v=RoQ i9Mvqip0** **https://www.truity.com/test/big-five-personality-test** **http://www.psych.uncc.edu/pagoolka/Ty peAB.html** **https://www.youtube.com/watch?v=m95 poi3VMEs** **http://www.psych.uncc.edu/pagoolka/Lo cusofControl-intro.html** **https://openpsychometrics.org/tests/MA CH-IV**	B.COM H V	BCH 5.4 (d)ORGANIZATIONAL BEHAVIOUR
	Practicals	MS Access : Creating Tables	B.Com III	BC 3.4(a) Computer Applications in Business

SEPTEMBER	**Theory:**	Unit II: Online Business Transactions Rationale of transacting online, E-commerce applications in various industries (banking, insurance, payment of utility bills and others), e-marketing, e-tailing, online services, e-auctions, online portal, online learning, e-publishing and e-entertainment, online shopping	B. Com H III	BCH 3.5 (a)E COMMERCE
		Consumer Behavior: An overview, Consumer buying process https://www.bing.com/videos/search?q=consumere+behaviour+decision+process&&view=detail&mid=F26E2085A4F8738F2086F26E2085A4F8738F2086&&FORM=VRDGAR https://www.bing.com/videos/search?q=types+of+buying+decision+behaviour&&view=detail&mid=9F2C913B3F77EEB6E4299F2C913B3F77EEB6E429&&FORM=VRDGAR&ru=%2Fvideos%2Fsearch%3Fq%3Dtypes%2Bof%2Bbuying%2Bdecision%2Bbehaviour%26FORM%3DHDRSC4, Factors influencing Consumer buying decisions https://www.youtube.com/watch?v=ppPzROPWyKU Market Selection: Market Segmentation-concept, importance and bases https://www.youtube.com/watch?v=15zHUfSjLG4. Target market selection, Positioning concept, importance and bases, Product differentiation v market segmentation	B .Com H V	BCH 5.2 PRINCIPLES OF MARKETING
		Values and Attitudes- Concept and types of values: Terminal value and Instrumental Value. Component of attitude, job related attitudes, measurement of attitude. Learning- Concept and Learning theories and reinforcement, Schedules of reinforcement. Perception and Emotions- Concept, Perceptual process, Importance, Factors influencing perception, perceptual errors and distortions, Emotional Intelligence. Group Decision making and Communication Concept and nature of decision making process, Individual versus group decision making. Nominal group technique and Delphi technique. **https://www.youtube.com/watch?v=vsfkk3tQmtw** **https://www.youtube.com/watch?v=qtpY9zwuzFM**	B.Com VI	BCH 5.4 (d)ORGANIZATIONAL BEHAVIOUR
	Practicals:	MS Access: Creating queries	B.Com III	BC 3.4(a) Computer Applications in Business

OCTOBER	**Theory**	Unit III: Website Designing Introduction to HTML tags and attributes: Text formatting, fonts, hypertext links, tables, images, lists, forms, cascading style sheets.	B.Com H III	BCH 3.5 (a)E COMMERCE
		Product: Meaning and importance. Product classifications; Concept of product mix; Branding, packaging and labeling; After-sales services; Product life-cycle; New Product Development. Promotion: Nature and importance of promotion; Promotion Tools: advertising, personal selling, public relations; sales promotion and publicity – concept and their distinctive characteristics; Promotion mix; Factors affecting promotion mix decisions; and Integrated Marketing Communication https://youtu.be/-qxHnfhDPF8 https://www.adsoftheworld.com/media/film/mumbai_traffic_police_guiltShame https://youtu.be/lC5EhJl1wFE	B.Com H V	BCH 5.2 PRINCIPLES OF MARKETING
		Communication and Feedback, Models of Communication. Transactional Analysis https://youtu.be/NfIuXG8AN9Y, Johari Window. https://youtu.be/BWii4Tx3GJk Motivation : Meaning and Importance of motivation, Theories- Vroom's Valence - Expectancy Theory, Intrinsic motivation by Ken Thomas .Behaviour modification, Motivation and organisational effectiveness, Measurement of motivation using standard questionnaire.	B.Com H V	BCH 5.4 (d)ORGANIZAT IONAL BEHAVIOUR
	Practicals	MS Access: Creating forms	B.Com III	BC 3.4(a) Computer Applications in Business
	Assignme nt	Group presentations will be given for OB, E commerce and Principles of Marketing.	B.Com H	BCH 5.2 PRINCIPLES OF MARKETING BCH 5.4 (d)ORGANIZAT IONAL BEHAVIOUR

NOVEMBER	**Theory:**	E-payment Methods- Debit card, Credit card, Smart cards, E-Money, E-Wallets; Digital signatures- procedures and legal position; Payment gateways; Online banking- concepts, importance; Electronic fund transfer; Automated Clearing House. Automated Ledger Posting. Emerging modes and systems of E-payment (MPaisa, PayPal and other digital currency).Epayments risks https://www.bing.com/videos/search?q=AEPS&&view=detail&mid=84B6BB37A7C0484DDE7484B6BB37A7C0484DDE74&&FORM=VRDGAR	B.Com H III	BCH 3.5 (a)E COMMERCE
		Distribution: Channels of distribution - meaning and importance; Types of distribution channels; Wholesaling and retailing; Factors affecting choice of distribution channel; Distribution Logistics; Meaning, importance and decisions. Retailing: Types of retailing – store based and non-store based retailing, chain stores, specialty stores, supermarkets, retail vending machines, mail order houses, retail cooperatives; Management of retailing operations: an overview; Retailing in India: changing scenario. Rural marketing: Growing Importance; Distinguishing characteristics of rural markets; Understanding rural consumers and rural markets; Marketing mix planning for rural markets. https://www.youtube.com/watch?v=to5_HxvrZMs https://www.youtube.com/watch?v=bC26MSKjA1s Recent developments in marketing: Social Marketing, Online Marketing, Direct Marketing, Services Marketing, Green Marketing, Relationship Marketing	B.Com H V	BCH 5.2 PRINCIPLES OF MARKETING
		Leadership, Power and Conflict Concept and theories, Styles of leadership, Behavioural approach, Situational approach, Leadership effectiveness. Power and conflict. Bases of power, power tactics Screencast-O-Matic - (screencast-o-matic.com); Sources of conflict, Conflict Resolution Strategies. Dynamics of Organisational Behaviour 10 Lectures Organisational Culture and climate- Concept and determinants of organisational culture. Developing Organizational culture. Organisational change- Importance, Stability vs. Change, Proactive vs Reaction Change, Change Process https://youtu.be/kerDFvln7hU, Managing Change. Individual and organisational factors to stress; Work Stressors, Consequences of stress on individual and organization; Prevention and Management of stress.		BCH 5.4 (d)ORGANIZATIONAL BEHAVIOUR

Practicals:	MS Access Creating Reports	B.Com III	BC 3.4(a) Computer Applications in Business
TEST	Internal Test will be taken in the third week of October for OB and Principles of Marketing and a practical question on HTML will be assigned in e commerce.	B.Com H III, V	BCH 5.2 PRINCIPLES OF MARKETING BCH 5.4 (d)ORGANIZATIONAL BEHAVIOUR BCH 3.5 (a)E COMMERCE

SEMESTER WISE TEACHING PLAN
SRI VENKATESWARA COLLEGE

Name of the Faculty: Dr. Ajit Singh   **Department: Commerce**

Semester : III

Month		Topics	Course	Paper Code/Name
JULY-AUGUST-2020	**Theory**	**1. Introduction, meaning & features, Administration of company laws, Kinds of companies, Formation of company.** **2. Introduction to basic computer.**	1. B.Com (P)-III 2. B.Com(P)-III	**1. BC 3.1: Corporate Laws** **2. BC 3.4 (A) Computer Application In Business.**
	Tutorials /Practical:	1. Case laws presented by the Students. 2. Introduction to Preparing Presentation	1. B.Com (P)-III 2. B.Com (P)-III	**1. BC 3.1: Corporate Laws** **2. BC 3.4 (A) Computer Application In Business.**
SEPTEMBER	**Theory:**	1.Memorandum of Association & Articles of Association, Prospectus, Issue and allotment of shares, Calls, Forfeiture and transfer of shares. 2. Computer Networks, Database management system.	1. B.Com (P)-III 2. B.Com(P)-III	**1. BC 3.1: Corporate Laws** **2. BC 3.4 (A) Computer Application In Business.**
	Tutorials/Practical:	1. Case laws presented by the Students. 2. Inserting tables, Images,Text,Symbols	1. B.Com (P)-III 2. B.Com(P)-III	**1. BC 3.1: Corporate Laws** **2. BC 3.4 (A) Computer Application In Business.**
	Assignment	Assignment and Presentation Given to the students.	1. B.Com (P)-III 2. B.Com(P)-III	**1. BC 3.1: Corporate Laws** **2. BC 3.4 (A) Computer Application In Business.**
OCTOBER	**Theory:**	1.Company Management, Meetings and Requisites of Valid Meeting. 2.Introduction to Operating Systems. Database System, ER model, implementing RDM design using an appropriate DBMS.	1. B.Com (P)-III 2. B.Com(P)-III	**1. BC 3.1: Corporate Laws** **2. BC 3.4 (A) Computer Application In Business.**

	Tutorials/Practical:	1. Case laws presented by the Students. & Case Studies Disscussed.	1. B.Com (P)-III	**1. BC 3.1: Corporate Laws**
		2. Media, Design,Transition,Animation, and Slideshow.	2. B.Com(P)-III	**2. BC 3.4 (A) Computer Application In Business.**
	Test	Time schedule decided for conduct of Internal exam in October.	1. B.Com (P)-III	**1. BC 3.1: Corporate Laws**
			2. B.Com(P)-III	**2. BC 3.4 (A) Computer Application In Business.**
NOVEMBER	**Theory:**	1.Dividend provisions, Winding up of Companies, Audit and Auditors The Depository System.	1. B.Com (P)-III	**1. BC 3.1: Corporate Laws**
		2. Revision	2. B.Com(P)-III	**2. BC 3.4 (A) Computer Application In Business.**
	Tutorials/Practical:	1.Case Studies discussed.	1. B.Com (P)-III	**1. BC 3.1: Corporate Laws**
		2.Business Presentation Using All Tools.	2. B.Com(P)-III	**2. BC 3.4 (A) Computer Application In Business.**

Name of the Faculty: **Ms. Priyanka**

Department: **Commerce**   **Semester : I/III/V**

Month		Topics	Course	Paper Code/Name
JULY/AUGUST	**Theory:**	**1**.Nature of contract, kinds of contract,consideration , capacity of parties, free consent,quasi contract. 2.Residential status, income under the head of house property , income under the head of capital gain	1. B.COM(H) – I 2. B.COM(HONS) – III (A+B)	1. BCH 1.3/Business Law 2. BCH-3.2/Income tax law and practice
	Practicals:	1 Practical question on excel sheet of Capital budgeting and loan sheet.	1. B.COM - III	1.B.Com -3.4(a)/Computer practical and application.
	Tutorials:	1.Problem Class on Residential status, house property	1.B.COM(H) -III	1.BCH 3.2/ income tax law and practice

SEPTEMBER	**Theory:**	1.Void agreement, Doctrine of public policy, and illegal agreement 2.Capital gain , and income under the head of salary	1.B.COM(H) – I 2.B.COM(HONS) – III (A+B)	1.BCH-1.3/Business law 2.BCH 3.2/income tax law and practice

	Practicals:	1 practical questions on depreciation , Ratio analysis, frequency distribution, and what if analysis, some portion of	1.B.COM -III	1.B.COM -3.4(a)/computer application and business.
	Tutorials:	1.Problem class on capital gain and salary	1.B.COM(H) -III	1.BCH -3.2/Income tax law and practice
	Assignment :	1.Topics were allotted for making the Assignment 2. Topics were allotted for making the Assignment	1.B.COM(H) –III (A+B) 2. B.COM (H) -I	1.BCH 3.2 /Income tax law and practice 2. BCH -1.3/ Business law
OCTOBER	**Theory:**	1. Discharge of contract, and Remedies of Breach of contract 2. Income under the head of PGBP, and income from other sources.	1B.COM(H) -I 2.B.COM(HONS) – III (A+B)	1.BCH -1.3/Business law 2.BCH-3.2/Income tax law and practice
	Practicals:	1.Practical question on Payroll statement , and Regression some portion of MS word	1. B.COM -III	1. B.COM-3.4(a)/Computer Application and Business
	Tutorials:	1.Problems class on PGBP, income from other sources	1.B.COM (H) –III (A+B)	1. BCH 3.2/ Income tax law and practice

	Test	1.Test would be conducted on the concerned subject after mid semester break 2.Test would be conducted on the concerned subject after mid semester break	1.B.COM(H) –I 2. B.COM(HONS) -III	1. BCH 1.3/Business law 2. BCH 3.2/Income tax law and practice
NOVEMBER	**Theory:**	1Special kinds of contract , Contract of bailment, contract of indemnity and guarantee and contract of agency. 2.Agricultural income, Assessment of individual and Revision	1B.COM(H) – I 2.B.COM(H) - III	.BCH 1.3/ Business law 2.BCH 3.2/ Income tax law and practice
	Practicals:	1.Practical question on Depreciation , Solver, n Revision	1. B.COM -III	1. B.COM 3.4 (a)/Computer application and Business
	Tutorials:	1. Problem Class on PGBP	1.B.COM (H)-III	1. BCH 3.2/ Income tax law and practice

Name of the Faculty: **Department:**

Semester : II/IV/VI

Month		Topics	Course	Paper Code/Name
JANUARY	**Theory**			
	Practicals			
	Tutorials			
FEBRUARY	**Theory:**			
	Practicals:			
	Tutorials:			

	Assignment :			
MARCH	**Theory:**			
	Practicals:			
	Tutorials:			
	Test			
APRIL	**Theory:**			
	Practicals:			
	Tutorials:			

MAY	**Theory:**			
	Practicals:			
	Tutorials:			

SEMESTER WISE TEACHING PLAN (2020-21, ODD SEMESTER)

SRI VENKATESWARA COLLEGE

Name of the Faculty: Ms. Simranjeet Kaur   **Department: Commerce**

Semester : I/III/V

Month		Topics	Course	Paper Code/Name

JULY&AUGUST	Theory	Indian financial system, flow of funds matrix, financial regulators in India.	1.B.com (H)-V	BCH5.4
			2. B.com(H) II-GE	BCH-2.4(b)
		Types of investment, market participants, stock exchanges in india,sources of financial information, buying and selling of stocks, use of limit order and market order, role of stock exchanges		

	Tutorials	Discussion on contemporary events in the area of finance	1.B.com (H)-V 2. B.com(H) II-GE	BCH5.4 BCH-2.4(b)
SEPTEMBER	Theory:	Money markets,capital markets, Indian debt market, equity markets. Online trading of stocks, risk:valuation and mitigation,analysis of the company:ratio analysis,assessing quality of management using financial and non-financial data,PEG ratio, Price revenue ratio,simple moving average, charts for technical analysis.	1.B.com (H)-V 2. B.com(H) II-GE	1. BCH -3.2 2. BCH- 3.4(a) 3. BC 1.2
	Tutorials:	Discussion on Google IPO, Libor scandal, establishment of NSE	1.B.com (H)-V 2. B.com(H) II-GE	BCH5.4 BCH-2.4(b)

	Assignment :	1 Topics to be allotted for making the assignment	1.B.com (H)-V 2. B.com(H) II-GE	BCH5.4 BCH-2.4(b)
OCTOBER	**Theory:**	Depository institutions, commercial banking, insurance,pension funds. 2.background on mutual funds, advantages, motives, NAV, Types of mutual funds, factors affecting choice of mutual funds, CRISIL. .	1.B.com (H)-V 2. B.com(H) II-GE	BCH5.4 BCH-2.4(b)

	Tutorials:	Discussion on Bank nationalization and mega mergers Case study pertaining to topic covered in class	1.B.com (H)-V 2. B.com(H) II-GE	BCH5.4 BCH-2.4(b)
	Test	Test will be conducted on the concerned subject	1.B.com (H)-V 2. B.com(H) II-GE	BCH5.4 BCH-2.4(b)
NOVEMBER	**Theory:**	Regional rural banks, urban cooperative banks, credit institutions. 2. Understanding derivatives: futures, options, trading in futures, put and call options, commodities, currency derivatives and its trading.	1.B.com (H)-V 2. B.com(H) II-GE	BCH5.4 BCH-2.4(b)

	Tutorials:	Revision of topics discussed in the class Discussion on Rural banking.	1.B.com (H)-V 2. B.com(H) II-GE	BCH5.4 BCH-2.4(b)

Name of the Faculty: Mr. Aashish Jain   **Department: Commerce**   **Semester: I/III/V**

Month	Type of Class	Topics	Course	Paper Code/Name
August	**Theory**	**Business Statistics** a) Mathematical averages including arithmetic mean, geometric mean & harmonic mean. Properties & applications. b) Positional averages: absolute & relative Range, quartile deviation, mean deviation, standard deviation & their co-efficient, properties of standard deviation/variance. Moments:- calculation & significance. Skewness, meaning, measurement using karl pearson & bowley's measures, concept of kurtosis. **Income Tax** a) Basic Concepts – Person, Assessee, Assessment Year, Previous Year, Gross Total Income, Maximum marginal rate of tax & Computation of Total Tax Liability b) Residential Status – Scope of total income on the basis of residential status.	1. B.Com – (H) III Semester-V 2. B.Com – II Semester-III	1. BCH 5.4 (e): Business Statistics 2. BC 3.2: Income Tax
	Practical	**INCOME TAX** 1. ITR filling – ITR 1	1. B.Com – II Semester – III	1. BCH 3.2: Income Tax
Month	**Type of Class**	**Topics**	**Course**	**Paper Code/Name**
September	**Theory**	**Business Statistics** 1) Theory of probability, approaches to calculate probability 2) Calculation of event probabilities. Addition & multiplication laws of probability. 3) Condtional probability & bayes' theorem	1. B.Com – (H) III Semester-V 2. B.Com – II Semester-III	1. BCH 5.4 (e): Business Statistics 2. BC 3.2: Income Tax

		4) Expectation & variance of a random variable
		5) Probability distribution:
		   a) Binomial distribution: probability distribution function, constants, shape, fitting of binomial distribution
		   b) Poisson distribution: probability function
		   c) Normal distribution, properties of normal curve.
		Income Tax
		Computation of Total Income on the basis of various heads-
		  a) Income from Salary (include all allowances & perquisites)
		  b) Income from House Property (with all latest amendments)		

	Practical	**INCOME TAX** **1.** ITR Filling – ITR 1 & 2	1. B.Com – (H) I Semester-I 2. B.Com – II Semester – III	**1.** BC 3.2: Income Tax
Month	**Type of Class**	**Topics**	**Course**	**Paper Code/Name**

October	**Theory**	**Business Statistics**
		  a) Correlation analysis: meaning of correlation- simple , multiple & partial:linear & non-lenear, scatter diagram, pearson's co-efficient of correlation: calculation & properties. Probable & standard errors, rank correlation.
		  b) Regression analysis. Principle of least squares & regression lines, regression equations & estimation. Standard error of estimates.
		Income Tax
		Computation of Total Income on the basis of various heads-
		  a) Income from PGBP (with all amendments)
		  b) Income from Capital Gains (with all exemptions covered under section 54)
			1. B.Com – (H) III Semester-V
			2. B.Com – (H) I Semester-I
				1. BCH 5.4 (e): Business Statistics
				2. BC 3.2: Income Tax

	Practical	**INCOME TAX** Revision of All ITR filling by doing various questions	1. B.Com – (H) I Semester-I 2. B.Com – II	**1.** BC 3.2: Income Tax

			Semester – III	
	Assignment	1. Topics allotment for making the assignments from probability & central value	1. B.Com – (H) III Semester-v	1. BCH 5.4 (e): Business Statistics
	Test	1. Test conducted on the concerned subject after mid-semester break.	1. B.Com – (H) III Semester-v 2. B.Com II Semester – III	1. BCH 5.4 (e): Business Statistics 2. BC 3.2: Income tax
Month	**Type of Class**	**Topics**	**Course**	**Paper Code/Name**
November	**Theory**	**Business Statistics** a) Components of time series. Additive & multiplicative models b) trend analysis, fitting of trend line using principle of least squares- linear, second degree parabola & exponential. Conversion of annual linear trend equation to quarterly/monthly basis & vice-versa. Moving averages. c) Seasonal variations- calculation & uses. Simple averages, ratio to trend, ratio to moving averages & link-relatives methods. Uses of seasonal indices. **Income Tax** Computation of Income on the basis of various heads- a) Income from other sources (Including all latest amendments & provisions of Gifts & Black Money) b) Income from Agricultural Income c) Set off & Carry forward	1. B.Com – (H) III Semester-V 2. B.Com – II Semester-III	1. BCH 5.4 (e): Business Statistics 2. BC 3.2: Income Tax

	Practical	External Exam conducted for Income Tax (ITR filling)	1. B.Com – II Semester – III	**1.** BC 3.2: Income Tax

SEMESTER WISE TEACHING PLAN
SRI VENKATESWARA COLLEGE

Name of the Faculty: Mohini Yadav
Department: Commerce   **Semester:**

Month		Topics	Course	Paper Code/Name
August 2020	**Theory**	Unit-I: Introduction, Agricultural income, Exempted income	B.COM Hons – Sem 3	BCH 3.2- Income tax law and Practice
		Unit 1: Regulations of Domestic Market Unit 2: Foreign Trade Policy and Procedures	B.COM – Sem V	BC 5.4 b – Economics Regilation of Domestic and Foreign Exchange Markets
	Tutorials/ Practical	Unit-5: Introduction to ITR	B.COM Hons – Sem 3	BCH 3.2- Income tax law and Practice
September 2020	**Theory**	Unit-II: Computation of Income under different heads- HP & Salary	B.COM Hons – Sem 3	BCH 3.2- Income tax law and Practice
		Unit 3: Industries Development Regulation	B.COM – Sem V	BC 5.4 b – Economics Regilation of Domestic and Foreign Exchange Markets
	Tutorials/ Practical	Unit-5: ITR – 2 (Practice questions)	B.COM Hons – Sem 3	BCH 3.2- Income tax law and Practice
	Assignment	Test 1 – Unit 1 Introduction	B.COM Hons – Sem 3	BCH 3.2- Income tax law and Practice
		Unit 3: Industries Development Regulation	B.COM – Sem V	BC 5.4 b – Economics Regilation of Domestic and Foreign Exchange Markets
October 2020	**Theory**	Unit-II: Computation of Income under different heads- PGBP & Other Sources	B.COM Hons – Sem 3	BCH 3.2- Income tax law and Practice
		Unit 4: Foreign Exchange Market	B.COM – Sem V	BC 5.4 b – Economics Regilation of Domestic and Foreign Exchange Markets
	Tutorials/ Practical	Unit-5: ITR – 2 (Generation of XML)	B.COM Hons – Sem 3	BCH 3.2- Income tax law and Practice

	Test	Test 2 – Unit 1I – Salary and HP	B.COM Hons – Sem 3	BCH 3.2- Income tax law and Practice
		Unit 4: Foreign Exchange Markets and IDRA	B.COM – Sem V	BC 5.4 b – Economics Regilation of Domestic and Foreign Exchange Markets
November 2020	**Theory**	Unit 3: Computation of Income under Other Sourcses, Set off and carry forward of loses, Clubbing of Income, Deductions, Tax liabiiity of Individuals and Firms	B.COM Hons – Sem 3	BCH 3.2- Income tax law and Practice
		Unit 5: FEMA 1999	B.COM – Sem V	BC 5.4 b – Economics Regilation of Domestic and Foreign Exchange Markets
	Tutorials/ Practical	Unit-5: ITR – 2 (Practice full questions)	B.COM Hons – Sem 3	BCH 3.2- Income tax law and Practice
	Test	Unit-5: ITR – 2 (Practical Paper)	B.COM Hons – Sem 3	BCH 3.2- Income tax law and Practice

SEMESTER WISE TEACHING PLAN
SRI VENKATESWARA COLLEGE
Department of Commerce (Year 2020-21)
TEACHING PLAN

Name of the Faculty: Ms. Devki   **Department: Commerce**
Semester: I/III/V

Month	Type of Class	Topics	Course	Paper Code/Name
November	**Theory**	**a) Financial Accounting** Conceptual Framework Accounting as an Information system Users of Accounting Information Systems of Accounting Accounting Principle, Concepts and Conventions **b) Business law** Contract -Meaning, Characteristics and Kinds Essentials of Valid Contract	a) B. Com (H) I Semester-I b) B. Com (H)– I Semester-I	a) BCH 1.2 Financial Accounting b) BCH 1.3 Business Law
	Practical	**a) Financial Accounting** 1. Tally Introduction	a) BCom(H)-I Semester – I	a) BCH 1.2 Financial Accounting
Month	**Type of Class**	**Topics**	**Course**	**Paper Code/Name**

| December | **Theory** | a) **Financial Accounting**
Financial Accounting Standards
International Financial Reporting Standards
Accounting Process: An Overview
Final Accounts of Non-Corporate Entities
Depreciation AS10

b) Business Law
Indian Contract Act 1872
Definition of Offer and Kinds of Offer
Acceptance
Communication of Offer, Acceptance and Revocation
Consideration
Competency of the Party and Free Consent | a) B. Com – (H) I
Semester-I
b) B. Com(H) -I
Semester-I | a) BCH 1.2
Financial Accounting
b) BCH 1.3
Business Law |

Month	Type of Class	Topics	Course	Paper Code/Name
	Practical	**a) Financial Accounting** Tally ERP 9.0 Computerized Accounting System Accounting Process Gateway of Tally Screen Company Creation Buttons at Gateway of Tally related to Company	a) B. Com(H) I Semester-I	a) BCH 1.2 Financial Accounting
January	**Theory**	**a) Financial Accounting** Final Accounts of Non corporate Entity Inventories AS2 Capital and Revenue Expenditure Concept of Operating and Financial lease **b) Business Law** Special Contract Act Sales of Goods Act 1930	a) B. Com – (H) I Semester-I b) B. Com – (H) I Semester-I	a) BCH 1.2 Financial Accounting b) BCH 1.3 Business Law
	Practical	**a) Financial Accounting** Tally ERP 9.0 Accounts and Inventory Information Practice of Question	a) B. Com – (H) I Semester-I	a) BCH 1.2 Financial Accounting

Month	Type of Class	Topics	Course	Paper Code/Name
	Assignment	a) Topics allotment for making the assignments	a) B. Com – (H) I Semester -I b) B.com(H) I Semester I	a) BCH 1.2 Financial Accounting b) BCH 1.3 Business Law
	Test	a) Test conducted on the concerned subject after midsemester break.	a) B. Com – (H) I Semester-I b) B. Com(H) I Semester I	a) BCH 1.2- Financial Accounting b) BCH 1.3- Business Law
Month	**Type of Class**	**Topics**	**Course**	**Paper Code/Name**
February	**Theory** **Practical**	**a) Financial Accounting** Accounting for Hire Purchase Accounting for Inland Branches **b) Business Law** Limited Liability Partnership Act,2008 Information Technology Act,2000	a) B. Com – (H) I Semester-I b) B. Com(H)– I Semester-I a) B.com (H) I	a) BCH 1.2 Financial Accounting b) BCH 1.3 Business law
		a) Financial Accounting Tally ERP 9.0 Group Formation Generating Reports Selecting and shutting a company Backup and Restore of data	Semester-I	a) BCH 1.2 Financial Accounting
March	**Theory**	**a) Financial Accounting** Revision of Whole syllabus **b) Business law** Revision of whole Syllabus	a) B. Com – (H) I Semester-I b) B. Com(H)– I Semester-I	a) BCH 1.2 Financial Accounting b) BCH 1.3 Business law

	Practical	External Exam conducted for Tally ERP 9.0	a) B. Com(H) I Semester – I	a) BCH 1.2 Financial Accounting

Commented [dk1]:

Name of the Faculty: Mr. Manish Kr. Dubey   **Department: Commerce**   **Semester: I**

Month	Type of Class	Topics	Course	Paper Code/Name
November	Theory	**Financial Accounting (BCH)** • Accounting meaning, objectives, users of accounting information, **Financial Accounting (BCP)** • Accounting meaning, objectives, users of accounting information Business Organisation and Management • Introduction to the concept of Business organisation	1. B.Com – (H) I Semester-I 2. B.Com – I Semester-I 3. B.Com – I Semester-I	1. BCH 1.2: Financial Accounting 2. BC 1.2: Financial Accounting 3. BC 1.3: Business Organisation and Management
	Practical	**Financial Accounting** 1. Computerized Accounting system: Introduction, advantages over the traditional system	1. B.Com – (H) I Semester-I 2. B.Com – I Semester-I	1. BCH 1.2: Financial Accounting 2. BC 1.2: Financial Accounting
Month	**Type of Class**	**Topics**	**Course**	**Paper Code/Name**
December	Theory	**Financial Accounting (BCH)** • Introduction: Functions, advantages, branches or division of accounting, Concept of cash and accrual basis of Accounting, Difference between cash and Accrual basis • Accounting Concepts and conventions, Accounting Principles and GAAP, Accounting Standard, IFRS and Indian Accounting Standards (IndAS) • Revenue and Capital • Accounting Process • Accounting for non-corporate entities and Not for profit organisations	1. B.Com – (H) I Semester-I 2. B.Com – I Semester-I 3. B.Com – I Semester-I	1. BCH 1.2: Financial Accounting 2. BC 1.2: Financial Accounting 3. BC 1.3: Business Organisation and Management

		Financial Accounting (BCP) • Introduction: Functions, advantages, branches or division of accounting, Concept of cash and accrual basis of Accounting, Difference between cash and Accrual basis • Accounting Concepts and conventions, Accounting Principles and GAAP, Accounting Standard, IFRS and Indian Accounting Standards (IndAS) • Revenue and Capital • Accounting Process • Accounting for non-corporate entities and Not for profit organisations **Business Organisation and Management** • Introduction to the concept of Business organization, organization forms, relationship between organization and management, overview of functions of management, types of ownership, business formats		
	Practical	**Financial Accounting** **Computerized accounting system**: Introduction to tally, features of tally, company creation, group and ledger creation	1. B.Com – (H) I Semester-I 2. B.Com – I Semester-I	1. BCH 1.2: Financial Accounting 2. BC 1.2: Financial Accounting
Month	**Type of Class**	**Topics**	**Course**	**Paper Code/Name**
January	**Theory**	**Financial Accounting (BCH)** • Accounting for plant property and equipment & Depreciation: Meaning of depreciation, depletion and amortization, objectives and methods of depreciation, change of method • Inventory Valuation: Meaning, significance and methods of inventory valuation • Hire purchase accounting: Calculation of interest, partial and full repossession, profit computation, Accounting for leases: Concept and classification of leases	1. B.Com – (H) I Semester-I 2. B.Com – I Semester-I 3. B.Com – I Semester-I	1. BCH 1.2: Financial Accounting 2. BC 1.2: Financial Accounting 3. BC 1.3: Business Organisation and Management

		Financial Accounting (BCP) • Accounting for plant property and equipment & Depreciation: Meaning of depreciation, depletion and amortization, objectives and methods of depreciation, change of method • Inventory Valuation: Meaning, significance and methods of inventory valuation • Hire purchase accounting: Calculation of interest, partial and full repossession, profit computation, Accounting for leases: Concept and classification of leases **Business Organisation and Management** • Planning and organizing: Meaning of project strategic and operation planning- orderly division of labor and specialization, • Organisation structure and organogram, traditional and modern		
	Practical	**Financial Accounting** **Computerized accounting system**: Inventory creation, stock group, stock unit and stock items creation	1. B.Com – (H) I Semester-I 2. B.Com – I Semester-I	1. BCH 1.2: Financial Accounting 2. BC 1.2: Financial Accounting
	Assignment	First assignment will be given. • For Financial accounting practical questions • Business organization and management: case study based assignment • Computerized Accounting system: company creation and vouchers creation		

Month	Type of Class	Topics	Course	Paper Code/Name
February	**Theory**	**Financial Accounting (BCH)** • Accounting for branches: Dependent branches and overview of independent branches (Debtor and stock debtor system • Departmental Accounting: Concepts, types of department, basis of allocation of department expenses, methods of department accounting • Accounting for partnership firm: Admission, retirement and death of partner, dissolution of partnership firm including insolvency of partners **Financial Accounting (BCP)** • Accounting for branches: Dependent branches and overview of independent branches (Debtor and stock debtor system • Departmental Accounting: Concepts, types of department, basis of allocation of department expenses, methods of department accounting **Business Organisation and Management** • Directing and controlling: Motivation concept, need and theories of motivation • Leadership: Meaning and importance, leadership styles • Communication: Meaning, importance, types and effectiveness • Controlling: relationship with other functions, quality and operating standards and control	1. B.Com – (H) I Semester-I 2. B.Com – I Semester-I 3. B.Com – I Semester-I	1. BCH 1.2: Financial Accounting 2. BC 1.2: Financial Accounting 3. **BC 1.3: Business Organisation and Management**
	Practical	**Financial Accounting** **Computerized accounting system**: Voucher entries, adjustment in entries, overview of financial reports in tally	1. B.Com – (H) I Semester-I 2. B.Com – I Semester-I	1. BCH 1.2: Financial Accounting 2. BC 1.2: Financial Accounting
	Test/ Practical	A test will be taken either in form of presentation or written test for both theory and Tally		

Month	Type of Class	Topics	Course	Paper Code/Name
March	**Theory**	**Financial Accounting (BCH)** • Past year's paper discussion • Remedial classes **Financial Accounting (BCP)** • Past year's paper discussion • Remedial classes **Business Organisation and Management** • Past year's paper discussion • Remedial classes	1. B.Com – (H) I Semester-I 2. B.Com – I Semester-I 3. B.Com – I Semester-I	1. BCH 1.2: Financial Accounting 2. BC 1.2: Financial Accounting 3. BC 1.3: Business Organisation and Management

SEMESTER WISE TEACHING PLAN
SRI VENKATESWARA COLLEGE
Department of Commerce (Year 2020-21)
TEACHING PLAN

Name of the Faculty: MUKESH KUMAR MEENA   **Department: Commerce**   **Semester: I**

Month	Type of Class	Topics	Course	Paper Code/Name
November-December	Theory	**BUSINESS LAWS** The Indian Contract Act, 1872 Contract – meaning, characteristics and kinds, Essentials of valid contract - Offer and acceptance, consideration, contractual capacity, free consent, legality of objects. Void agreements. Discharge of contract – modes of discharge including breach and its remedies. **BUSINESS ORGANISATION AND MANAGEMENT** Meaning and role of organisations and management in our lives; Relationship between organisation and management; Overview of functions of management; Multiple perspectives of business organisations- Consumers, Employees, Entrepreneurs, Community/Society at large; Perspective as a student & researcher- underlying disciplines; Ownership forms; Business formats- Brick & Mortar; Click; Brick & Click; Franchising location & scale- local, national, global; Micro, small, medium and large.	1. B.Com. (Hons.): Semester-I 2. B.Com. : Semester I	1. Paper BCH 1.3: BUSINESS LAWS 2. Paper BC 1.3: BUSINESS ORGANISATION AND MANAGEMENT
	Practical	FINANCIAL ACCOUNTING 1. TALLY ERP	B.Com. Semester I	Paper BC 1.2: FINANCIAL ACCOUNTING
Month	**Type of Class**	**Topics**	**Course**	**Paper Code/Name**
January	Theory	**Business Laws** Special Contracts Quasi – contracts, Contract of Indemnity and Guarantee, Contract of Bailment and Pledge Contract of Agency	B.Com. (Hons.): Semester-I B.Com. : Semester I	Paper BCH 1.3: BUSINESS LAWS Paper BC 1.3: BUSINESS

	Type of Class	Topics	Course	Paper Code/Name
		The Sale of Goods Act, 1930 Contract of sale, meaning and difference between sale and agreement to sell. Conditions and warranties. Transfer of ownership in goods including sale by non-owners. Performance of contract of sale. Unpaid seller – meaning and rights of an unpaid seller against the goods. **BUSINESS ORGANISATION AND MANAGEMENT** Meaning, layers (micro/immediate, meso/intermediate, macro and international), characteristics of business friendly environment; Ideals of business ethics, social responsibility and conscientious commerce; Business and social entrepreneurship as a process of opportunity/problem recognition and their realization/resolution. Planning- meaning of project, strategic and operations planning; Decision-makingprocess and techniques; Organizing- orderly division of labor & specialization; Organisational structures and organograms-staffed/manned structures-traditional and modern		ORGANISATION AND MANAGEMENT
	Practical	FINANCIAL ACCOUNTING 2. TALLY ERP	B.Com. Semester I	Paper BC 1.2: FINANCIAL ACCOUNTING
Month	**Type of Class**	**Topics**	**Course**	**Paper Code/Name**
February-March	**Theory**	**Business Laws** The Limited Liability Partnership Act, 2008 Salient Features of LLP, Difference between LLP and Partnership, LLP and Company LLP Agreement. Nature of LLP, Partners and Designated Partners, Incorporation Document Incorporation by Registration, Registered office of LLP and change therein. Change of name, Partners and their Relations. Extent and limitation of liability of LLP and partners. Whistle blowing. Taxation of LLP. Conversion into LLP. Winding up and dissolution of LLP.	B.Com. (Hons.): Semester-I B.Com. : Semester I	Paper BCH 1.3: BUSINESS LAWS Paper BC 1.3: BUSINESS ORGANISATION AND MANAGEMENT

		The Information Technology Act 2000 Definitions under the Act. Digital signature. Electronic governance. Attribution, acknowledgement and dispatch of electronic records. Regulation of certifying authorities. Digital signatures certificates. Duties of subscribers under the Act. Penalties and adjudication. Offences as per the Act. **BUSINESS ORGANISATION AND MANAGEMENT** Motivation- needs (including Maslow's theory), incentives, rewards, equity and two factor theory (Herzberg); Leadership and followership- meaning and importance; Organisation-wide leadership; Communication- meaning and importance; determinants of effectiveness; Principles of controlling; Relationship between planning, organizing, directing & controlling; Financial, quality and operating standards/controls. Subaltern management ideas from India; Diversity & inclusion, democracy and sociocracy at work; Freelancing; Flexi-time and work from home; Co-sharing/co-working		
	Practical	FINANCIAL ACCOUNTING 3. TALLY ERP	B.Com. Semester I	Paper BC 1.2: FINANCIAL ACCOUNTING
	Assignment	1. Topics allotment for making the assignments from probability & central value	B.Com. (Hons.): Semester-I B.Com. : Semester I	Paper BCH 1.3: BUSINESS LAWS Paper BC 1.3: BUSINESS ORGANISATION AND MANAGEMENT
	Test	1. Test conducted on the concerned subject	B.Com. (Hons.): Semester-I B.Com. : Semester I	Paper BCH 1.3: BUSINESS LAWS Paper BC 1.3: BUSINESS ORGANISATION AND

				MANAGEMENT

Name of the Faculty: Mr. Yogesh Department: Commerce   Semester: I

Month	Type of Class	Topics	Course	Paper Code/Name
December	**Theory**	**1. Financial Accounting** **Unit-I: Introduction Conceptual Framework:** Accounting principle, Concepts and Conventions, Introduction to Accounting Standards and Indian Accounting Standards (AS & Ind AS) Accounting Process: Journal, ledger, Trial Balance, Financial Statements (overview) Capital Expenditure (and Receipts), Revenue Expenditure (and Receipts) and Deferred Revenue Expenditure (overview) Preparation of Financial Statements of a profit making sole proprietorship trading firm with additional information. Preparation of Financial Statements of a not for profit organizations. **2. Business Organization and Management** **Unit I: Introduction to Organizations & Management** Meaning and pervasiveness of organizations; Range of business activities; Meaning and importance of management in organizations; Perspectives on experiencing business-Consumer's point of view-app-based, web-based and in-store commerce; Producer's point of view- thinking end-to-end, from farm to fork, from the ultimate source of supply to the consumer, supply chain and distribution channels; Careers in business ownership and management point of view- thinking domains (functions) and verticals (industries) **3. Financial Accounting** **Unit-II: Depreciation accounting and inventory valuation** Accounting for Plant Property and Equipment & Depreciation: Meaning of Depreciation, Depletion and Amortization,	1. B.Com – I Semester-I (A) 2. GE NON COMMERCE 3. B.Com – I Semester-I (B)	1. BC 1.2 Financial Accounting 2. BCH 1.4 (b) GE Business Organization and Management 3. BC 1.2 Financial Accounting
	Practical	**Financial Accounting; Computerized Accounting (Tally)** 1. Computerized Accounting System: Computerized accounts by using any popular accounting software: Creating a company; Configure and Features settings; Creating Accounting Ledgers and Groups,	1. B.Com – I (A)	1. BC 1.2 Financial Accounting
Month	**Type of Class**	**Topics**	**Course**	**Paper Code/Name**

| January | Theory | **1. Financial Accounting**
Unit-II: Depreciation accounting and inventory valuation
Accounting for Plant Property and Equipment & Depreciation: Meaning of Depreciation, Depletion and Amortization, Objective and Methods of depreciation (Straight line, Diminishing Balance), Change of Method, Inventory Valuation: Meaning, Significance of
Inventory Valuation, Inventory Record System-Periodic and Perpetual, Methods of Inventory Valuation-FIFO, LIFO and Weighted Average.
Unit-III: Accounting for hire purchase and lease transactions
Hire Purchase Accounting: Calculation of Interest, Partial and Full Repossession, profit
Computation (Stock & Debtors System only) Lease Transactions: Concept, Classification of leases

2. Business Organization and Management
Unit II: Entrepreneurship: Founding the Business
Entrepreneur-Entrepreneurship-Enterprise; Process of entrepreneurship; Entrepreneurs as the Persons behind businesses; Stories of local, national and international businesspersons.

Unit III: Organization of Business
Ownership forms
Proprietary and corporate; Unorganized (informal enterprises) versus organized
(registered incorporated enterprises): Business families and family business, multinational
businesses; Domains/functions of business- an overview-reinforcing career options- of production
& operations, marketing, accounting. Finance and HR.
3. Financial Accounting
Objective and Methods of depreciation (Straight line, Diminishing Balance), Change of Method, Inventory Valuation: Meaning, Significance of
Inventory Valuation, Inventory Record System-Periodic and Perpetual, | 1. B.Com – I Semester-I (A)
2. GE NON COMMERCE
3. Semester - I
4. B.Com – I Semester-I (B) | 1. BC 1.2 Financial Accounting
2. BCH 1.4 (b) GE Business Organization and Management
3. BC 1.2 Financial Accounting |

	Practical	Financial Accounting; Computerized Accounting (Tally) 1. Unit-V: Computerized accounting system Creating Stock Items and Groups; Vouchers Entry; Generating Reports – Cash Book, Ledger Accounts, Trial Balance, Profit and Loss Account, Balance Sheet, Funds Flow Statement, Cash Flow Statement,	1. B.Com – I (A)	1. BC 1.2 Financial Accounting
Month	**Type of Class**	**Topics**	**Course**	**Paper Code/Name**
February	**Theory**	**1. Financial Accounting** **Unit-IV: Branch and departmental accounting** Accounting for Branches (excluding foreign branches): Dependent branches ('Debtors system' and 'Stock & debtors System'). Departmental Accounting: Concept, Type of departments, basis of allocation of departmental expenses, Methods of departmental accounting (excluding memorandum stock and memorandum mark-up account method). **2. Business Organization and Management** **Unit IV; Management of Business** Overview of functions of management and managerial roles in business; Managerial levels, skills/competencies; Decision-making techniques; Motivation; Leadership and Communication exemplary Practices in developing people as individuals and teams. **Unit V: Context of Business** Interface between business, government, society and natural environment; Industry analysis; Business level strategy formulation. **3. Financial Accounting** Methods of Inventory Valuation-FIFO, LIFO and Weighted Average,	1. B.Com – I Semester-I (A) 2. GE NON COMMERCE 3. B.Com – I Semester-I (B)	1. BC 1.2 Financial Accounting 2. BCH 1.4 (b) GE Business Organization and Management 3. BC 1.2 Financial Accounting
	Practical	**Financial Accounting; Computerized Accounting (Tally)** **Unit-V: Computerized accounting system** Selecting and Shutting a Company; Backup and Restore of Data of a Company.	1. B.Com – I (A)	1. BC 1.2 Financial Accounting
	Assignment	1. Topics allotment for making the assignments from Financial Statements 2. Topics allotment for making the assignments from methods of Inventory Valuation, 3. Topics allotment for making the assignments from Organization of Business Ownership forms	1. B.Com – I (A) 2. B.Com – I (B) 3. GE NON COMMERCE	1. BC 1.2 Financial Accounting 2. BC 1.2 Financial Accounting 3. Business Organization and Management

	Test	1. Test conducted on the concerned subject after mid-semester.	1. B.Com – I (A) 2. B.Com – I (B) 3. GE NON COMMERCE	1. BC 1.2 Financial Accounting 2. BC 1.2 Financial Accounting 3. Business Organization and Management

SEMERSTER WISE TEACHING PLAN
SRI VENKATESWARA COLLEGE
Semester I/III/V
(Aug-Dec 2020)

Name of the Faculty: Dr Meenakshi Kuhar   **Department: Biochemistry**

Month		Topics	Course	Paper Code/Name
August	Theory	Unit 4: Genetic Code: Degeneracy of the genetic code, wobble in the anticodon, features of the genetic code, nearly universal code	B Sc (H) Biochemistry III Year Semester V	C 12 Gene Expression and Regulation
		Unit 6: Introduction to Bioenergetics: Laws of thermodynamics, ATP cycle, free energy, coupled reactions	B Sc (H) Biochemistry II Year Semester III	C-6 Membrane Biology and Bioenergetics
		Unit 2: Amino Acid and Peptides: General nature of amino acids, classification of amino acids, importance of amino acids, modified and standard amino acids	B Sc (H) Biochemistry I Year Semester I	GE-1 Biomolecules
	Practical	Exercise1: Safety measures in laboratories	B Sc (H) Biochemistry I Year Semester I	GE-1 Biomolecules
		Exercise1: Determination of absorption maxima of small molecules and macromolecules	B Sc (H) Biochemistry II Year Semester III	SEC-1 Biochemical Techniques

Name of the Faculty: Dr Meenakshi Kuhar   **Department: Biochemistry**

Month		Topics	Course	Paper Code/Name
September	Theory	Unit 5: Biosynthesis of proteins: Messenger RNA, transfer RNA, attachment of amino acids to tRNA, the ribosome - initiation, elongation and termination of translation	B Sc (H) Biochemistry III Year Semester V	C 12 Gene Expression and Regulation
		Unit 6: Introduction to Bioenergetics: Redox reactions, standard redox potentials Unit 7: Oxidative Phosphorylation: Electron carriers, mitochondrial electron transport chain. Inhibitors and uncouplers	B Sc (H) Biochemistry II Year Semester III	C-6 Membrane Biology and Bioenergetics
		Unit 2:Amino Acid and Peptides: Physical and optical properties of aminoacids, ionization of amino acids, buffering of amino acids, peptide bond, biologically important peptides. Introduction to chromatography, separation of amino acid by paper chromatography	B Sc (H) Biochemistry I Year Semester I	GE-1 Biomolecules
	Practical	Exercise2:Preparation of normal and molar solutions Exercise 3: Preparation of buffers	B Sc (H) Biochemistry I Year Semester I	GE-1 Biomolecules
		Exercise 2: Verification of Beer's Law. Exercise 3: Determination of molar extinction coefficient	B Sc (H) Biochemistry II Year Semester III	SEC-1 Biochemical Techniques

Name of the Faculty: Dr Meenakshi Kuhar   **Department: Biochemistry**

Month		Topics	Course	Paper Code/Name
October	Theory	Unit 5: Regulation of translation. Comparison of prokaryotic and eukaryotic protein synthesis. Use of antibiotics in understanding protein synthesis and applications in medicine	B Sc (H) Biochemistry III Year Semester V	C 12 Gene Expression and Regulation
		Unit 7: Oxidative Phosphorylation: Chemi-osmotic theory, proton motive force, Structure and mechanism of ATP synthase, ROS production, thermogenesis	B Sc (H) Biochemistry II Year Semester III	C-6 Membrane Biology and Bioenergetics
		Unit 5: Chemistry of Nucleic Acids: Nucleic acid, nucleotide, synthetic analogues of nucleotides or antimetabolites	B Sc (H) Biochemistry I Year Semester I	GE-1 Biomolecules
	Practical	Exercise 4: Determination of pKa of acetic acid and glycine Exercise 5: Qualitative tests for carbohydrates and nucleic acids	B Sc (H) Biochemistry I Year Semester I	GE-1 Biomolecules
		Exercise4:Separation of amino acid acids/sugars by thin layer chromatography Exercise 5: Separation of proteins by gel filtration chromatography	B Sc (H) Biochemistry II Year Semester III	SEC-1 Biochemical Techniques

Name of the Faculty: Dr Meenakshi Kuhar   **Department: Biochemistry**

Month		Topics	Course	Paper Code/Name
November	Theory	Unit 8 Regulation of gene expression in eukaryotes:Heterochromatin, euchromatin, chromatin remodeling, regulation of galactose metabolism in yeast, regulatory RNAs, riboswitches, RNA interference, synthesis and function of miRNA molecules	B Sc (H) Biochemistry III Year Semester V	C 12 Gene Expression and Regulation
		Unit 8: Photophosphorylation: Photosynthetic pigments, light harvesting system in plants and microbes, bacterial photophosphorylation	B Sc (H) Biochemistry II Year Semester III	C-6 Membrane Biology and Bioenergetics
		Unit 5: Chemistry of Nucleic Acids: DNA structure and function; Types of DNA; Organization of DNA; RNA structure and function	B Sc (H) Biochemistry I Year Semester I	GE-1 Biomolecules
	Practical	Exercise 5: Qualitative tests for carbohydrates and nucleic acids	B Sc (H) Biochemistry I Year Semester I	GE-1 Biomolecules
		Exercise 6: Separation of proteins by ion-exchange chromatography Exercise7: Separation of nucleic acids using agarose gel electrophoresis	B Sc (H) Biochemistry II Year Semester III	SEC-1 Biochemical Techniques

SEMERSTER WISE TEACHING PLAN
SRI VENKATESWARA COLLEGE
Semester I/III/V

Name of the Faculty: Dr Meenakshi Kuhar   **Department: Biochemistry**

Month		Topics	Course	Paper Code/Name
December	Theory	Unit 6 Protein targeting and degradation: Post translational modifications, glycosylation, signal sequences for nuclear transport, bacterial signal sequences, import of proteins by receptor mediated endocytosis, specialized systems for protein degradation	B Sc (H) Biochemistry III Year Semester V	C 12 Gene Expression and Regulation
		Unit8:Photophosphorylation:Photosynthesis in plants, photosystem I and II, Z-scheme, cyclic photophosphorylation	B Sc (H) Biochemistry II Year Semester III	C-6 Membrane Biology and Bioenergetics
		Unit6:Vitamins and Coenzymes: Definition and classification of vitamins, water soluble vitamins, fat soluble vitamins. Coenzymes and their role in metabolism. Metal ion containing biomoleculeus and their biological role	B Sc (H) Biochemistry I Year Semester I	GE-1 Biomolecules
	Practical	Exercise 6: Separation of amino acids/ sugars/ bases by TLC	B Sc (H) Biochemistry I Year Semester I	GE-1 Biomolecules
		Exercise 8: Separation of protein by SDS-PAGE	B Sc (H) Biochemistry II Year Semester III	SEC-1 Biochemical Techniques

<div align="center">**SRI VENKATESWARA COLLEGE**</div>

Name of the Faculty: Dr. Anju Kaicker   **Department: Biochemistry**

Semester : I/III/V Session 2020-2021   FOR TBCH and SBCH

Month		Topics	Course	Paper Code/Name
August	**Theory**	Carbohydrates : Dietary sources,Digestion, Absorption, GI, GL, Blood glucose levels Lipids : Dietary sources, Digestion, Absorption, HDL, LDL, VLDL, Chylomicrons, Trans fats	TBCH	DSE 1, Nutritional Biochemistry
		Gel Filtration chromatography: Basic principle, Vo, Ve, Vs & Kd concept, applications, dete rmination of Molecular weight Ion exchange chromatography Basic principle, different exchangers. Elution, precycling ,applications	SBCH	SEC 1, Biochemical Techniques
	Practicals	1. Packing of column 2. Separation of molecules by gel filtration and determination of Kd	SBCH	SEC 1, Biochemical Techniques
	Tutorials			
September	**Theory:**	Lipids : Atherosclerosis, Omega 6 & 3 FA, PUFA, Cancer, obesity and other diseases	TBCH	DSE 1, Nutritional Biochemistry
		Affinity chromatography : Matrix used, Ligand, Elution strategies and application TLC : Principle, Rf values, Detection of molecules	SBCH	SEC 1, Biochemical Techniques
	Practicals:	Separation of BSA & Lysozyme by ion exchange column	SBCH	SEC 1, Biochemical Techniques

	Tutorials:			

	Assignmen t :	Class assignments given		
October	**Theory:**	Minerals : Calcium, Phosphorous, Iron, Zinc & Magnesium : Their food sources, absorption, functions, deficiency	TBCH	DSE 1, Nutritional Biochemistry
		MID- TERM Examination	SBCH	SEC 1, Biochemical Techniques
		Electrophoresis : Native and SDS PAGE gel electrophoresis Agarose gel electrophoresis Isoelectric gel focusing		
	Practicals:	1. PAGE gel electrophoresis 2 Determination of molecular weight by SDS- PAGE	TBS	SEC 1, Biochemical Techniques
	Tutorials:			
	Test	Mid term test was taken		
November	**Theory:**	Spectroscopy : Basic principle, Applications. Fluorescence Spectroscopy Centrifugation : Principle, Density & differential centrifugation	TBCH	DSE 1, Nutritional Biochemistry
		Trace Elements : Selenium, iodine, fluoride, chromium : Functions & deficiency Assessment of ROS and folate, GTT & aceylated hemoglobin	SBCH	SEC 1, Biochemical Techniques
	Practicals:	Agarose gel electrophoresis Determination of Molecular weight of Nucleic acid	SBCH	SEC 1, Biochemical Techniques
	Tutorials:			

Semester : I/III/V Session 2020-2021   FOR PGD

Month		Topics	Course	Paper Code/Name
December	**Theory**	Antigen & Immunogen, Adjuvants Antibodies: Structure & function of different class of antibodies	PGD	PGDMB 101
	Practicals	Double immunodiffusion Single radial immunodiffusion	PGD	PGDMBL-101
	Tutorials			
January	**Theory:**	Monoclonal antibodies, production and uses MHC antigens, Class I and Class II	PGD	PGDMB 101
	Practicals:	Immunoelectrophoresis countercurrent electrophoresis Rocket electrophoresis, Staining of precipitin bands	PGD	PGDMBL 101
	Tutorials:			

	Assignment :	Class assignments given		
February	**Theory:**	Antigen antibody Interactions, precipitation, agglutination, ELISA, RIA	PGD	PGDMB 101
	Practicals:	PBMC isolation, Quantitative precipitation test	PGD	PGDMBL 101
	Tutorials:			
	Test	Mid term test was taken		
March	**Theory:**	Cytosolic and endocytic pathway Revision and doubt discussion	PGD	PGDMB 101
	Practicals:	Direct & Indirect agglutination Revision , Mock test	PGD	PGDMBL 101
	Tutorials:			

SEMESTER WISE TEACHING PLAN
SRI VENKATESWARA COLLEGE

Name of the Faculty: Dr.Nandita Narayanasamy   **Department: BIOCHEMISTRY**

Semester : I/III/V

Month		Topics	Course	Paper Code/Name	Mode of teaching
July 2020	**Theory**	Introduction to Genetics and understanding complementation test.	B.Sc. BIOCHEMISTRY (Hons.) III Year, Semester V	BCH C-11: Concepts In Genetics	Google meet and Google class room
		Functions of hormones and their regulation. Chemical signaling - endocrine, paracrine, autocrine, intracrine and neuroendocrine mechanisms. Chemical classification of hormones, transport of hormones in the circulation and their half-lives. Hormone therapy. General introduction to Endocrine methodology.	B.Sc. BIOCHEMISTRY Hons.) II Year, Semester III	BCH C7: Hormone biochemistry and function	Google meet and Google class room
	Practicals	Orientation for Practicals in Nutritional Biochemistry Introduction to Methods of Nutritional Assessment.	B.Sc. BIOCHEMISTRY (Hons.) III Year, Semester V	BCH DSE -1: Nutritional Biochemistry	Google meet and Google class room
		Orientation for Practicals in Membrane Biology and Bioenergetics .	B.Sc. BIOCHEMISTRY Hons.) II Year, Semester III	BCH C-6 Membrane biology and Bioenergetics	Google meet and Google class room
August	**Theory**	Extentions to Mendalian Genetics; Incomplete dominance, Co dominance, Lethal alleles , Multiple alleles. Concept of monogenic and polygenic traits, phenocopy, Peneterance and Variable expressivity. Chromosomal theory of inheritance. Pedigree analysis	B.Sc. BIOCHEMISTRY (Hons.) III Year, Semester V	BCH C-11: Concepts In Genetics	Google meet and Google class room
		Hypothalamic - pituitary axis. Study the physiological and biochemical actions of hypothalamic hormones, pituitary hormones - oxytocin and vasopressin, feedback regulation cycle and diabetes insipidus. Thyroid gland. Biosynthesis of thyroid hormone and its regulation.	B.Sc. BIOCHEMISTRY Hons.) II Year, Semester III	BCH C 7: Hormone Biochemistry and Function.	Google meet and Google class room
	Practicals :	Understanding Anthropometric measurements. Anthropometric identifications for Kwashiorkor, Marasmus and Obesity in children	B.Sc. BIOCHEMISTRY (Hons.) III Year, Semester V	BCH DSE -1: Nutritional Biochemistry	Google meet and Google class room
		Effect of Temperature on Membrane Permeability using Beetroot	B.Sc. BIOCHEMISTRY (Hons.) IIYear, Semester III	BCH C-6 Membrane biology and Bioenergetics	Google meet and Google class room

September	**Theory**	Gene interactions: additive gene effect, recessive and dominant epistasis, duplicate dominant and recessive epistasis, suppressor and modifier gene. Sex determination: heteromorohic chromosomes , genetic sex determination , temp dependent sex determination. Sex determination in C.elegans, Drosophila and humans. Sex linked , sex influenced inheritance, Drosophila development, maternal effect genes, morphogens and zygotic gene activity in development. Dosage compensation, Genetic imprinting.	B.Sc. BIOCHEMISTRY (Hons.) III Year, Semester V	I BCH C-11: Concepts In Genetics	Google meet and Google class room
		Physiological and biochemical actions of thyroid hormone. Pathophysiology - Goiter, Graves disease, cretinism, myxedema, Hashimato's disease. PTH, Vitamin D and calcitonin. Mechanism of Ca2+ regulation and pathways involving bone, skin, liver, gut and kidneys. Pathophysiology - rickets, osteomalacia, osteoporosis.	B.Sc. BIOCHEMISTRY Hons.) II Year, Semester III	BCH C7 : Hormone Biochemistry and function.	Google meet and Google class room
	Practicals	Anthropometric assessment of young adults Calculation of BMR and corelating to caloric consumption calculated through maintenance of dietary record.	B.Sc. BIOCHEMISTRY (Hons.) III Year, Semester V	BCH DSE-1 Nutritional biochemistry	Google meet and Google class room
		. Effect of Detergent on Membrane Integrity of RBC cells • RBC Ghost cell Preparation and Separation of Membrane proteins by SDS-PAGE • Effect of Lipid Composition on Membrane Permeability • Separation of leaf pigments by TLC • Determination of lipid composition of Membrane	B.Sc. BIOCHEMISTRY Hons.) II Year, Semester III	BCH C 6: Membrane biology and Bioenergetics	Google meet and Google class room
October	**Theory**	Dosage compensation, Genetic imprinting, maternal effect, epigenetic mechanisms of transcriptional regulation & genomic imprinting.	B.Sc. BIOCHEMISTRY (Hons.) III Year, Semester V	BCH C-11: Concepts In Genetics	Google meet and Google class room
		Anatomy of the adrenal gland. Adrenal medullary hormones. Glucocorticoids and mineralocorticoids. Aldosterone, renin angiotensin system, cortisol, epinephrine and norepinephrine. Fight or flight response, stress response. Pathophysiology – Addison's disease, Conn's syndrome, Cushing syndrome.	B.Sc. BIOCHEMISTRY Hons.) II Year, Semester III	BCH C 7: Hormone Biochemistry and function	Google meet and Google class room
	Practicals :	Biochemical assessment. ROS assessment. Determination of oxidative stress: TBARS, antioxidant enzymes in hemolysate. Calculation of GI and Glycemic load of different foods.	B.Sc. BIOCHEMISTRY (Hons.) III Year, Semester V	BCH DSE -1: Nutritional Biochemistry	Google meet and Google class room
		. To Demonstrate release of photosynthetic oxygen in Hydrilla plant Continuous Evaluation and Assessment.	B.Sc (Hons) BIOCHEMISTRY ,II Year, Semester III	BCH C 6:Membrane biology and bioenergetics..	Google meet and Google class room
	Test	. Test in Extension to Mendalian genetics, Pedigree Analysis and sex determination.	B.Sc. BIOCHEMISTRY (Hons.) III Year, Semester V	BCH DSE -1: Nutritional Biochemistry BCH C-11: Concepts In Genetics	Google meet and Google class room

		Test on Thyroid, Parathyroid Assessment –Case studies.	B.Sc. BIOCHEMISTRY Hons.) II Year, Semester III	BCH C7: Hormone Biochemistry and function.	Google meet and Google class room
November	**Theory:**	Linkage and crossing over, genetic mapping in eukaryotes, centromere mapping with ordered tetrads, cytogenetic mapping with deletions and duplications in Drosophila, detection of linked loci by pedigree analysis in humans and somatic cell hybridization for positioning genes on chromosomes.	B.Sc. BIOCHEMISTRY (Hons.) III Year, Semester V	BCH C-11: Concepts In Genetics	Google meet and Google class room
		GH, prolactin, LH, FSH, POMC peptide family, Endocrine disorders - gigantism, acromegaly, dwarfs, pigmies Male and female sex hormones. Interplay of hormones during reproductive cycle, pregnancy, parturition and lactation. Hormone based contraception	B.Sc. BIOCHEMISTRY Hons.) II Year, Semester IIII	BCH C7: Hormone Biochemistry and Function	Google meet and Google class room
	Practicals:	Biochemical assessment. Nutritional status, Vitamin E Clinical assessment of Nutritional status, Case studies Revision exercises	B.Sc. BIOCHEMISTRY (Hons.) III Year, Semester V	BCH DSE 1: Nutritional biochemistry	Google meet and Google class room
		Determination of CMC of SDS using a conductivity meter Determination of efficacy of ETC and assessment of SDH activity Isolation of Chloroplast and Determination of Photosynthetic activity	B.Sc (Hons) BIOCHEMISTRY,II Year, Semester III	BCH C 6: Membrane biology and bioenergetics	Google meet and Google class room

SEMESTER WISE TEACHING PLAN
SRI VENKATESWARA COLLEGE

Name of the Faculty: Dr.Shalini Sen   **(February 2021-April 2021)**

Department: Biochemistry   **Semester:I/VI**

Month		Topics	Course	Paper Code/Name
February, 2021	**Theory**	1. **Principles of Spectrophotometry:** UV-visible absorption spectrophotometry, Beer-Lambert's Law, single beam, double beam spectrophotometers, ground state and excited states.	P.G. Diploma in Molecular and Biochemical Technology	PGDMB 101 Biophysical Techniques-I
		2. **Restriction enzymes:** various types, their properties, nomenclature, creating new restriction sites by DNA manipulation. DNA Methylases, DNA modifying enzymes. Ligation strategies: Linker, adapters, homopolymer tailing	P.G. Diploma	PGDMB 102 Recombinant DNA Technology-I
		3. **Polymerase chain reaction:** Fundamentals of polymerase chain reaction, designing primers for PCR.	BSc.(H) Biochemistry	BCH C13 Genetic Engineering and Biotechnology
	Practicals	Restriction digestion of plasmid pLITMUS 28i by EcoRI	P.G. Diploma	PGDMB L105 Recombinant DNA Technology-I
MARCH	**Theory:**	1. Plant tissue culture: different types of cultures, somatic embryogenesis, organogenesis, applications. 2.Animal Cell Culture: Cell lines, culture media, applications.	P.G. Diploma	PGDMB 101 Biophysical Techniques-I
		1. cDNA formation, making cDNA libraries, RACE, genomic DNA libraries 2. Screening DNA libraries: sequence dependent and sequence independent screening, gain of function screening.	P.G.Diploma	PGD MB102 Recombinant DNA Technology-I

	PRACTICAL	1. DNA sequencing by Sanger's method, modifications based on Sanger's method. Automated DNA sequencing. Pyrosequencing. Site directed mutagenesis, protein engineering	BSc.(H) Biochemistry	BCH C13 Genetic Engineering and Biotechnology
		1. Preparation and sterilization of medium, Isolated colonies of E.coli by streak plate and spread plate methods. 2. Plasmid DNA preparation by alkaline lysismethod.	PG Diploma	PGDMB L105 Recombinant DNA Technology-I
	Assignment and Test	Home assignment on Applications of PCR Midterm Test	BSc.(H) Biochemistry	BCH C13 Genetic Engineering and Biotechnology
		Home assignment on Cell-Free Translation systems Midterm Test	PG Diploma	PGDMB L105 Recombinant DNA Technology-I
APRIL	**Theory:**	RDT in Medicine: Recombinant proteins, vaccines. RDT in agriculture: Bt crops and Roundup ready crops, Flavr Savr tomatoes	BSc.(H) Biochemistry	BCH C13 Genetic Engineering and Biotechnology
	Practicals:	Repetition and revision of all practicals		

Name of the Faculty: Dr. VANDANA MALHOTRA
Department: BIOCHEMISTRY
Teaching Mode: Online (Google Classroom & MS Teams)   **Semester: I/III/V**

Semester III/V – (August 2020 to November 2020)
Semester I and PG Diploma – (November 2020 -March 2021)

Month		Topics	Course	Paper Code/Name
August (wef 10.8.2020)	Theory	**Unit 1**. Biosynthesis of RNA in prokaryotes RNA polymerases, transcription cycle in bacteria, sigma factor, bacterial promoters, identification of DNA binding sites by DNA footprinting, the three stages of RNA synthesis, initiation, elongation and termination, rho-dependent and rho-independent termination. Inhibitors of transcription and applications as anti-microbial drugs. **No. of Hours: 8**	B.Sc. BIOCHEMISTRY (Hons.) III Year, Semester V	CBCS: C12 Gene Expression and Regulation
		Unit 4. Genetic definition of a gene Complementation test, limitations of cis-trans test, intragenic complementation, rII locus of phage T4 and concept of cistron **No. of Hours: 4**	B.Sc. BIOCHEMISTRY Hons.) III Year, Semester V	CBCS: BCH C-11 Concepts in Genetics
		Unit 5. Genome Dynamics-Transposable Genetic Elements Prokaryotic transposable elements-IS elements, Composite transposons, Tn-3 elements; Eukaryotic transposable elements-Ac-Ds system in maize and P-elements in drosophila; Uses of transposons **No. of Hours: 8**	B.Sc. BIOLOGICAL SCIENCE Hons.) III Year, Semester V	CBCS: BS C-12: Fundamentals of Genetics
	Practical	• Estimation of RNA by Orcinol Method • Extraction of total nucleic acids from plant tissue.	B.Sc. BIOCHEMISTRY (Hons.) III Year, Semester V	CBCS: C12 Gene Expression and Regulation
		• Effect of Temperature on Membrane Permeability using Beetroot.	B.Sc. BIOCHEMISTRY Hons.) II Year, Semester III	CBCS: BCH C-6: Membrane Biology and Bioenergetics
	Assignments	Related to the topics covered so far.		

SEPTEMBER	Theory	**Unit 1.** Biosynthesis of RNA in prokaryotes (Contd) **Unit 2.** Biosynthesis of RNA in eukaryotes Comparison between prokaryotic and eukaryotic transcription. Transcription by RNA polymerase II, RNA polymerase II core promoters, general transcription factors, various types of RNA processing, transcription by RNA polymerase I and III. Inhibitors of eukaryotic transcription and their applications. Comparison of fidelity of transcription and replication. **No. of Hours: 8** • Class test	B.Sc. BIOCHEMISTRY (Hons.) III Year, Semester V	CBCS: C12 Gene Expression and Regulation
		Unit 5. Genetics of bacteria and viruses Mechanism of genetic exchange - conjugation, transformation and transduction. Gene mapping in bacteria. **No. of Hours: 6**	B.Sc. BIOCHEMISTRY Hons.) III Year, Semester V	CBCS: BCH C-11 Concepts in Genetics
		Unit 5. Genome Dynamics-Transposable Genetic Elements (Contd.)	B.Sc. BIOLOGICAL SCIENCE Hons.) III Year, Semester V	CBCS: BS C-12: Fundamentals of Genetics
	Practical	• Monoauxic and Diauxic growth curve effect. • Isolation of Total RNA from bacteria/yeast.	B.Sc. BIOCHEMISTRY (Hons.) III Year, Semester V	CBCS: C12 Gene Expression and Regulation
		• Effect of Detergent on Membrane Integrity of RBC cells • RBC Ghost cell Preparation and Separation of Membrane proteins by SDS-PAGE • Effect of Lipid Composition on Membrane Permeability • Separation of leaf pigments by TLC • Determination of lipid composition of Membrane	B.Sc. BIOCHEMISTRY Hons.) II Year, Semester III	CBCS: BCH C-6: Membrane Biology and Bioenergetics
	Assignment	Related to the topics covered so far.		
OCTOBER	Theory	**Unit 7.** Regulation of gene expression in prokaryotes Principles of gene regulation, negative and positive regulation, concept of operons, regulatory proteins, activators, repressors, DNA binding domains, regulation of lac operon and trp operon, induction of SOS response, synthesis of ribosomal proteins, regulation by genetic recombination, transcriptional regulation in	B.Sc. BIOCHEMISTRY (Hons.) III Year, Semester V	CBCS: C12 Gene Expression and Regulation

		λ bacteriophage. **No. of Hours: 8** • Mid-term exam		
		Unit 10. Chromosomal aberrations Variations in chromosome number- monosomy and trisomy of sex chromosome and autosomes. Variations in chromosome structure - inversions, deletions, duplications and translocations. **No. of Hours: 4** • Mid-term exam	B.Sc. BIOCHEMISTRY Hons.) III Year, Semester V	CBCS: BCH C-11 Concepts in Genetics
		Unit 3. Mutations Chromosomal mutations, Deletion, Duplication, Inversion, Translocation, Aneuploidy and Polyploidy; Gene mutations: Induced v/s Spontaneous, Back v/s Suppressor mutations. Molecular basis of mutations in relation to UV light and chemical mutagens **No. of Hours: 10** • MCQ Quiz • Mid-term exam	B.Sc. BIOLOGICAL SCIENCE Hons.) III Year, Semester V	CBCS: BS C-12: Fundamentals of Genetics
	Practical	• Effect of inhibitors on protein synthesis	B.Sc. BIOCHEMISTRY (Hons.) III Year, Semester V	CBCS: C12 Gene Expression and Regulation
		• To Demonstrate release of photosynthetic oxygen in Hydrilla plant • Continuous Evaluation	B.Sc. BIOCHEMISTRY Hons.) II Year, Semester III	CBCS: BCH C-6: Membrane Biology and Bioenergetics
	Assignment	Related to the topics covered so far.		
NOVEMBER	Theory	**Unit 3.** RNA splicing Chemistry of RNA splicing, the spliceosome machinery, splicing pathways, group I and group II introns, alternative splicing, exon shuffling, RNA editing. **No. of Hours: 6**	B.Sc. BIOCHEMISTRY (Hons.) III Year, Semester V	CBCS: C12 Gene Expression and Regulation
		Unit 10. Chromosomal aberrations (Contd) • Revision of topics	B.Sc. BIOCHEMISTRY Hons.) III Year, Semester V	CBCS: BCH C-11 Concepts in Genetics
		Unit 3. Mutations (Contd) • Revision of topics	B.Sc. BIOLOGICAL SCIENCE Hons.) III Year, Semester V	CBCS: BS C-12: Fundamentals of Genetics

Sem I (wef Nov. 18, 2020)		**Unit 1:** The foundations of biochemistry Cellular and chemical foundations of life, Water: unique properties, weak interactions in aqueous systems, ionization of water, buffering action in biological system, water as a reactant and fitness of the aqueous environment **No. of Hours: 6**	B.Sc. BIOCHEMISTRY Hons.) I Year, Semester I	CBCS: BCH C-1: Molecules of Life
	Practical	• Revision of Practical • Continuous Evaluation	B.Sc. BIOCHEMISTRY (Hons.) III Year, Semester V	CBCS: C12 Gene Expression and Regulation
		• Determination of CMC of SDS using a conductivity meter • Determination of efficacy of ETC and assessment of SDH activity • Isolation of Chloroplast and Determination of Photosynthetic activity	B.Sc. BIOCHEMISTRY Hons.) II Year, Semester III	CBCS: BCH C-6: Membrane Biology and Bioenergetics
	Wef Dec, 2020 for PGDiploma	• Preparation and sterilization of LB medium. • Obtaining isolated colonies of *E. coli* by streak plate and spread plate method.	PG Diploma in Biochemical and Molecular Technology (Sem I)	RDT 101
	Assignment	Related to the topics covered so far.		
DECEMBER	Theory	**Unit III:** Carbohydrates and Glycobiology Monosaccharides - structure of aldoses and ketoses; Ring structure of sugars, conformations of sugars, mutarotation, anomers, epimers and enantiomers; Structure of biologically important sugar derivatives, oxidation and reduction of sugars; Formation of disaccharides, reducing and non-reducing disaccharides; Polysaccharides – homo- and heteropolysaccharides, structural and storage polysaccharides; Structure and role of glycoconjugates - proteoglycans, glycoproteins and glycolipids (gangliosides and lipopolysaccharides); Carbohydrates as informational molecules. **No. of Hours: 16** • Class test	B.Sc. BIOCHEMISTRY Hons.) I Year, Semester I	CBCS: BCH C-1: Molecules of Life
	Practical	• Preparation and sterilization of LB medium. • Obtaining isolated colonies of *E.coli* by streak plate and spread plate method • To perform the growth curve of *E.coli* and to calculate the generation time.	PG Diploma in Biochemical and Molecular Technology (Sem I)	RDT 101

JANUARY (2021)	Theory	**Unit III:** Carbohydrate and Glycobiology (Contd)	B.Sc. BIOCHEMISTRY Hons.) I Year, Semester I	CBCS: BCH C-1: Molecules of Life
	Practical	• To isolate genomic DNA from bacterial cells. • To isolate the plasmid DNA from bacterial cells by alkaline lysis method. • To perform DNA digestion for pUC 18 withmEcoR1 restriction enzyme. • Determination of Molecular fragment by Agarose Gel Electrophoresis	PG Diploma in Biochemical and Molecular Technology (Sem I)	RDT 101
FEBRUARY	Theory	**Unit III** (contd) **UNIT V: Nucleic Acids** Nucleotides - structure and properties of bases, pentoses, nucleosides; Nucleic acid structure – Watson-Crick model of DNA, forms of DNA; Structure of major species of RNA - mRNA, tRNA and rRNA; Nucleic acid chemistry - UV absorption, effect of acid and alkali on DNA; Other functions of nucleotides - source of energy, component of coenzymes and second messengers. **No. of Hours: 10**	B.Sc. BIOCHEMISTRY Hons.) I Year, Semester I	CBCS: BCH C-1: Molecules of Life
	Practical	• Recovery of DNA from low-melting temperature agarose gel: organic extraction • Class Test	PG Diploma in Biochemical and Molecular Technology (Sem I)	RDT 101
MARCH	Theory	**UNIT V:** Nucleic Acids (Contd)	B.Sc. BIOCHEMISTRY Hons.) I Year, Semester I	CBCS: BCH C-1: Molecules of Life
	Practical (OFFLINE MODE)	**Offline Practicals** • Preparation and sterilization of LB medium. • Obtaining isolated colonies of *E.coli* by streak plate and spread plate method	PG Diploma in Biochemical and Molecular Technology (Sem I)	RDT 101
Midterm exam and Assignment submissions (Semester I and PG Diploma)				

Name of the Faculty: Dr. Kameshwar Sharma YVR, Assistant Professor
Department: Biochemistry
Semester: I/III/V (Odd Semester)

Month		Topics	Course	Paper Code/Name
AUGUST 10TH ONWARDS	**Theory**	• Introduction - Photosynthetic Complex - Light Reaction	**B.Sc(H) Biological sciences - Sem V**	**BS- DSE-9** PLANT BIOCHEMISTRY
	Practicals	Glucose tolerance test. 2. Estimation of serum Ca2+. 3. Case studies	B.Sc. (Hons) BIOCHEMISTRY II Year, Semester III	CBCS C7: Hormone Biochemistry
SEPTEMBER	**Theory:**	• Photosystem Continuation... Photophosphorylation, Carbon Assimilation, Photorespiration	**B.Sc(H) Biological sciences - Sem V**	**BS- DSE-9** PLANT BIOCHEMISTRY
	Practicals:	Estimation of serum T4, T3 and TSH 2. Estimation of serum electrolytes. 3. Case studies	B.Sc. (Hons) BIOCHEMISTRY II Year, Semester III	CBCS C 7 Hormone Biochemistry
	Tutorials:	Class Tests / assignments		

OCTOBER	Theory:	• Plant Hormones • Plant Morphogenesis • Secondary Metabolites - Alkaloids	**B.Sc(H) Biological sciences - Sem V**	**BS- DSE-9 PLANT BIOCHEMISTRY**
	Practicals	1. HCG based pregnancy detection test. 2. Case studies on hormone disorders.	B.Sc. (Hons) BIOCHEMISTRY II Year, Semester III	CBCS C7 Hormone Biochemistry
	Tutorials	Assignments / Tests		

NOVEMBER	Theory:	• Secondary Metabolites
		   - Phenols
		   - Terpenoids
			B.Sc(H) Biological sciences - Sem V	**BS- DSE-9 PLANT BIOCHEMISTRY**

		• Introduction To Cell Biology	**B.Sc(H) Biochemistry - Sem I**	**BCH C-2 CELL BIOLOGY**
	Practicals:	• To study the parts of a microscope • Cytochemical staining of proteins by Methylene Blue	**B.Sc(H) Biochemistry - Sem I**	**BCH C-2 CELL BIOLOGY**
		Continuous evaluation 2. Revision of practical	B.Sc. (Hons) BIOCHEMISTRY II Year, Semester III	CBCS C7 Hormone Biochemistry
	Tutorials:			
	Test	**MID TERM Exams**		

DECEMBER	**Theory:**			

		• Secondary Metabolites
		   - Phenols
		   - Tannins
			B.Sc(H) Biological sciences - Sem V	**BS- DSE-9**
				PLANT BIOCHEMISTRY

		Tools of Cell Biology	**B.Sc(H) Biochemistry - Sem I**	**BCH C-2 CELL BIOLOGY**
		Techniques- GFC	Biophysical Techniques -I	**PGDiploma in Molecular and Biochemical Technology**
	Practicals:	• Cytochemical staining of RNA by Methyl Green Pyronin • Cytochemical staining of polysaccharides by PAS • To study the effect of isotonic, hypotonic and hypertonic solution on cells	**B.Sc(H) Biochemistry - Sem I**	**BCH C-2 CELL BIOLOGY**
		Gel Filtration Chromatography	Biophysical Techniques -I	**PGDiploma in Molecular and Biochemical Technology**
	Tutorials:			
		• Cell Wall Extra Cellular Matrix	**B.Sc(H) Biochemistry - Sem I**	**BCH C-2 CELL BIOLOGY**
		Ion Exchange Chromatography, Affinity and TLC	Biophysical Techniques -I	**PGDiploma in Molecular and Biochemical Technology**
	Practicals:	• To study different stages of mitosis by temporary preparation in onion root tip.	**B.Sc(H) Biochemistry - Sem I**	**BCH C-2 CELL BIOLOGY**
		Ion Exchange Chromatography	Biophysical Techniques -I	**PGDiploma in Molecular and Biochemical**
	Tutorials:			

JANUARY		• Cell Junctions Cytoskeleton	**B.Sc(H) Biochemistry - Sem I**	**BCH C-2 CELL BIOLOGY**
	Practicals:	• Observation of human cheek cells under microscope using methylene blue stain.	**B.Sc(H) Biochemistry - Sem I**	**BCH C-2 CELL BIOLOGY**
		Protein Purification	Biophysical Techniques -I	**PGDiploma in Molecular and Biochemical**
	Tutorials:			
FEBRUARY		Cytoskeleton (continuation…)	**B.Sc(H) Biochemistry - Sem I**	**BCH C-2 CELL BIOLOGY**
	Practicals:	• To study different stages of meiosis by temporary preparation in onion flower buds	**B.Sc(H) Biochemistry - Sem I**	**BCH C-2 CELL BIOLOGY**
		Ammonium Sulfate precipitation and Dialysis	Biophysical Techniques -I	**PGDiploma in Molecular and Biochemical**
		Enzyme Assay		
MARCH	**Practicals:**	Mock practical and Final Examinations		
	Tutorials:	Assignments / Tests		

DR. KAMESHWAR SHARMA YVR
Assistant professor
Department of biochemistry

SEMESTER WISE TEACHING PLAN 2020-2021
SRI VENKATESWARA COLLEGE

Name of the Faculty: Dr. NIMISHA SINHA
Department: BIOCHEMISTRY
Teaching Mode: ONLINE   **Semester: I/III/V**

Month		Topics	Course	Paper Code/Name
AUGUST wef 10th August	**Theory**	**Unit 1 Introduction to Nutrition and Energy Metabolism** No. of HOURS: 8 Defining Nutrition, role of nutrients. Unit of energy, Biological oxidation of foodstuff. Physiological energy value of foods, SDA.	B.Sc. (Hons) BIOCHEMISTRY III Year, Semester V	CBCS DSE 1 Nutritional Biochemistry
		UNIT I: Glycolysis, and pentose phosphate pathway No of hours: 12 Autotrophs, Heterotrophs, catabolism, anabolism, metabolic pathways, ATP as energy currency, experimental approaches to study metabolism, High energy compounds. Glycolysis: overview, reactions, regulations including hormones, fates of pyruvate,	B.Sc. (Hons). BIOCHEMISTRY II Year, Semester III	C-5: METABOLISM OF CARBOHYDRATES AND LIPIDS
		Unit 3: Respiration: Overview of glycolysis, Alternative reactions of glycolysis.	B.Sc. (Hons) BIOLOGICAL SCIENCE Hons) III Year Semester VI	CBCS DSE 9: Plant Biochemistry
	Practical	1. Glucose tolerance test. 2. Estimation of serum Ca2+. 3. Case studies	B.Sc. (Hons) BIOCHEMISTRY II Year, Semester III	CBCS C7: Hormone Biochemistry
		1. Introduction to Drosophila for studying sex linked inheritance 2. Induction of polyploidy in onion roots.	B.Sc (Hons) BIOCHEMISTRY, III Year, Semester V	CBCS C11 Concepts of Genetics
		1. Estimation of RNA by Orcinol Method 2. Extraction of total nucleic acids from plant tissue.	B.Sc (Hons) BIOCHEMISTRY, III Year, Semester V	CBCS C12 Gene Expression and Regulation
SEPTEMBER	**Theory**	Unit 1 contd…Measurement of energy expenditure. Basal and Resting metabolism, physical activity, factors affecting energy input - hunger, appetite, energy balance. Recommended Nutrient Intakes (RNI) and Recommended Dietary Allowances for different age groups. Unit 4 Dietary Proteins and health No. of HOURS: 8 Review of functions of proteins in the body, Digestion and absorption. Essential and Non-essential amino acids. Amino Acid Availability Antagonism, Toxicity and Imbalance, Amino acid Supplementation.	B.Sc. (Hons) BIOCHEMISTRY III Year, Semester V	CBCS DSE 1 Nutritional Biochemistry
		Unit 1 contd: Feeder pathways for glycolysis, galactosemia. Lactose intolerance. Cori and Cori cycle. Pentose phosphate pathway and its importance, Relationship between glycolysis and pentose phosphate pathway. Anaerobic ATP production, fermentation.	B.Sc. (Hons). BIOCHEMISTRY II Year, Semester III	C-5: METABOLISM OF CARBOHYDRATES AND LIPIDS

		Unit 3: Respiration: Regulation of plant glycolysis, Translocation of metabolites across mitochondrial membrane, TCA cycle, Alternative NAD(P)H oxidative pathways; Cyanide resistant respiration. Unit 3: Biological Nitrogen fixation by free living and in symbiotic association, structure and function of enzyme Nitrogenase. Nitrate assimilation: Nitrate and Nitrite reductase.	B.Sc. (Hons) BIOLOGICAL SCIENCE Hons) III Year Semester VI	CBCS DSE 9: Plant Biochemistry
	Practical	1. Estimation of serum T4, T3 and TSH 2. Estimation of serum electrolytes. 3. Case studies	B.Sc. (Hons) BIOCHEMISTRY II Year, Semester III	CBCS C 7 Hormone Biochemistry
		1. Drosophila maintenance, media preparation and Monohybrid crosses in Drosophila for studying sex linked inheritance using a software	B.Sc (Hons) BIOCHEMISTRY, III Year, Semester V	CBCS C11 Concepts of Genetics
		1. Monoauxic and Diauxic growth curve effect. 2. Isolation of Total RNA from bacteria/yeast.	B.Sc (Hons) BIOCHEMISTRY, III Year, Semester V	CBCS C12 Gene Expression and Regulation
OCTOBER	**Theory**	Unit 4 contd. Effects of deficiency. Food source and Recommended Dietary Allowances for different age group. Amino acid pool. NPU, Biological Value, Nitrogen balance. PEM and Kwashiorkor. **Unit 5 Fat and water soluble Vitamins No. of HOURS: 8** Vitamin A, D, E, K Dietary sources, RDA, Adsorption, Distribution, Metabolism and excretion(ADME), Deficiency. Role of Vitamin A as an antioxidant, in Visual cycle, dermatology and immunity. Role of Vitamin K in Gamma carboxylation. Role of Vitamin E as an antioxidant. Extra-skeletal role of Vitamin D and its effect on bone physiology. Hypervitaminosis..	B.Sc. (Hons) BIOCHEMISTRY III Year, Semester V	CBCS DSE Nutritional Biochemistry
		UNIT II: Additional pathways in carbohydrate metabolism No of hours: 12 Glycogen synthesis, glycogen breakdown, regulation of glycogen metabolism, gluconeogenesis. Glycogen storage diseases; Von Gierke, Pompe, Cori and McArdle. Gluconeogenesis. Photosynthesis dark reaction: Calvin cycle, regulation, Photo respiration, C4 and CAM pathways in plants.	B.Sc. (Hons). BIOCHEMISTRY II Year, Semester III	C-5: METABOLISM OF CARBOHYDRATES AND LIPIDS
		Primary and secondary ammonia assimilation in plants; ammonia assimilation by Glutamine synthetase-glutamine oxoglutarate amino transferase (GS-GOGAT) pathway. Seed storage proteins in legumes and cereals Unit 3: Cell and tissue culture techniques, types of cultures: organ and explants culture, callus culture, cell suspension culture and protoplast culture.	B.Sc. (Hons) BIOLOGICAL SCIENCE Hons) III Year Semester VI	CBCS DSE 9: Plant Biochemistry

	Practical	1. HCG based pregnancy detection test. 2. Case studies on hormone disorders.	B.Sc. (Hons) BIOCHEMISTRY II Year, Semester III	CBCS C7 Hormone Biochemistry
		1. Squash preparation of salivary glands of Dipteran larva to observe polytene chromosomes. 2. Smear technique to demonstrate sex chromatin in buccal epithelial cells. 3. Study of abnormal human karyotype and pedigrees (dry lab) 4. Continuous evaluation	B.Sc (Hons) BIOCHEMISTRY, III Year, Semester V	CBCS C11 Concepts of Genetics
		1. Effect of inhibitors on protein synthesis	B.Sc (Hons) BIOCHEMISTRY, III Year, Semester V	CBCS C12 Gene Expression and Regulation
NOVEMBER	**Theory**	Unit 5 contd. Vitamin C role as cofactor in amino acid modifications. Niacin- Metabolic interrelation between tryptophan, Niacin and NAD/ NADP. Vitamin B6-Dietary source, RDA, conversion to Pyridoxal Phosphate. Role in metabolism, Biochemical basis for deficiency symptoms. Vitamin B12 and folate; Dietary source, RDA, absorption, metabolic role Biochemical basis for deficiency symptoms **Unit 8 Food and drug interactions and Nutraceuticals No. of HOURS: 4** Nutrient interactions affecting ADME of drugs, Alcohol and nutrient deficiency, Antidepressants, psychoactive drugs and nutrient interactions,	B.Sc. (Hons) BIOCHEMISTRY III Year, Semester V	CBCS DSE Nutritional Biochemistry
		UNIT III: Citric acid cycle No of hours: 10 Overview of citric acid cycle, synthesis of acetyl Coenzyme A, enzymes of citric acid cycle, regulation of citric acid cycle, anaplerotic reactions, amphibolic nature, Malate aspartate shuttle, Glyceraldehyde-3-phosphate dehydrogenase shuttle, Glyoxylate cycle in plants. Signaling pathways, regulation of carbohydrate metabolism by hormones, diseases associated with metabolic irregularities. **Unit 6: Integration of carbohydrate metabolism**	B.Sc. (Hons). BIOCHEMISTRY II Year, Semester III	C-5: METABOLISM OF CARBOHYDRATES AND LIPIDS
		Unit 6: Plant regeneration pathways: organogenesis and somatic embryogenesis. Applications of cell and tissue culture and somoclonal variation.	B.Sc. (Hons) BIOLOGICAL SCIENCE Hons) III Year Semester VI	CBCS DSE 9: Plant Biochemistry
	Practical	1. Revision of practical 2. Continuous evaluation	B.Sc (Hons) BIOCHEMISTRY, III Year, Semester V	CBCS C12 Gene Expression and Regulation

		1. Continuous evaluation 2. Revision of practical	B.Sc. (Hons) BIOCHEMISTRY II Year, Semester III	CBCS C7 Hormone Biochemistry
		1. PTC testing in a population and calculation of allele and genotype frequencies. 2. Continuous evaluation 3. Revision of practical	B.Sc (Hons) BIOCHEMISTRY, III Year, Semester V	CBCS C11 Concepts of Genetics
		MIDTERM EXAM AND ASSIGNMENT		

Name of the Faculty: Dr.Ravindra Varma Polisetty
Department: Biochemistry

Month		Topics	Course	Teaching Mode	Paper Code/Name
JULY	Theory				
	Practicals				
	Tutorials				
AUGUST	Theory:	1. Nature of enzymes - protein and non-protein (ribozyme, abzymes). 2. Cofactor and prosthetic group. 3. Classification of enzymes. 4. Fischer"s lock& key and Koshland"s induced fit hypothesis. 5. Enzyme specificity. 6. Enzyme Kinetics- Michaelis-Menten equation, Lineweaver-Burk plot. 7. Determination of Km, Vmax, Kcat.Factors affecting enzyme activity.	SBS	Online (Microsoft Teams)	BS C5 - Proteins and Enzymes
		1. Linkage and Crossing over, cytological basis of crossing over 2. Molecular mechanism of crossing over. 3. Recombination frequency as a measure of linkage intensity 4. two factor and three factor crosses 5. Interference and Coincidence	TBS		BS C12- Genetics
	Practicals:	1. Estimation of proteins by Biuret and Lowry's method. 2. Determination of isoelectric pH of casein.	SBS	Online (Microsoft Teams)	BS C5 - Proteins and Enzymes
	Tutorials:				
SEPTEMBER	Theory:	1. Enzyme Inhibition- Reversible (competitive, uncompetitive, non-competitive, mixed). 2. Mechanism based inhibitors.	SBS	Online (Microsoft Teams)	BS C5 - Proteins and Enzymes
		1. Detection of mutations: ClB method, Attached X-method 2. DNA repair mechanisms	TBS		BS C12- Genetics

	Practicals:	1. Ammonium sulphate fractionation of crude homogenate from germinated mungbeans 2. Assay for acid phosphatase activity and specific activity.	SBS	Online (Microsoft Teams)	BS C5 - Proteins and Enzymes
	Tutorials:				
	Assignme nts	Assignment-1		Online (Microsoft Teams)	
OCTOBER	Theory:	1. Acid-base and covalent catalysis (chymotrypsin, lysozyme). 2. Metal activated enzymes and metalloenzymes, 3. Allosteric regulation and feedback inhibition (ATCase), 4. reversible covalent modification (glycogen phosphorylase). 5. Proteolytic cleavage- zymogen. 6. Multienzyme complex. 7. Coenzymes.	SBS	Online (Microsoft Teams)	BS C5 - Proteins and Enzymes
		1. Genomes of bacteria, Drosophila and Humans 2. Human genome project 3. Introduction to Bioinformatics, Gene and Protein databases, sequence similarity and alignment, Gene feature identification. Gene Annotation and analysis of transcription and translation 4. Post- translational analysis-Protein interaction	TBS		BS C12- Genetics
	Practicals:	1. Progress curve of enzyme 2. Effect of pH on enzyme activity.	SBS	Online (Microsoft Teams)	BS C5 - Proteins and Enzymes
	Tutorials:				
	Test	Mid-term Test			
NOVEMBER	Theory:	1. Isoenzymes. 2. Application of enzymes in diagnostics (SGPT, SGOT, creatine kinase, alkaline and acid phosphatases), 3. Enzyme immunoassay (HRP), enzyme therapy (Streptokinase). Metal base drug interaction. 4. Enzyme immobilization and its applications.	SBS	Online (Microsoft Teams)	BS C5 - Proteins and Enzymes
		1. Allele frequencies, Genotype frequencies,	TBS		

		2. Hardy-Weinberg Law, role of natural selection, Genetic drift. Speciation			BS C12-Genetics
	Practicals:	1. Determination of Km and Vmax using Lineweaver-Burk plot	SBS	Online (Microsoft Teams)	BS C5 - Proteins and Enzymes
	Tutorials:				
DECEMBER	Theory:	1. Nucleus: Structure of nuclear envelope, nuclear pore complex nucleolus and chromatin 2. Endoplasmic Reticulum: RER - Brief overview of cotranslational and post-translational transport of proteins; SER – Lipid synthesis, brief overview of export of proteins from ER;	FBCH	Online (Microsoft Teams)	BCH C-2 Cell Biology
	Practicals:	1. Safety measures in laboratories. 2. Preparation of normal and molar solutions. 3. Preparation of buffers, phosphate and acetate buffers.	FBCH	Online (Microsoft Teams)	BCH C-2 Cell Biology
		1. Spectrophotometric analysis of nucleic acids. Protein estimation at λ280. 2. Effect of solvent perturbation on absorption by a chromophore	PGD		PGD MBL 104 : BIOPHYSICAL TECHNIQUES-I
	Tutorials:				
JANUARY	Theory:	1. Golgi apparatus: organization, brief overview of glycosylation of proteins within Golgi, lipid and polysaccharide metabolism in Golgi apparatus. 2. Lysosomes: Development of different forms of lysosomes, role in cellular digestion, lysosomal storage diseases 3. Peroxisomes: assembly, functions (H_2O_2 metabolism, fatty acid oxidation), glyoxysomes 4. Mitochondria: structure, endosymbiont theory, genome 5. Chloroplast: structure, endosymbiont theory, genome	FBCH	Online (Microsoft Teams)	BCH C-2 Cell Biology
	Practicals:	1. Determination of pKa of acetic acid and glycine. 2. Qualitative tests for carbohydrates. 3. Qualitative tests for amino acids, proteins.	FBCH	Online (Microsoft Teams)	BCH C-2 Cell Biology
		4. Determination of void volume and partition coefficient by Gel filtration 5. Purification of proteins on ion exchange chromatography	PGD		PGD MBL 104 : BIOPHYSICAL TECHNIQUES-I
	Tutorials:	Assignment-1			

FEBRUARY	Theory:	1. Eukaryotic Cell Cycle, Checkpoints, Cell Division (mitosis and meiosis); 2. Brief overview of apoptosis and necrosis; 3. Types and potency of Stem Cells, Cancer – types, salient features of a transformed cell, causes of cancer.	FBCH	Online (Microsoft Teams)	BCH C-2 Cell Biology
	Practicals:	1. Qualitative tests for nucleic acids. 2. Separation of amino acids/ sugars/ bases by thin layer chromatography/paper chromatography.	FBCH	Online (Microsoft Teams)	BCH C-2 Cell Biology
		1. Purification of proteins on affinity chromatography 2. Ammonium sulphate fractionation and dialysis	PGD		PGD MBL 104 : BIOPHY SICAL TECHNI QUES-I
	Tutorials:				
MARCH	Theory:	1. Apoptotic death in relation to cell cycle	FBCH	Online (Microsoft Teams)	BCH C-2 Cell Biology
	Practicals:	1. Estimation of vitamin C.	FBCH	Online (Microsoft Teams)	BCH C-2 Cell Biology
		1. Assay of enzyme activity (standardization of assay conditions) Determination of optimum pH, KM and Vmax.	PGD		PGD MBL 104 : BIOPHY SICAL TECHNI QUES-I
	Tutorials:				

SEMESTER WISE TEACHING PLAN
SRI VENKATESWARA COLLEGE

Name of the Faculty: Dr. Sarika Yadav　　　　**Department: BIOCHEMISTRY**　　　　**Semester: III/V (2020-2021)**

Month		Topics	Course	Paper Code/Name	Platform used for teaching
August-2020	**Theory**	**Membrane composition and structure:** Historical background and various membrane models. Overview of membrane functions. Composition of membranes: Lipids -Phospholipids, Glycolipids, sterols; Model systems to study membranes - Lipid Monolayers, Planar Bilayer and Liposome, and their application. Polymorphic Lipid-Water Systems. The various determinants of polymorphic phases: CMC, lipid shape, critical packing parameter. Proteins - Peripheral Proteins	B.Sc. Biochemistry (H) II Yr, Sem III	BCH C-6: Membrane Biology and Bioenergetics	Google meet, Google classroom and emails
		Overview of The Endomembrane System, Protein Sorting and Secretory Pathway: Endomembrane System; Targeting, modification and sorting of Proteins from And into Endoplasmic Reticulum;	B. Sc. (H) Biochemistry III Yr, Sem V	BCH DSE-6: ADVANCED CELL BIOLOGY	Google meet, Google classroom and emails
		Practicals			
	Practical	Assay of salivary amylase	B.Sc. Biochemistry (H) II Yr, Sem III	BCH C-5: METABOLISM OF CARBOHYDRATES AND LIPIDS (PRACTICALS)	Google meet, Google classroom and emails

		Separation of photosynthetic pigments by TLC	B. Sc (H) Biol Sc, III Yr, Sem V	DSE-9: PLANT BIOCHEMISTRY (PRACTICALS)	Google meet, Google classroom and emails
September-2020	Theory	Integral Membrane Proteins and Lipid-Anchored proteins, and carbohydrates. Comparison of the composition of various cellular and subcellular membranes. Lateral and transverse asymmetry in membranes. Membrane fluidity: lateral, transverse and rotational motion of lipids and proteins. Role of Flippase, Floppase and Scramblase. Factors affecting membrane fluidity- composition, barriers (tight junctions), cytoskeleton interactions, microdomains – rafts, caveolae. Fence and gate model. Homeoviscous Adaptation. Techniques to study membrane dynamics: FRAP, TNBS, SPT.	B.Sc. Biochemistry (H) II Yr, Sem III	BCH C-6: Membrane Biology and Bioenergetics	Google meet, Google classroom and emails
		Modification of Proteins in ER; Quality control and UPR in Endoplasmic Reticulum; Synthesis and Targeting Mitochondrial matrix Protein;	B. Sc. (H) Biochemistry III Yr, Sem V	BCH DSE-6: ADVANCED CELL BIOLOGY	Google meet, Google classroom and emails
	Practical:	Estimation of blood glucose in serum using ortho-toluidine method/ GOD-PxD method; Isolation of lipids from egg yolk; Cholesterol estimation;	B. Sc. Biochemistry (H) II Yr, Sem III	CBCS C-5: METABOLISM OF CARBOHYDRATES AND LIPIDS	Google meet, Google classroom and emails

		Estimation of carotene/ascorbic acid/phenols/tannins in fruits and vegetables	B. Sc (H) Biol Sc, III Yr, Sem V	DSE-9: PLANT BIOCHEMISTRY (PRACTICALS)	Google meet, Google classroom and emails
October-2020	**Theory**	• **RBC membrane architecture; Tight junctions,** Thermodynamics of transport. Simple diffusion and facilitated diffusion. Passive transport glucose transporter and anion transporter. • Mid- Sem exam	B. Sc. Biochemistry (H) II Yr, Sem III	BCH C-6: Membrane Biology and Bioenergetics	Google meet, Google classroom and emails
		• Synthesis And Targeting Mitochondrial membrane Protein; Chloroplast Proteins And Peroxisomal Proteins; Mechanism Of Vesicular Transport; Coat Proteins And Vesicle Budding; Vesicle Fusion; Targeting Of Proteins To Membranes; Receptor Mediated Endocytosis. Function and origin of The Cytoskeleton; • Mid- Sem exam	B. Sc. (H) Biochemistry III Yr, Sem V	BCH DSE-6: ADVANCED CELL BIOLOGY	Google meet, Google classroom and emails
	Practical	Separation and identification of egg yolk lipids by TLC; Sugar fermentation by microorganisms	B.Sc. Biochemistry (H) II Yr, Sem III	CBCS C-5: METABOLISM OF CARBOHYDRATES AND LIPIDS	Google meet, Google classroom and emails
		Extraction and assay of Urease from Jack bean; Culture of plant plants (explants).	B. Sc (H) Biol Sc., III Yr, Sem V	DSE-9: PLANT BIOCHEMISTRY (PRACTICALS)	Google meet, Google classroom and emails

November-2020	Theory	Primary active transporters- P type ATPases, V type ATPases, F type ATPases. Secondary active transporters - lactose permease, Na+ -glucose symporter. ABC family of transporters – MDR and CFTR. Group translocation and bacteriorhodopsin. Ion channels: voltage-gated ion channels (Na+ /K+ voltage-gated channel) and ligand-gated ion channels (acetyl choline receptor), and aquaporins. Ionophores: valinomycin, gramicidin. Relationship of membrane transport and diseases.	B.Sc. Biochemistry (H) II Yr, Sem III	BCH C-6: Membrane Biology and Bioenergetics	Google meet, Google classroom and emails
		Organization and Assembly of Actin Filaments And Myosin; Assembly and Dynamics of Microtubules. Development and causes Of Cancer; Genetic Basis of Cancer; Oncogenes, Tumor Viruses; Molecular Approach to Cancer Treatment. Ultracentrifugation, Fluorescence Microscopy- FACS, FRET, Confocal Microscopy, Electron Microscopy	B. Sc. (H) Biochemistry III Yr, Sem V	BCH DSE-6: ADVANCED CELL BIOLOGY	Google meet, Google classroom and emails
	Practical	• Induction of hydrolytic enzymes proteinases / amylases/ lipase during germination • Practical Examination (Online)	B.Sc. Biochemistry (H) II Yr, Sem III	BCH C-5: METABOLISM OF CARBOHYDRATES AND LIPIDS	Google meet, Google classroom and emails
		Final Practical Examination (Online)	B. Sc (H) Biol Sc, III Yr, Sem V	DSE-9: PLANT BIOCHEMISTRY (PRACTICALS)	Google meet, Google classroom and emails

SEMESTER WISE TEACHING PLAN
SRI VENKATESWARA COLLEGE

Name of the Faculty: Dr. Sarika Yadav　　　　**Department: BIOCHEMISTRY**　　　　**Semester: I (2020-2021)**

First Year; Semester: I (2020-2021) (Session started in November- 2020) (Odd Sem-2020-2021)

Month		Topics	Course	Paper Code/Name	Platform used for teaching
November and December-2020	**Theory**	The cellular basis of life, structure and function of a cell and its subcellular components (eukaryotes, prokaryotes); Physical properties and structure of water molecule, pH, Buffers, biological buffer systems (body fluids and their principal buffers) Carbohydrate Chemistry: Introduction; Definition, classification and functions of carbohydrates, monosaccharides.	B.Sc. Biochemistry (H) I Yr, Sem I	BCH GE-1: Biomolecules	Google meet, Google classroom and emails
		Practicals			
	Practical	Safety measures in laboratories; Preparation of normal and molar solutions; Preparation of buffers, phosphate and acetate buffers; Determination of pKa of acetic acid and glycine.	B.Sc. Biochemistry (H) I Yr, Sem I	BCH C-1: Molecules of Life (PRACTICALS)	Google meet, Google classroom and emails

January-2021	**Theory**	Disaccharides, polysaccharides, homo polysaccharides, hetero polysaccharides; Structure of glucose, isomerism; keto aldo, D- and L- isomerism, optical isomerism, epimerism, anomerism, Mutarotation, chemical properties of monosaccharides, action of strong acids, alkalis, oxidation, reduction, osazone formation glycoside formation; Derivatives of monosaccharides, phosphoric acid ester, amino sugar, deoxy sugar, sugar acids, sugar alcohols, disaccharides maltose, lactose, sucrose. Homo polysaccharides - starch, glycogen, cellulose, dextrin; Hetero polysaccharides - types of glycosoaminoglycans and functions of glycoproteins	B.Sc. Biochemistry (H) I Yr, Sem I	BCH GE-1: Biomolecules	Google meet, Google classroom and emails
	Practical:	Qualitative tests for amino acids, proteins; Qualitative tests for nucleic acids;	B.Sc. Biochemistry (H) I Yr, Sem I	BCH C-1: Molecules of Life (PRACTICALS)	Google meet, Google classroom and emails
February-2021	**Theory**	Chemistry of Lipids: Introduction; Definition, classification and functions of lipids; Fatty acids; Essential fatty; acids; Reactions of lipids; Triacylglycerol or neutral fat; phospholipids glycolipids; cholesterol; Eicosaanoids; prosatglandins; lipoprotein	B.Sc. Biochemistry (H) I Yr, Sem I	BCH GE-1: Biomolecules	Google meet, Google classroom and emails
	Practical	• Qualitative tests for carbohydrates; Separation of amino acids/ sugars/ bases by thin layer chromatography/ paper chromatography; Estimation of vitamin-C. • Evaluation	B.Sc. Biochemistry (H) I Yr, Sem I	BCH C-1: Molecules of Life (PRACTICALS)	Google meet, Google classroom and emails

March-2021	**Theory**	Revision and assignments	B.Sc. Biochemistry (H) I Yr, Sem I	BCH GE-1: Biomolecules	Google meet, Google classroom and emails
	Practical	Final Practical Examination (Online)	B.Sc. Biochemistry (H) I Yr, Sem I	BCH C-1: Molecules of Life (PRACTICALS)	Google meet, Google classroom and emails

Name of the Faculty: Meeta Bhardwaj   Department: Biochemistry

Semester : I/III/V

Month		Topics	Course	Paper Code/Name
AUGUST	**Theory:**	Introduction to the basic principles of heredity. Model organisms: Escherichia coli, Saccharomyces cerevisiae, Drosophila melanogaster, Caenorhabditis elegans,Danio rerio and Arabidopsis thaliana.	Bsc (H) Biochemistry Sem V	BCH C-11
		Introduction to Genetics	Bsc (H) Biological Sciences Sem V	BS c- 12
		Amino acids and their properties.Biologically important peptides - hormones, antibiotics and growth factors	Bsc (H) Biological Sciences Sem III	BS C-5

	Practicals:			
		Introduction to practicals	Bsc (H) Biological Sciences Sem III	BS C 5
		Introduction to practicals Plasmid Isolation	BSc (H) Biological Sciences Sem V	BS-C12 Fundamentals of Genetics
		Introduction to practical Anthropometric lecture	BSc (H) Biochemistry Sem V	BCH DSE I Nutritional Biochemistry
SEPTEMBER	**Theory:**	Mendelian genetics and chromosomal basis of heredity: Mendelian laws and ratios; Concept of segregation and independent assortment, and its chromosomal basis. Laws of probability & binomial expansion, formulating and testing genetic hypothesis, chromosomal basis of Mendelism - Sutton and Boveri hypothesis with other supporting experimental evidences;	Bsc (H) Biochemistry Sem V	BCH C11
		Mendelian Genetics and Extensions: Mendel"s work on transmission of traits, genetic variation, molecular basis of Genetic Information. Principles of Inheritance, Chromosome theory of inheritance, Laws of probability,	Bsc (H) Biological sciences Sem V	BS CBS -12
		Conjugated proteins, multimeric proteins and metalloproteins.Diversity of proteins.Organization of protein structure- primary, secondary, tertiary and quaternary structures.Protein sequencing- Edman degradation.Solid phase peptide synthesis.Nature of stabilizing bonds- covalent and non covalent.Peptide bond- dihedral angles. Ramachandran map, Secondary structureHelices, sheets and turns.	Bsc (H) Biological Sciences Sem III	BS C-5

	Practicals:	Estimation of proteins by Biuret and Lowry's method. 2. Determination of isoelectric pH of casein. 3. Ammonium sulphate fractionation of crude homogenate from germinated mung bean	Bsc (H) Biological Sciences Sem III	BS C5
		Restriction enzyme digestion plasmid DNA. Estimation of size of a DNA fragment after electrophoresis using DNA markers. Construction of Restriction digestion maps from data provided.	BSc (H) Biological Sciences Sem V	BS-C12 Fundamentals of Genetics
		Kwashiorkor, Marasmus – Case studies Nutritional assessment of food items Determination of oxidative stress: TBARS estimation MDA estimation	BSc (H) Biochemistry Sem V	BCH DSE I Nutritional Biochemistry
OCTOBER	**Theory:**	Organelle heredity: Chloroplast mutation/variegation in four „o clock plant and Chlamydomonas, mitochondrial mutations in Neurospora and yeast, maternal effects, infective heredityKappa particles in Paramecium Pedigree analysis	BSc (H) Biochemistry Sem V	BCH C 11
		Incomplete dominance and co- dominance, Multiple alleles, Lethal alleles, Epistasis, Pleiotropy Penetrance and expressivity, norm of reaction and phenocopy. Human pedigree analysis	Bsc (H) Biological sciences Sem V	BS-C12 Fundamentals of Genetics
		Tertiary and quaternary structures.Motifs and domains.Structures of myoglobin and haemoglobin. Oxygen binding curves, influence of 2,3-BPG, CO_2. Concerted and sequential models for allosteric proteins.Haemoglobin disorders.Denaturation and renaturation of proteins.Introduction to thermodynamics of folding.Role of chaperones, chaperonins and PDI. Defects in protein folding: Alzheimer‟s and Prion based.	Bsc (H) Biological Sciences Sem III	BS C5

	Practicals:	Assay for acid phosphatase activity and specific activity. 5. Progress curve of enzyme	Bsc (H) Biological Sciences Sem III	BS C5
		Study of abnormal human karyotype Study of pedigrees (dry lab) Demonstration of DNA Fingerprinting	BSc (H) Biological Sciences Sem V	BS-C12 Fundamentals of Genetics
		BMR Calculation Glutathione Reductase estimation Catalase estimation	BSc (H) Biochemistry Sem V	BCH DSE I Nutritional Biochemistry
NOVEMBER	**Theory:**	Inheritance of complex trait, analysis of quantitative traits, narrow and broad sense heritability, quantitative trait loci (QTL) and their identification. Hardy-Weinberg law, predicting allele and genotype frequencies and exceptions to Hardy-Weinberg principle. Molecular evolution - analysis of nucleotide and amino acid sequences, molecular phylogenies, homologous sequences, phenotypic evolution and speciation.	BSc (H) Biochemistry Sem V	BCH C 11
		Chloroplast mutation/Variegation in four 'o clock plant and Chlamydomonas, Mitochondrial mutations in Neurospora and yeast, Maternal effects, Infective heredity-Kappa particles in Paramecium	Bsc (H) Biological sciences Sem V	BS-C12 Fundamentals of Genetics
		Ammonium sulphate fractionation, dialysis.Ion exchange chromatography, molecular sieve chromatography, affinity chromatography, HPLC and FPLC. Gel electrophoresis, SDS-PAGE, IEF and 2-D electrophoresis.	Bsc (H) Biological Sciences Sem III	BS C5

	Practical:	Effect of pH on enzyme activity. 7. Determination of Km and Vmax using Lineweaver-Burk plot	Bsc (H) Biological Sciences Sem III	BS C 5
		Study of Linkage, recombination, gene mapping using marker based data fromDrosophila. Allium/phlox karyotype	BSc (H) Biological Sciences Sem V	BS-C12 Fundamentals of Genetics
		Polyphenol estimation in Plants Vitamin E assay	BSc (H) Biochemistry Sem V	BCH DSE I Nutritional Biochemistry
DECEMBER	**Theory**	Biology of plasmids (conjugative, nonconjugative, relaxed and stringent control of copy number , incompatibility) Plasmid based vectors(one step and two-step selection); Biology of Lambda phage (lytic versus lysogenic cycle), λ bacteriophage based vectors (insertional and replacement),in vitro packaging; Biology of M13 bacteriophage, M13 phage based vectors, phagemids	PG Diploma Sem I	PGD MB 102
JANUARY	Theory	High capacity vectors: cosmids, P1 phage based vectors, PACs, yeast artificial chromosomes, bacterial artificial chromosomes. Advantages of each vector. Solid phase synthesis of DNA: (phosphoramidite based).	PG Diploma Sem I	PGD MB 102
FEBRUARY	Theory	Radiolabelled probe preparation via nick translation, random priming, 3' end labeling, 5'end labeling, Guessmers and degenerate probes, Non radioactive probes preparation using Biotin, Digoxigenin.	PG Diploma Sem I	PGD MB 102

Name of the Faculty: Dr. NITIKA KAUSHAL

Department: BIOCHEMISTRY

Semester: I/III/V (2020 - 21) Odd Semester

Month		Topics	Course	Paper Code/Name
July	**Theory**	**Unit 2**: Hormone receptors - extracellular and intracellular. Receptor - hormone binding, Scatchard analysis.	B.Sc. Biochemistry (H) II Yr, Sem III	BCH C-7: Hormone Biochemistry
		Unit 5: Overview of The Cell Cycle; Eukaryotic Cell Cycle; Events of Mitotic Phase;	B.Sc. Biochemistry (H)	BCH DSE-6 Advanced Cell Biology
	Practicals	Induction of hydrolytic enzymes proteinases /amylases/lipase during germination	B.Sc. Biological Science (H) III Yr, Sem V	BS DSE9: Plant Biochemistry
		Isolation of organelles by sub cellular fractionation	B.Sc. Biochemistry (H)	BCH DSE-6 Advanced Cell Biology
August	**Theory**	**Unit 2**: G protein coupled receptors, G proteins, second messengers - cAMP, cGMP, IP3, DAG, Ca2+, NO. Effector systems - adenyl cyclase, guanyl cyclase, PDE, PLC. Protein kinases (PKA, PKB, PKC, PKG). Receptor tyrosine kinases - EGF, insulin, erythropoietin receptor	B.Sc. Biochemistry (H) II Yr, Sem III	BCH C-7: Hormone Biochemistry
		Unit 5: Events of Meiosis and Fertilization, Regulation of Cell Division and Cell Growth; Apoptosis and Necrosis	B.Sc. Biochemistry (H) III Yr, Sem V	BCH DSE-6 Advanced Cell Biology
	Practicals	Extraction and assay of Urease from Jack bean Estimation of carotene/ascorbic acid/phenols/tannins in fruits and vegetables	B.Sc. Biological Science (H) III Yr, Sem V	BS DSE9: Plant Biochemistry
		Identification of subcellular fractions by doing enzyme assays: Acid phosphatase, Succinate dehydrogenase Continuous evaluation I	B.Sc. Biochemistry (H) III Yr, Sem V	BCH DSE-6 Advanced Cell Biology
September	**Theory**	**Unit 2**: ras - MAP kinase cascade, JAK - STAT pathway. Steroid hormone/ thyroid hormone receptor mediated gene regulation. Receptor regulation and cross talk.	B.Sc. Biochemistry (H) II Yr, Sem III	BCH C-7: Hormone Biochemistry

		Unit 5: Stem Cells and Maintenance of Adult Tissues, Hematopoiesis, Embryonic Stem Cells and Therapeutic Cloning **Unit 3**: Assembly and Dynamics of Microtubules and Intermediate Filaments; Assembly and organization of Cilia and Flagella, Muscle Contractility; Cell Polarization And migration	B.Sc. Biochemistry (H) III Yr, Sem V	BCH DSE-6 Advanced Cell Biology
	Practical	Separation of photosynthetic pigments by TLC	B.Sc. Biological Science (H) III Yr, Sem V	BS DSE9: Plant Biochemistry
		Study of cell viability /death assay by use of trypan blue and MTT assay Identification and study of cancerous cells using permanent slides and photomicrographs. Continuous evaluation II	B.Sc. Biochemistry (H) III Yr, Sem V	BCH DSE-6 Advanced Cell Biology
October	**Theory**	Unit 6: Regulation of release of insulin, glucagon, gastrin, secretin, CCK, GIP, adiponectin, leptin and ghrelin. Summary of hormone metabolite control of GI function. Physiological and biochemical action.	B.Sc. Biochemistry (H) II Yr, Sem III	BCH C-7: Hormone Biochemistry
		Unit 4: Cell-Cell Interactions and Cell-Matrix Interactions; Components of Extracellular Matrix: Collagen and Non-Collagen Components	B.Sc. Biochemistry (H) III Yr, Sem V	BCH DSE-6 Advanced Cell Biology
	Practical	Culture of plant plants	B.Sc. Biological Science (H) III Yr, Sem V	BS DSE9: Plant Biochemistry
		Study of apoptosis through analysis of DNA fragmentation patterns Continuous evaluation III	B.Sc. Biochemistry (H) III Yr, Sem V	BCH DSE-6 Advanced Cell Biology
November	**Theory**	Unit 6: Pathophysiology - diabetes type I and type II.	B.Sc. Biochemistry (H) II Yr, Sem III	BCH C-7: Hormone Biochemistry
		Unit 4: Role of Cell Interaction in Development	B.Sc. Biochemistry (H)	BCH DSE-6 Advanced Cell Biology
		Overview of the immune system: Introduction	PGDMB	PGDMB-103/ Immunology I
	Practical	Continuous Evaluation and Practical Examination	B.Sc. Biological Science (H) III Yr, Sem V	BS DSE9: Plant Biochemistry
		Continuous Evaluation and Practical Examination	B.Sc. Biochemistry (H) III Yr, Sem V	BCH DSE-7 Plant Biochemistry
		Continuous Evaluation and Practical Examination	B.Sc. Biochemistry (H) III Yr, Sem V	BCH DSE-6 Advanced Cell Biology

December	**Theory**	**Overview of the immune system**: Innate immunity and Toll like receptors **Organization of the immune system**: cells of the immune system	PGDMB	PGDMB-103/ Immunology I
	Practical	Visualization of animal and plant cell by methylene blue. Visualization of animal and plant cell by safranin.	B.Sc. Biochemistry (H) I Yr, Sem I	BCH C-2: Cell Biology
January	**Theory**	**Organization of the immune system**: Organs of the immune system	PGDMB	PGDMB-103/ Immunology I
	Practical	To study the effect of isotonic, hypotonic and hypertonic solution on cells Cytochemical Staining of RNA by Methyl Green Pyronin To study different stages of mitosis by temporary preparation in onion root tip	B.Sc. Biochemistry (H) I Yr, Sem I	BCH C-2: Cell Biology
February	**Theory**	**Generation of antibody diversity**: multi gene organization of immunoglobulin genes, mechanism of gene rearrangement **The response of B cells to antigen**: B cell maturation, activation and proliferation, Signaling pathways leading to B cell activation, germinal centers and formation of plasma cells, memory cells, class switching memory cells, class switching	PGDMB	PGDMB-103/ Immunology I
	Practical	Meiosis in onion flower bud Study of cell organelles using electron micrographs Continuous evaluation	B.Sc. Biochemistry (H) I Yr, Sem I	BCH C-2: Cell Biology
March	**Theory**	Revision	PGDMB	PGDMB-103/ Immunology I
	Practical	Final Practical Examination	B.Sc. Biochemistry (H) I Yr, Sem I	BCH C-2: Cell Biology

SEMESTER WISE TEACHING PLAN
SRI VENKATESWARA COLLEGE

2020-21

Name of the Faculty: Dr.N.Latha   **Department: BIOCHEMISTRY**

Semester: III /V   (2020-2021)

Month		Topics	Course	Paper Code/Name
AUGUST 2020	**Theory**	Introduction to Fatty acid Metabolism	B.Sc. BIOCHEMISTRY Hons.) II Year, Semester III	CBCS C5: Metabolism OF Carbohydrates & Lipids
	Practicals	Assay of salivary amylase	B.Sc. BIOCHEMISTRY Hons.) II Year, Semester III	CBCS C5: Metabolism OF Carbohydrates & Lipids
SEPTEMBER 2020	**Theory**	Digestion, mobilisation and transport of cholesterol and triacyl glycerols, fatty acid transport to mitochondria, β oxidation of saturated, unsaturated, odd and even numbered and branched chain fatty acids, regulation of fatty acid oxidation, peroxisomal oxidation, ω oxidation, ketone bodies metabolism, ketoacidosis.	B.Sc. BIOCHEMISTRY Hons.) II Year, Semester III	CBCS C5: Metabolism OF Carbohydrates & Lipids
		Estimation of blood glucose in serum using ortho-toluidine method/ GOD-PxD method; Isolation of lipids from egg yolk; Cholesterol estimation	B.Sc. BIOCHEMISTRY Hons.) II Year, Semester III	CBCS C5: Metabolism OF Carbohydrates & Lipids
OCTOBER 2020	**Theory**	Fatty acid Biosynthesis, Fatty acid synthase complex. Synthesis of saturated, unsaturated, odd and even chain fattyacids and regulation, Synthesis of membrane phospholipids in prokaryotes and eukaryotes, respiratory distress 16syndrome, biosynthesis of triacylglycerol, biosynthesis of plasmalogens, sphingolipids and glycolipids, lipid storage diseases.	B.Sc. BIOCHEMISTRY Hons.) II Year, Semester III	CBCS C5: Metabolism OF Carbohydrates & Lipids

	Practicals	Separation and identification of egg yolk lipids by TLC; Sugar fermentation by microorganisms	B.Sc. BIOCHEMISTRY Hons.) II Year, Semester III	CBCS C5: Metabolism OF Carbohydrates & Lipids
	Test	Fatty acid Metabolism- β oxidation of saturated, unsaturated, odd and even numbered and branched chain fatty acids, regulation of fatty acid oxidation, peroxisomal oxidation, ω oxidation, ketone bodies metabolism, ketoacidosis.	B.Sc. BIOCHEMISTRY Hons.) II Year, Semester III	CBCS C5: Metabolism OF Carbohydrates & Lipids
NOVEMBER 2020	**Theory**	Synthesis of prostagladins, leukotrienes and thromboxanes. Synthesis of cholesterol, regulation of cholesterol synthesis. Synthesis of steroids and isoprenoids	B.Sc. BIOCHEMISTRY Hons.) II Year, Semester III	CBCS C5: Metabolism OF Carbohydrates & Lipids
	Practicals:	Revision and Practical Examination (Online)	B.Sc. BIOCHEMISTRY Hons.) II Year, Semester III	CBCS C5: Metabolism OF Carbohydrates & Lipids
	Assignment	Fatty acid Biosynthesis, Fatty acid synthase complex. Synthesis of saturated, unsaturated, odd and even chain fattyacids and regulation, Synthesis of membrane phospholipids in prokaryotes and eukaryotes, respiratory distress 16syndrome, biosynthesis of triacylglycerol, biosynthesis of plasmalogens, sphingolipids and glycolipids, lipid storage diseases.	B.Sc. BIOCHEMISTRY Hons.) II Year, Semester III	CBCS C5: Metabolism OF Carbohydrates & Lipids

SEMESTER WISE TEACHING PLAN

SRI VENKATESWARA COLLEGE

2020-21

Name of the Faculty: Dr.N.Latha   Department: BIOCHEMISTRY

Semester: IV/VI   (2020-2021)

Mode of Teaching: Online (Google Meet/Google Classroom)

Month		Topics	Course	Paper Code/Name
JAN 2020	**Theory**	Introduction to Bioinformatics, Computer fundamentals – Operating Systems, Hardware, Software, Programming languages in bioinformatics - PERL/R programming, role of supercomputers in biology, Historical background. Scope of bioinformatics - Genomics, Proteomics, Computer aided drug discovery and design (CADD) and Systems Biology	B.Sc. BIOCHEMISTRY Hons.) II Year, Semester IV	CBCS: BCH SEC 4 Bioinformatics
	Practicals	Immunodiffusion Techniques: DID SRID and IEP.	B.Sc. BIOCHEMISTRY (Hons.) III Year, Semester VI	BCH C 14 Immunology
		Retrieval of Amino Acid Sequences from NCBI • Protein Structure Retrieval using PDB and visualization using Jmol	B.Sc. BIOCHEMISTRY Hons.) II Year, Semester IV	CBCS: BCH SEC 4 Bioinformatics
FEBRUARY 2020	**Theory**	Introduction to biological databases - primary, secondary and composite databases, NCBI, nucleic acid databases (GenBank, EMBL, DDBJ, NDB), protein databases , metabolic pathway database (KEGG, EcoCyc, and MetaCyc), small molecule databases (PubChem, Drug Bank, ZINC, CSD). Organism specific databases (E. coli, yeast, Arabidopsis, mouse, Drosophila melanogaster), Structure viewers (Ras Mol, J mol) and File formats.	B.Sc. BIOCHEMISTRY Hons.) II Year, Semester IV	CBCS: BCH SEC 4 Bioinformatics
	Practicals	Isolation, quantification of IgG from human sera using ion exchange chromatography. Rocket electrophoresis and PBMNC isolation in OFFLINE Mode	B.Sc. BIOCHEMISTRY (Hons.) III Year, Semester VI	BCH C 14 Immunology
		Pairwise Alignment using BLAST • Multiple Sequence Alignment using ClustalW	B.Sc. BIOCHEMISTRY Hons.) II Year, Semester IV	CBCS: BCH SEC 4 Bioinformatics
MARCH 2020	**Theory**	Similarity, identity and homology. Concept of Alignment – local and global alignment, pairwise and multiple sequence alignments, amino acid substitution matrices (PAM and BLOSUM), BLAST and CLUSTALW, Definition of phylogeny and its importance, Methods of Phylogenetic tree generation, Phylip , Protein Structure - Primary, Secondary	B.Sc. BIOCHEMISTRY Hons.) II Year, Semester IV	CBCS: BCH SEC 4 Bioinformatics

		and Tertiary structure, Protein structure prediction methods: Homology modeling, Fold recognition and ab-initio methods, Ramachandran plot		
	Practicals	IEP, DID , SRID ,Active and passive hemagglutination in OFFLINE Mode	B.Sc. BIOCHEMISTRY (Hons.) III Year, Semester VI	BCH C 14 Immunology
		Primary sequence analysis using Protparam Tool • Secondary Structural elements Prediction • Transmembrane Helices Prediction using TMHMM • Mid Term Assignment	B.Sc. BIOCHEMISTRY Hons.) II Year, Semester IV	CBCS: BCH SEC 4 Bioinformatics
APRIL 2020	**Theory**	Introduction to genomics, comparative and functional genomics, gene structure in prokaryotes and eukaryotes, Genome annotation, gene prediction approaches and tools.	B.Sc. BIOCHEMISTRY Hons.) II Year, Semester IV	CBCS: BCH SEC 4 Bioinformatics
	Practicals:	Practical revision, File correction and viva voce	B.Sc. BIOCHEMISTRY (Hons.) III Year, Semester VI	BCH C 14 Immunology
		To predict protein structure using Homology Modelling and validating by Ramachandran Plot • To perform gene prediction using GenScan	B.Sc. BIOCHEMISTRY Hons.) II Year, Semester IV	CBCS: BCH SEC 4 Bioinformatics

SEMESTER WISE TEACHING PLAN
SRI VENKATESWARCOLLEGE

2020-2021

Name of the Faculty: Dr.N. Latha   Department: BIOCHEMISTRY

Semester: I (Nov 2020-March 2021)

Month		Topics	Course	Paper Code/Name
NOVEMBER 2020	**Theory**	Building blocks of lipids - fatty acids, glycerol, ceramide.	B.Sc. BIOCHEMISTRY Hons.) I Year, Semester I	C1: Molecules of Life
DECEMEBER 2020	**Theory**	Storage lipids - triacyl glycerol and waxes Structural lipids in membranes – glycerophospholipids, galactolipids and sulpholipids, sphingolipids and sterols, structure, distribution and role of membrane lipids.	B.Sc. BIOCHEMISTRY Hons.) I Year, Semester I	C1: Molecules of Life
JANUARY 2021	**Theory**	Qualitative tests for lipids., Structure and active forms of water soluble and fat soluble vitamins, deficiency diseases and symptoms, hypervitaminosis	B.Sc. BIOCHEMISTRY Hons.) I Year, Semester I	C1: Molecules of Life
	TEST	Lipids –Structure & Function	B.Sc. BIOCHEMISTRY Hons.) I Year, Semester I	C1: Molecules of Life
FEBRUARY 2021	**Theory**	Plant steroids. Lipids as signals, cofactors and pigments, Amino Acids: Structure and classification, Physical, properties of amino acids Chemical and optical properties of amino acids	B.Sc. BIOCHEMISTRY Hons.) I Year, Semester I	C1: Molecules of Life
	Assignment	Amino Acids , Peptides	B.Sc. BIOCHEMISTRY Hons.) I Year, Semester I	C1: Molecules of Life
MARCH 2021	**Theory:**	, Structure and active forms of water soluble and fat soluble vitamins; Deficiency diseases and symptoms, hypervitaminosis	B.Sc. BIOCHEMISTRY Hons.) I Year, Semester I	C1: Molecules of Life
		BREAK FROM MARCH 28,2021 to MARCH 31,2021		

SEMESTER WISE TEACHING PLAN
SRI VENKATESWARCOLLEGE

2020-2021

Name of the Faculty: Dr.N. Latha   **Department: BIOCHEMISTRY**

Semester: II (APRIL 2021 – AUGUST 2021)

Month		Topics	Course	Paper Code/Name
APRIL 2021	**Theory**	Introduction to amino acids, peptides and proteins, Amino acids and their properties - hydrophobic, polar and charged. Multimeric proteins, Conjugated proteins and Metallo-proteins. Diversity of peptide and protein function and their applications. Solid phase peptide synthesis	B.Sc. BIOCHEMISTRY Hons.) I Year, Semester II	C3: PROTEINS
MAY 2021	**Theory**	Organization of protein structure into primary, secondary, tertiary and quaternary structures. N-terminal and C-terminal amino acid analysis. Sequencing techniques - Edman degradation. Generation of overlap peptides using different enzymes and chemical reagents. Disulfide bonds and their location. Forces stabilizing the protein structure - covalent and non-covalent. Importance of primary structure in protein folding	B.Sc. BIOCHEMISTRY Hons.) I Year, Semester II	C3: PROTEINS
JUNE 2021	**Theory**	The peptide bond, dihedral angles psi and 26 phi, helices, sheets and turns, Ramachandran map. Motifs and domains. Structures of myoglobin and haemoglobin, α-keratin, silk fibroin, collagen	B.Sc. BIOCHEMISTRY Hons.) I Year, Semester II	C3: PROTEINS
	TEST	Unit I : Introduction to proteins UNIT II: Hierarchy of protein structure	B.Sc. BIOCHEMISTRY Hons.) I Year, Semester II	C3: PROTEINS
JULY 2021	**Theory**	Introduction to protein sequence and structure databases (UNIPROT, SWISS-PROT & PDB), Protein sequence file Format (FASTA) and Visualization softwares, Class Presentations	B.Sc. BIOCHEMISTRY Hons.) I Year, Semester II	C3: PROTEINS
	Assignment	Protein Sequencing Problems	B.Sc. BIOCHEMISTRY Hons.) I Year, Semester II	C3: PROTEINS
AUGUST 2021	**Theory:**	, Class Presentations & Revision of topics	B.Sc. BIOCHEMISTRY Hons.) I Year, Semester II	C3: PROTEINS

SEMESTER WISE TEACHING PLAN
SRI VENKATESWARA COLLEGE

Name of the Faculty: Dr. Kalyani Krishna
Department: Botany   **Semester : I/III/V 2020**

Month		Topics	Course	Paper Code/Name
JULY	**Theory**	Introduction to paper and discussion about the paper	B.Sc. (H) Botany Semester V	Plant Physiology
		Cereals-wheat and rice: general account	B.Sc. (H) Botany Semester IV	Economic Botany
	Practicals	• To determine osmotic potential of plant cell sap by plasmolytic method	B.Sc. (H) Botany Semester V	Plant Physiology
		Cereals	B.Sc. (H) Botany Semester IV	Economic Botany
	Tutorials	--------------------------		
AUGUST	**Theory:**	Essential and beneficial elements, macro and micronutrients, methods of study nad use, criteria of essentiality, deficiency symptoms, role, chelating agents	B.Sc. (H) Botany Semester V	Plant Physiology
		Cereals: origin, evolution, morphology, post-harvest processing, uses, green revolution, millets and pseudocereals Legumes: general account, importance to man and ecosystem Beverages: tea, coffee, morphology, processing, uses Oils and fats:description, classification, extraction, uses, health implications, groundnut, coconut, linseed, mustard	B.Sc. (H) Botany Semester IV	Economic Botany

	Practicals:	• To determine water potential of given tissue by weight method. • To study the effect of two environmental factors (light and wind) on transpiration by excised twig • To calculate stomatal index and stomatal frequency from two surfaces of leaves of a mesophyte and xerophytes. • To calculate the area of open stoma and percentage of leaf area open through stomata in a mesophyte and xerophytes (both surfaces).	B.Sc. (H) Botany Semester V	Plant Physiology
		• Legumes • Fruits • Sugar and starches • spices	B.Sc. (H) Botany Semester IV	Economic Botany
	Tutorials:	---------------------		
SEPTEMBER	**Theory:**	Nutrient uptake, soil as a nutrient reservoir, transport of ions across cell membrane, passive absorption, electrochemical gradient, facilitated diffusion	B.Sc. (H) Botany Semester V	Plant Physiology
		Natural rubber: para-rubber, tapping, processing and uses Drug-yielding plants: *Cinchona, Digitalis, Papaver, Cannabis*	B.Sc. (H) Botany Semester IV	Economic Botany

	Practicals:	- To study the phenomenon of seed germination - To study the induction of amylase activity in germinating barley grains - To study the effect of different concentrations of IAA on coleoptiles elongation - To demonstrate bolting	B.Sc. (H) Botany Semester V	Plant Physiology
		- Beverages - Oils and fats - Essential oil-yielding plants - Rubber	B.Sc. (H) Botany Semester IV	Economic Botany
	Tutorials:	---------		
	Assignment :	Given to all students for respective papers		
OCTOBER	**Theory:**	Active absorption, role of ATP, carrier systems, proton ATPase pump, ion flux	B.Sc. (H) Botany Semester V	Plant Physiology
		Tobacco: morphology, Processing, uses Fibres: cotton	B.Sc. (H) Botany Semester IV	Economic Botany
	Practicals:	- To demonstrate effect of auxins on rooting - To demonstrate suction due to transpiration - To demonstrate fruit ripening	B.Sc. (H) Botany Semester V	Plant Physiology
		- Drug-yielding plants - Tobacco - Fibre-yielding plants	B.Sc. (H) Botany Semester IV	Economic Botany
	Tutorials:	---------		
	Test	Conducted for all papers		

NOVEMBER	**Theory:**	Uniport, co-transport, symport, antiport	B.Sc. (H) Botany Semester V	Plant Physiology
		Fibres: Jute	B.Sc. (H) Botany Semester IV	Economic Botany
	Practicals:	• Repetitions of experiments which students feel • Revision and test	B.Sc. (H) Botany Semester V	Plant Physiology
		• Repetitions of experiments which students feel • Revision and test	B.Sc. (H) Botany Semester IV	Economic Botany
	Tutorials:	--------		

Semester wise Teaching Plan
Sri Venkateswara College
Name of the Faculty: Dr. Sunila Khurana Dept. Botany
Odd Semesters (I & III)
Sem. I   Paper   Microbiology & Phycology (BHCC1)
LOCF Syllabus (Theory)

Unit		Topic
5	July	Algae : General Characteristics; Ecology and distribution; range of thallus organization; Cell structure and components cell wall; pigment system, reserve food of only groups represented in the syllabus) flagella, Methods of reproduction, classification, Criteria, system of Fritsch, and evolutionary classification of Lee (only upto groups); significant contributions of important Phycologists (F.E. Fritsch, G.M. Smith, R.N. Singh, T.V. Desikachary, H.D. Kumar, M.O.P. Iyengar)
6	August & September	Cyanophyta : Ecology and occurrence; range of thallus organization, cell structure, heterocyst, reproduction, economic importance, role in biotechnology; Morphology & life cycle of Nostoc.

Sem. I Paper Microbiology & Phycology Contd.
LOCF Syllabus

Unit	Topic

7
September & October

Chlorophyta : General Characteristics, Occurrence, range of thallus organization, cell structure and reproduction. Morphology & life cycles of Chlamydomonas, Volvox, Oedogonium, Coleochaete, Evolutionary significance of Prochloron

12
November

Applied Phycology : Role of algae in the environment, agriculture, biotechnology and industry

Microbiology & Phycology (Practical)

July & August

1. Electron micrographs / Model of Viruses- T-phage and TMV, Line drawings / Photographs of Cytic & Lysogenic Cycle.

August & September

2. Types of Bacteria (Temporary or Permanent slides / Photographs.) EM of bacteria, Binary fission, endospore, conjugation, root nodule

October & November

3. Gram staining of Bacteria

4. Study of Vegetative & reproductive structures of Nostoc, Chlamydomonas, Volvox, Oedogonium, Coleochaete, Chara, Vaucheria, Ectocarpus, Fucus & Polysiphonia, Prochloron.

Semester III

B. Sc. (Hons.) Botany II yr.

Paper Economic Botany (BHCC6)

LOCF syllabus

	Topic
Unit 4	Fruits : Mango & Citrus (Origin, Morphology, anatomy & Uses)
4 July	
8 August & September	Oils & Fats : General Description, Classification, extraction, their uses & health implications a) Ground nut b) Coconut c) Linseed d) Mustard (Botanical name, family & Uses)
9 October & November	Essential oils (General Account, Extraction, methods, Comparison with fatty oils and their uses.)

B.Sc. Life Sciences (Sem. I) Batch I & III
Biodiversity (LSCC2)

Practicals   Experiments

1) Viruses — structure of TMV and T-Phage (EM/model/photograph) Lytic & Lysogenic cycle (Line drawings/Photograph)

July   2) Bacteria — Types & Structure (Permanent slide/Photographs).

EM Bacterium & Binary Fission/Conjugation (Photographs)

August 3) Algae   a) Chlamydomonas — EM/Vegetative & Reproductive structure
     b) Nostoc
     c) Vaucheria
     d) Ectocarpus

Temporary & Permanent slides.

August 4) Fungi   a) Rhizopus
     b) Penicillium
     c) Alternaria

Asexual stage from temporary preparation/teate mount

     d) Puccinia — Teate mount of Spores on wheat, Section of infected wheat & Barberry specimens & Photographs

September 5) Bryophytes a) Marchantia : Morphology of Thallus/w.m. Rhizoids
Gemma cup L.S./F.S. V.S. Thallus through

B.Sc. Life Sciences &
Biodiversity (LSCC2)

Marchantia W.m. Gemmae
　　　　　L.S. Sporophyte (P.S.)

Anthoceros — Morphology of Thallus
　　　　　　　　W.m. Rhizoids
September　　L.S./T.S. Capsule
　　　　　　　　W.m. Spores
　　　　　　　　W.m. Pseudoelaters
　　　　　　　　L.S. Sporophyte (P.S.)

　　Funaria — Morphology of Gametophyte
　　　　　bearing sporophyte
　　　　　W.m. Rhizoids
　　　　　w.m. Leaf
　　　　　w.m. Operculum, Peristome
　　　　　and spores.
　　　　　L.S. Capsule (Permanent Slide)

6) Pteridophytes
　　　　　　Selaginella — Morphology
　　　　　　　　　T.S. stem
　　　　　　　　　w.m. Strobilus
October.　　　　w.m. Microsporophyll
　　　　　　　　　w.m. Megasporophyll
　　　　　　　　　L.S. Strobilus (P.S.)
　　　　　Equisetum — Morphology
　　　　　　　　　T.S. stem (Internode)
　　　　　　　　L.S./T.S. Strobilus,
　　　　　　　　w.m. Sporangiophore
　　　　　　　　w.m. Spores (Dry & wet)
　　　　　W.m. Prothallus c̄ sex organs

Pteris — Morphology
September   T.S. sporophyll
October   W.m. Sporangia
                        W.m. Spores
            W.m. Prothallus c̄ sex organs (P.S.)

7. Gymnosperms
October   Cycas — Morphology — coralloid root
  November   Leaf, microsporophyll
                      Megasporophyll
                      T.S. Coralloid root (P.S.)
                      V.S. Leaflet
                      V-S. Microsporophyll
                      W.m. spores
                      L.s. Ovule (P.S.)

November   Pinus — Morphology (Long & dwarf
                      Shoot, male & female cones)
                      W.m. Dwarf shoot
                      T.S. Needle
                      L.S./T.S. ♂ Cone
                      W.m. microsporophyll
                      W.m. microspores
                      L.S. female cone (P.S.)

SEMESTER WISE TEACHING PLAN
SRI VENKATESWARA COLLEGE(2020-21 Odd)

Name of the Faculty: Dr. Shukla Saluja

Department: Botany   Semester :

I/III/V

Month		Topics	Course	Paper Code/Name
AUG	**Theory**	Introduction.	B.Sc. Botany (Sem: V)	DSE-II, Biostatistics
		Introduction, Classification of tissues, Simple and complex tissue	B.Sc. Life Sc. (Sem: III)	CC-3,Plant Anatomy & Embryology
	Practicals	Calculation of arithmetic mean from given data. Calculation of geometric mean from given data. Calculation of harmonic mean from given data.	B.Sc. Botany (Sem: V)	DSE-II, Biostatistics
		1. Study of meristems through permanent slides and photographs. 2.Tissues (parenchyma, collenchyma and sclerenchyma); 3. Macerated xylary elements and Phloem	B.Sc.(P) Life Science (Sem: III)B-I&II	CC-3,Plant Anatomy & Embryology
	Tutorials	--------------------------		
SEPT	**Theory:**	History, statistical terms, Basic principles of biostatistics	B.Sc. Botany (Sem: V)	DSE-II, Biostatistics
		Meristematic tissues- types and classification, Stem organization of shoot apex , apical cell theory, tunical corpus theory.	B.Sc. Life Sc. (Sem: III)	CC-3/Plant Anatomy & Embryology

	Practicals:	1. Calculation of median from given data. 2. Calculation of mode from given data. 3. Calculation of standard deviation and error from given data.	B.Sc. Botany (Sem: V)	DSE-II, Biostatistics
		1. T.S. Stem: Monocot: *Zea mays*; Dicot: *Helianthus*. 2. T.S. Root: Monocot: *Zea mays*; Dicot: *Helianthus*. 3. Leaf: Dicot and Monocot (only Permanent slides).	B.Sc.(P) Life Science (Sem: III)B-I&II	CC-3/Plant Anatomy & Embryology
	Tutorials:	---------------------		
OCT	**Theory:**	Aims of biostatistics ,variables- measurements, applications, Limitations and Importance of biostatistics	B.Sc. Botany (Sem: V)	CDSE-II, Biostatistics
		Root Apical meristem Korper-Kappe theory. Structure of dicot and monocot root.	B.Sc. Life Sc. (Sem: III)	CC-3/Plant Anatomy & Embryology

	Practicals:	St1. Calculation of coefficient of variaance from given data. 2. Calculation of standard error of means and standard deviation from given data.	B.Sc. Botany (Sem: V)	DSE-II, Biostatistics
		1.Adaptive anatomy: Xerophyte (*Nerium* leaf); Hydrophyte (*Hydrilla* stem). 2.Structure of anther (young and mature) 3.Study of Polygonum type of embryo sac by photographs. 4. Types of ovules: anatropous, orthotropous, circinotropous, amphitropous/ campylotropous.	B.Sc.(P) Life Science (Sem: III)B-I&II)	CC-3/Plant Anatomy & Embryology
	Tutorials:	---------		
NOV	**Theory:**	Importance of biostatistics in modern research.	B.Sc. Botany (Sem: V)	DSE-II, Biostatistics
		Structure of Dicot and Monocot stem and root	B.Sc. Life Sc. (Sem: III)	CC-3/Plant Anatomy & Embryology
	Practicals:	1. Calculation of correlation coefficient value by Spearmen's rank method from given data. 2. Calculation of correlation coefficient value by Karl Pearson's method from given data.	B.Sc. Botany (Sem: V)	DSE-II, Biostatistics
		1. Dissection of embryo from developing seeds. 2. Dissection of endosperm from developing seeds. 3.Calculation of percentage of germinated pollen in a given medium	B B.Sc.(P) Life Science (Sem: III)B-I&II	CC-3/Plant Anatomy & Embryology
	Tutorials:	---------		
	Test			

SEMESTER WISE TEACHING PLAN
(July-Dec 2020)
SRI VENKATESWARA COLLEGE

Name of the Faculty: Dr. Aditi Kothari-Chhajer

Department: BOTANY   **Semester : I/III/V**

Month		Topics	Course	Paper
AUGUST	**Theory:**	Organization of flower; Structure: Anther and development of Pollen grains	B.Sc.(P) Life Sciences Sem III	Plant Anatomy and Embryology
		Principle; Paper chromatography; Column chromatography, TLC, GLC, HPLC, Ion exchange chromatography; Molecular sieve chromatography; Affinity chromatography.	B.Sc. (H) Botany Sem V	Analytical techniques in Plant Sciences
		Mitochondria:- Structure, marker enzymes, composition; Semiautonomous nature; Symbiont hypothesis; mitochondrial DNA. Chloroplast-Structure, marker enzymes, composition; semiautonomous nature, chloroplast DNA	B.Sc.(P) Life Sciences Sem V	Cell and Mol Bio
	Practicals:	• Study of meristems through permanent slides and photographs • Tissues (parenchyma, collenchyma and sclerenchyma), Macerated xylary elements, Phloem (permanent slides, photographs) • Stem : Monocot: *Zea mays* , Dicot : *Helianthus*	B.Sc.(P) Life Sciences Sem III	Plant Anatomy and Embryology
		• To study Prokaryotic cells : Bacteria(*E.coli),* Viruses (TMV, T2)-**Light and Electron Micrographs** • To study Eukaryotic cells: Plant and Animal - **Light and Electron Micrographs** • Study of Cell Organelles- Nucleus, Mitochondria, Chloroplasts, Golgi • Demonstration of dialysis of starch and simple sugar	B.Sc.(P) Life Sciences Sem V	Cell and Mol Bio
SEPTEMBER	**Theory:**	Ovules: Structure and types Embrysac and its types	B.Sc.(P) Life Sciences Sem III	Plant Anatomy and Embryology
		Radioisotopes: Use in biological research, auto-radiography, pulse chase experiment. Spectrophotometry Principle and its application in biological research	B.Sc. (H) Botany Sem V	Analytical techniques in Plant Sciences

		ER, Golgi body & Lysosomes:-Structures and roles. Peroxisomes and Glyoxisomes:_Structures, composition, functions in animals and plants and biogenesis. Cell Membrane: The functions of membranes; Models of membrane structure;	B.Sc.(P) Life Sciences Sem V	Cell and Mol Bio
	Practicals:	• Root : Monocot: *Zea mays* , Dicot : *Helianthus* • Leaf : Dicot and Monocot (only permanent slides) • Adaptive anatomy : Xerophyte (Nerium leaf), Hydrophyte (Hydrilla stem) • Structure of anther (young and mature)	B.Sc.(P) Life Sciences Sem III	Plant Anatomy and Embryology
		• Study of Cell Organelles- Golgi Complex, Endoplasmic Reticulum, Lysosomes - **Photomicrograph**s • To study the structure of plant cells (*Allium/Rhoeo/Crinum)* through **temporary mounts** • To study the structure of animal cells (squamous epithelial cells through **photograph** • Study the effects of temperature, organic solvents on semi permeable membrane • Study of plasmolysis and deplasmolysis on *Rhoeo* leaf	B.Sc.(P) Life Sciences Sem V	Cell and Mol Bio
	Tutorials:			
OCTOBER	**Theory:**	Embryo sac Types (monosporic, bisporic and tetrasporic) and development (with special reference to *Polygonum* type).	B.Sc.(P) Life Sciences Sem III	Plant Anatomy and Embryology
		Centrifugation: Differential and density gradient centrifugation, sucrose density gradient, $CaCl_2$ gradient, analytical centrifugation, ultracentrifugation, marker enzymes. Characterization of proteins and nucleic acids; Electrophoresis: AGE, PAGE, SDS-PAGE	B.Sc. (H) Botany Sem V	Analytical techniques in Plant Sciences
		The fluidity of membranes; Membrane proteins and their functions Cell wall.	B.Sc.(P) Life Sciences Sem V	Cell and Mol Bio
	Practicals:	• Types of ovules : anatropous, orthotropous, circinotropous, amphitropous, campylotropous • Female gametophyte: Polygonum (monosporic) type of Embryo sac (permanent slides/ photographs) • Pollination types and seed dispersal mechanism (including appendages, aril, caruncle) photographs/ specimens	B.Sc.(P) Life Sciences Sem III	Plant Anatomy and Embryology

		• To study the structure of animal cells (Nerve cells) through **photograph** • To study striated muscle fiber through **photograph** • To prepare **temporary stained preparation** of mitochondria from cheek epithelial cells using vital stain Janus Green • Measure the cell size (either length or breadth/diameter) by micrometry in *Allium* • Study the structure of nuclear pore complex by photograph (from Gerald Karp). Study of special chromosomes (Polytene and Lampbrush) by photographs • Study of DNA packaging by micrographs	B.Sc.(P) Life Sciences Sem V	Cell and Mol Bio
	Tutorials:			
NOVEMBER	**Theory:**	Pollination types and adaptations	B.Sc.(P) Life Sciences Sem III	Plant Anatomy and Embryology
		Mass spectrometry; X-ray diffraction; X-ray crystallography	B.Sc. (H) Botany Sem V	Analytical Techniques in Plant Sciences
		Overview of Cell cycle, Mitosis and Meiosis; Molecular controls.	B.Sc.(P) Life Sciences Sem V	Cell and Mol Bio
	Practicals:	• Dissection of embryo/ endosperm from developing seeds • Calculation of percentage of germinated pollen in a given medium	B.Sc.(P) Life Sciences Sem III	Plant Anatomy and Embryology
		• Preparation of Karyotype and Idiogram from the given photograph of somatic metaphase chromosome • To study mitosis and meiosis	B.Sc.(P) Life Sciences Sem V	Cell and Mol Bio
	Tutorials:			

SEMESTER WISE TEACHING PLAN
SRI VENKATESWARA COLLEGE

Name of the Faculty: Dr. Pooja Gokhale Sinha

Department: Botany

Course: B. Sc. (H) Botany, Semester: V

Paper Titles: Reproductive Biology of Angiosperms

MONTH		Topics	Course	Paper Code/Name
AUGUST	**Theory**	• Structure of flower • Structure and function of Anther and its wall layers	B.Sc. (H) Botany	Reproductive Biology of Angiosperms
	Practicals	• Observe variation in structure and organization of floral parts of different flowers. • Observe stage-wise variation in anatomy and ultrastructure of anther and tapetum through permanent slides and electron micrographs	B. Sc. (H) Botany	Reproductive Biology of Angiosperms
SEPTEMBER	**Theory:**	• Pollen Biology: Microsporogenesis, MGU • Pollen morphology and NPC system • Pollen viability, germination and abnormality • Structure of ovule • Female gametophyte and megasporogenesis • Organization of embryo sac and FGU	B. Sc. (H) Botany	Reproductive Biology of Angiosperms
	Practicals:	• Observe Pollen grains of various plants • Pollen germination by using different medium of germination • Structure of female gametophyte by permanent slides and electron micrographs	B. Sc. (H) Botany	Reproductive Biology of Angiosperms
OCTOBER	**Theory:**	• Types and pollination and associated adaptations • Pollen-pistil interaction and process of fertilization • Self incompatilbility: types and genetic mechanisms • Methods to overcome incompatibility with examples	B. Sc. (H) Botany	Reproductive Biology of Angiosperms

				B. Sc. (H) Botany	Reproductive Biology of Angiosperms
	Practicals		• Observe intra-ovarian pollination, test tube fertilization through photographs/ videos • Observe different pollination mechanisms through photographs/ videos and field visits	B. Sc. (H) Botany	Reproductive Biology of Angiosperms
NOVEM BER	**Theory:**		• Endosperm: types • Embryo: Types of embryogeny and associated structures • Seed: structure, dispersal mechanism • Polyembryony and apomixis	B. Sc. (H) Botany	Reproductive Biology of Angiosperms
	Practicals		• Dissection of embryo at various stages of development from *Cucumis* and *Calliandra* • Study of seed dispersal mechanism	B. Sc. (H) Botany	Reproductive Biology of Angiosperms

SEMESTER WISE
TEACHING PLAN
SRI VENKATESWARA COLLEGE

Name of the Faculty: Pooja Gokhale   **Department: Botany**

Course: B.Sc. (H) Biological Sciences, Semester: III

Paper: Functional Ecology

MONTH		Topics	Course	Paper Code/Name
AUGUST	**Theory**	Introduction to Ecology History and overview of school of thoughts	B.Sc. (H) Bio. Sci.	Functional Ecology
	Practicals	Study of ecological adaptaions: Morphological and anatomical	B.Sc. (H) Bio. Sci.	Functional Ecology
SEPTEMBER	**Theory:**	Levels of organization Community: Characteristics, structure	B.Sc. (H) Bio. Sci.	Functional Ecology
	Practicals	- Plotting of Species- area curve by minimal quadrat size - Frequency, density and abundance of herbaceous vegetation of SVC campus	B.Sc. (H) Bio. Sci.	Functional Ecology
OCTOBER	**Theory**	Raunkiers life forms Community function	B.Sc. (H) Bio. Sci.	Functional Ecology

NOVEMBER	Practical	Soil analysis by rapid field tests Analysis of physical characteristics of soil Principle and function of field instruments	B.Sc. (H) Bio. Sci.	Functional Ecology
	Theory	Succession: types and principles Hydrosere, xerosere and mesosere Structure and function Nutrient cycling and energy flow	B.Sc. (H) Bio. Sci.	Functional Ecology
	Practicals	Analysis of water samples to determine DO and BOD	B.Sc. (H) Bio. Sci.	Functional Ecology

Name of the Faculty: Dr. Pooja Gokhale Sinha

Department: Botany

Course: B. Sc. (H) Biological Sciences, Semester: V

Paper Titles: Growth and Reproduction

MONTH		Topics	Course	Paper Code/Name
AUGUST	**Theory**	- Structure of flower - Structure and function of Anther and its wall layers	B.Sc. (H) Biological Sciences	Growth and Reproduction
	Practicals	- Observe variation in structure and organization of floral parts of different flowers. - Observe stage-wise variation in anatomy and ultrastructure of anther and tapetum through permanent slides and electron micropgraphs	B.Sc. (H) Biological Sciences	Growth and Reproduction
SEPTEM BER	**Theory:**	- Pollen Biology: Microssporogenesis, MGU - Pollen morphology and NPC system - Pollen viability, germination and abnormality - Structure of ovule - Female gametophyte and megasporogenesis - Organization of embryo sac and FGU	B.Sc. (H) Biological Sciences	Growth and Reproduction
	Practicals:	- Observe Pollen grains of various plants - Pollen germination by using different medium of germination - Structure of female gametophyte by permanent slides and electron micrographs	B.Sc. (H) Biological Sciences	Growth and Reproduction
OCTOBE R	**Theory:**	- Types and pollination and associated adaptations - Pollen-pistil interaction and process of fertilization - Self incompatilbility: types and genetic mechanisms - Methods to overcome incompatibility with examples	B.Sc. (H) Biological Sciences	Growth and Reproduction
	Practicals	- Observe intra-ovarian pollination, test tube fertilization through photographs/ videos - Observe different pollination mechanisms through photographs/ videos and field visits - Endosperm dissection	B.Sc. (H) Biological Sciences	Growth and Reproduction

OCTOBER	Theory:	• Endosperm: types • Embryo: Types of embryogeny and associated structures • Seed: structure, dispersal mechanism • Polyembryony and apomixis • Genetic regulation of flowering • Genetic regulation of embryogenesis	B.Sc. (H) Biological Sciences	Growth and Reproduction
	Practicals	• Dissection of embryo at various stages of development from *Cucumis* and *Calliandra* • Study of seed dispersal mechanism	B.Sc. (H) Biological Sciences	Growth and Reproduction

SEMESTER WISE TEACHING PLAN
SRI VENKATESWARA COLLEGE

Name of the Faculty: Dr. Neeti Mehla

Department: Botany

Academic year- 2020 -2021   **Semester: I/III/V**

Month		Topics	Course	Paper Code/Name
AUGUST	**Theory:**	❖ Introduction to Transcription in prokaryotes ❖ Transcription in prokaryotes and Eukaryotes and their differences	❖ BSc.Life Sciences (V Sem)	❖ Cell and Molecular Biology
		❖ Importance of water, water potential and its components, pathway of water movement, ascent of sap, transpiration and its significance, factors affecting transpiration, root pressure and guttation, stomatal movements – only ion theory. ❖ Essential elements, macro- and micronutrients, criteria of essentiality of elements, methods of studying mineral requirement (Hydroponics, Aeroponics), role of essential elements, transport of ions across membrane, active and passive transport, carriers, channels and pumps	❖ Generic Elective paper	❖ Plant physioplogy and Metabolism
		❖ Cytoplasmic Inheritance- Chloroplast variegation in Chloroplast , Kappa particles in paramecium ❖ Types of mutations- somatic, germinal, spontaneous, induced auxotropic, biochemical and lethal mutations. ❖ Types of mutations- back, suppressor, substitution and frameshift mutations. ❖ Effect of physical mutagens- ionizing and non-ionizing radiations. ❖ Effect of chemical mutagens- base analogs, 5 Bromo uracil, nitrous acid, acridines and alkylating agents.	BSc. Botany (H) (III Sem)	Concepts of Genetics
	Practicals:	Introduction to the paper of Cell	BSc.Life Sciences (V	Cell and Molecular Biology

		and molecular Biology	Sem)	
		❖ To study Prokaryotic cells : Bacteria(*E.coli*), Viruses (TMV, T2)-**Light and Electron Micrographs** ❖ To study Eukaryotic cells: Plant and Animal - **Light and Electron Micrographs** ❖ Study of Cell Organelles- Nucleus, Mitochondria, Chloroplasts, Golgi ❖ Demonstration of dialysis of starch and simple sugar	BSc. Botany (H) (III Sem)	Concepts of Genetics
		❖ Introduction to Mendel's Monohybrid and Dihybrid ratio. Study of Gene interactions ratios 9:7,15:1 ❖ Gene interaction using rajma seeds, complementary genes and dominant epistasis (9:6:1,12:3:1,13:3 and 9:3:4 ratios using Rajmah seeds ❖ Pedigree analysis for dominant and recessive autosomal and sex linked traits. ❖ To study various divisional stages of Meiosis using *Allium cepa* flower buds		
	Tutorials:			
SEPTEMBER	**Theory:**	❖ Different types of RNA and Translation in Prokaryotes and Eukaryotes .	❖ BSc.Life Sciences (V Sem)	❖ Cell and molecular biology
		❖ Translocation in the phloem ❖ Pressure flow model for translocation of photoassimilates from source to sink cells.	❖ GE III Sem	❖ Plant Physiology ❖ Plant Physiology and Metabolism
		❖ Detection of mutations- CLB method of mutation ❖ Transposons, DNA repair mechanisms ❖ Structural changes in chromosomes- Deletion- definition, causes, mechanism, genetic effects examples and significance. ❖ Duplication, inversion and translocation-	❖ BSc. Botany (H) (III Sem)	❖ Concepts of Genetics

		definition, causes, mechanism, genetic effects, examples and significance. Numerical changes in chromosomes.		
	Practicals:	• Study of Cell Organelles-Golgi Complex, Endoplasmic Reticulum, Lysosomes - **Photomicrograph**s • To study the structure of plant cells (*Allium/Rhoeo/Crinum)* through **temporary mounts** • To study the structure of animal cells (squamous epithelial cells through **photograph** • Study the effects of temperature, organic solvents on semi permeable membrane • Study of plasmolysis and deplasmolysis on *Rhoeo* leaf	BSc.Life Sciences (V Sem)	Cell and Molecular Biology
		• Multiple alleles – concept and mechanism, blood typing (A,B,O and Rh factor). • Study of various genetic Disorders like Sickle cell Anemia,Xeroderma pigmentosum,Albinism and Red green color Blindness • To study various divisional stages of Meiosis using *Allium cepa* flower buds	BSc. Botany (H) (III Sem)	Concepts of Genetics
	Tutorials:			
	Assignment:		Bsc. Botany (H) IIISem	Concepts of Genetics
OCTOBER	**Theory:**	Genetic Code and principles of microscopy.Confocal microscopy,phase contrast microscopy and fluorescence microscopy.SEM,TEM	❖ BSc.Life Sciences (V Sem)	❖ Cell and Molecular Biology
		Translocation in phloem (6 lectures) Composition of phloem sap, girdling experiments, Pressure Flow Model, phloem loading and unloading.	❖ BSc. Botany (H) (VSem) ❖ Botany GE	❖ Plant Physiology ❖ Plant physiology and Metabolism
		Numerical changes in chromosomes- euploidy, polyploidy- auto and allo polyploidy, mechanism, non-	❖ BSc. Botany	❖ Concept of genetics

		disjunction of chromosomes and examples- *Triticale Gossipium Raphanobrassica*, wheat and modern bread wheat. Aneuploidy- causes and mechanism, examples *Datura* spp.,Down syndrome, Turner syndrome and klinefelter syndrome.	(H) (III Sem)	
	Practicals:	• To study the structure of animal cells (Nerve cells) through **photograph** • To study striated muscle fiber through **photograph** • To prepare **temporary stained preparation** of mitochondria from cheek epithelial cells using vital stain Janus Green • Measure the cell size (either length or breadth/diameter) by micrometry in *Allium* • Study the structure of nuclear pore complex by photograph (from Gerald Karp). Study of special chromosomes (Polytene and Lampbrush) by photographs	BSc.Life Sciences (V Sem)	Cell and Molecular Biology
		• Study of Aneuploidy in humans- Down syndrome, Turner syndrome, Klinefeltor syndrome. • Study of translocation ring and laggard, inversion bridge and mutlivalents. • Meiosis from onion flower buds • Study of DNA packaging by photographs	BSc. Botany (H) (III Sem)	Concepts of Genetics
	Tutorials:			
	Test		❖ BSc.Botany (H)III sem	Concept of Genetics
NOVEMBER	**Theory:**	X-ray diffraction analysis. Plant growth regulators-Discovery, physiological roles of auxins, gibberellins, cytokinins and ethylene. Plant response to light and temperature (6 Lectures) Photoperiodism - discovery (SDP, LDP, day neutral plants); phytochrome (discovery and structure), red and far-red light response on photomorphogenesis (general account), florigen (brief	❖ BSc.Life Sciences (V Sem) ❖ GE Plant Physiology and Metabolism ❖ BSc. Botany (H) (III Sem)	❖ Cell and Molecular Biology ❖ Plant Physiology and Metabolism ❖ Concept of Genetics

		account).		
		Classical versus molecular concept of gene, complementation test for functional allelism		
	Practicals:	• Preparation of Karyotype and Idiogram from the given photograph of somatic metaphase chromosome • To study mitosis and meiosis	BSc.Life Sciences (V Sem) BSc. Botany (H) (III Sem)	Cell and Molecular Biology Concepts of Genetics
	Tutorials:			

SEMESTER WISE TEACHING PLAN (2020-2021)
SRI VENKATESWARA COLLEGE

Name of the Faculty: Dr.Yogendra Kumar Gautam
Department: Botany   **Semester : I/III/V**

Month		Topics	Course	Paper Code/Name
AUGUST	**Theory**	Regression, simple regression equation, Fitting prediction, similarities and dissimilarities of correlation and regression.	B.Sc. (H)Botany (Sem: V)	DSE-II, Biostatistics
		Secondary Growth:Vascular cambium: structure and function, seasonal activity.	B.Sc.(P) Life Science (Sem: III)	LSCL-4/Plant Anatomy & Embryology
	Practicals	1. Calculation of arithmetic mean from given data. 2. Calculation of geometric mean from given data. 3. Calculation of harmonic mean from given data.	B.Sc. (H)Botany (Sem: V)	DSE-II, Biostatistics
		1. Study of meristems through permanent slides and photographs. 2.Tissues (parenchyma, collenchyma and sclerenchyma); 3. Macerated xylary elements and Phloem	B.Sc.(P) Life Science (Sem: III)B-I&II	LSCL-4/Plant Anatomy & Embryology
	Tutorials			
SEPTEMBER	**Theory:**	Measures of central tendency - mean, median, mode, merits & demerits of harmonic and geometric mean.	B.Sc. (H)Botany (Sem: V)	DSE-II, Biostatistics
		Secondary growth in root and stem, Wood (heartwood and sapwood; Ring and diffuse porous wood; Early and late wood)	B.Sc.(P) Life Science (Sem: III)	LSCL-4/Plant Anatomy & Embryology
	Practicals:	1. Calculation of median from given data. 2. Calculation of mode from given data. 3. Calculation of standard deviation and error from given data.	B.Sc. (H)Botany (Sem: V)	DSE-II, Biostatistics
		1. T.S. Stem: Monocot: *Zea mays*; Dicot: *Helianthus*. 2. T.S. Root: Monocot: *Zea mays*; Dicot: *Helianthus*. 3. Leaf: Dicot and Monocot (only Permanent slides).	B.Sc.(P) Life Science (Sem: III)B-I&II	LSCL-4/Plant Anatomy & Embryology
	Tutorials:			
	Assignment :		B.Sc. (H)Botany (Sem: V)	DSE-II, Biostatistics
			B.Sc.(P) Life Science Sem.III(Sec.B)	LSCL-4/Plant Anatomy & Embryology

OCTOBER	**Theory:**	Measures of dispersion - range, standard deviation, mean deviation, standard error, skewness and kurtosis, quartile deviation – merits and demerits; Co- efficient of variations.	B.Sc. (H)Botany (Sem: V)	DSE-II, Biostatistics
		Adaptive and protective systems:Epidermis (trichomes and hair), cuticle, stomata: structure and type (Metcalf and Chalk Classification)	B.Sc.(P) Life Science (Sem: III)	LSCL-4/Plant Anatomy & Embryology
	Practicals:	1. Calculation of coefficient of variaance from given data. 2. Calculation of standard error of means and standard deviation from given data.	B.Sc. (H)Botany (Sem: V)	DSE-II, Biostatistics
		1.Adaptive anatomy: Xerophyte (*Nerium* leaf); Hydrophyte (*Hydrilla* stem). 2.Structure of anther (young and mature) 3.Study of Polygonum type of embryo sac by photographs. 4. Types of ovules: anatropous, orthotropous, circinotropous, amphitropous/ campylotropous.	B.Sc.(P) Life Science (Sem: III)B-I&II	LSCL-4/Plant Anatomy & Embryology
	Tutorials:			
	Test		B.Sc. (H)Botany (Sem: V)	DSE-II, Biostatistics
			B.Sc.(P) Life Science (Sem: III)Sec.B	LSCL-4/Plant Anatomy & Embryology
NOVEMBER	**Theory:**	Correlation - types and methods of correlation, similarities and dissimilarities of correlation with regression.	B.Sc. (H)Botany (Sem: V)	DSE-II, Biostatistics
		General account of adaptations in xerophytes and hydrophytes (Examples may be cited from Nerium, Opuntia, Hydrilla and Nymphaea).	B.Sc.(P) Life Science (Sem: III)	LSCL-4/Plant Anatomy & Embryology
		Introduction to microbial world. Discovery, general characteristics, types-archaebacteria, eubacteria	B.Sc. (H)Botany (Sem: I)	BHCC-1/Microbiology & Phycology
	Practicals:	1. Calculation of correlation coefficient value by Spearmen's rank method from given data. 2. Calculation of correlation coefficient value by Karl Pearson's method from given data.	B.Sc. (H)Botany (Sem: V)	DSE-II, Biostatistics
		1. Dissection of embryo from developing seeds. 2. Dissection of endosperm from developing seeds. 3.Calculation of percentage of germinated pollen in a given medium	B.Sc.(P) Life Science (Sem: III)B-I&II	LSCL-4/Plant Anatomy & Embryology
	Tutorials:			
DECEMBER	**Theory:**	Statistical inference - hypothesis - simple hypothesis - student't' test - chi square test, F-test.	B.Sc. (H)Botany (Sem: V)	DSE-II, Biostatistics

		Embryo and endosperm:Endosperm types (one example of each type), structure and functions; Dicot and Monocot embryo (Brief account of dicot embryo development); Embryo endosperm relationship (General account).	B.Sc.(P) Life Science (Sem: III)	LSCL-4/Plant Anatomy & Embryology
		Discovery, general characteristics, wall-less forms (mycoplasma and spheroplasts), Eubacteria- Cell structure, nutritional types.	B.Sc. (H)Botany (Sem: I)	BHCC-1/Microbiology & Phycology
	Practicals:	1. Calculation of test of significance by t-test value method from given data. 2. Calculation of test of significance by f-test value method from given data. 3. Calculation of test of significance by chi-square value method from given data.	B.Sc. (H)Botany (Sem: V)	DSE-II, Biostatistics
		1. Pollination types 2.Seed dispersal mechanisms (including appendages, aril,caruncle) 3.Practical file uploading and Test.	B.Sc.(P) Life Science (Sem: III)B-I&II	LSCL-4/Plant Anatomy & Embryology
	Tutorials:			

Name of the Faculty: Dr. Tabassum Afshan

Department: Botany

Semester : III

Month		Topics	Course	Paper Code/Name
AUGUST	**Theory**	1.Classification of tissues, Simple and Complex Tissues	B.Sc. Botany (Hons)	CC – V (Anatomy of Angiosperms)
		2.Methodology of Ethnobotanical studies : a).Field work b).Herbarium c).Ancient literature d).Archaeological findings e). Temples and sacred places	B.Sc. Botany (Hons) B.Sc. Life Science	SEC - Ethnobotany SEC - Ethnobotany
	Practicals	1. Dicot, Monocot Stem—T.S. Dicot, Monocot Root—T.S.	B.Sc. Botany (Hons)	CC – V (Anatomy of Angiosperms)
		2.Collection methods of plants from the field	B.Sc. Life Science	SEC - Ethnobotany
		3. Study of meristems through permanent slides and photographs 4. Tissues (parenchyma, collenchyma and sclerenchyma), Macerated xylary elements, Phloem (permanent slides, photographs) 5.Stem : Monocot: *Zea mays* , Dicot : *Helianthus*	B.Sc. Life Science	CC – III /Plant Anatomy and Embryology
	Tutorials			

SEPTEMBER	**Theory:**	1. Pits and plasmodesmata, Wall ingrowths and transfer cells, adcrustation and incrustation, Ergastic substances.	B.Sc. Botany (Hons)	CC – V / Anatomy of Angiosperms
		2. Stem : Organisation of shoot apex(Apical cell theory, Histogen theory, Tunica Corpus theory, Continuing meristematic residue, Cytohistological zonation.		
		3.Role of Ethnobotany in modern medicine : Medico Ethnobotanical sources in India, significance of the following plants in Ethnobotanical practices(along with their habitat and morphology)a)*Azardirachta indica,* b)*Ocimum sanctum*, c)*Vitex negundo*, d)*Gloriosa superba*	B.Sc. Botany (Hons) B.Sc. Life Science	SEC : Ethnobotany SEC : Ethnobotany
	Practicals:	1. Parenchyma, Collenchyma, Sclerenchyma – P.S.	B.Sc. Botany (Hons.)	CC – V / Anatomy of Angiosperms
		2.Periderm, Lenticels, Trichomes, Stomata.		
		3. Dicot, Monocot leaf -T.S.		
		4. Preparation and labelling of Herbarium specimens (10 plants)	B.Sc. Life Science	SEC : Ethnobotany
		5. Extraction of crude extracts from various ethnobotanically related plant material		
		6.Root : Monocot: *Zea mays* , Dicot : *Helianthus* 7. Leaf : Dicot and Monocot (only permanent slides) 8. Adaptive anatomy : Xerophyte (Nerium leaf), Hydrophyte (Hydrilla stem) 9. Structure of anther (young and mature)	B.Sc. Life Science	CC – III /Plant Anatomy and Embryology
	Tutorials:			

OCTOBER	**Theory:**	1.Structure of Dicot and Monocot leaf, Kranz anatomy, Exodermis, Endodermis, Origin of lateral root	B.Sc. Botany (Hons.)	CC – V / Anatomy of Angiosperms
		2. Types of vascular bundles, structure of Dicot and Monocot Stem		
		3. Leaf : Structure of Dicot and Monocot leaf, Kranz Anatomy		
		4. Root : Organisation of Root apex, (Apical cell theory, Histogen theory, Korper-Kappe theory), Quiescencentre, Root cap, Structure of Dicot and Monocot Root, Endodermis, Exodermis, Origin of Lateral root		
		5. Significance of following plants e) *Tribulus terrestris, f) Pongamia pinnata, g) Cassia auriculata, h)Indigofera tinctoria*	B.Sc. Botany (Hons.) B.Sc. Life Science	SEC : Ethnobotany SEC : Ethnobotany
		6. Role of Ethnobotany in modern medicine with special example – *Rauvolfia serpentine, Trichopus zeylanicus, Artemesia, Withania*		

	Practicals:	1. Kranz anatomy, Hydrophytes, Xerophytes, Heartwood, Sapwood, Tyloses, Secretory tissues –Lithocyst, Cavities, Laticifers	B.Sc. Botany (Hons.)	CC – V / Anatomy of Angiosperms
		2. Field Survey and collection of information on Ethnobotanical uses from traditional healers (any 2)	B.Sc. Life Science	SEC Ethnobotany
		3. To develop scientific knowledge of plants used for treatment of various purposes in ancient literature.		
		4.Types of ovules : anatropous, orthotropous, circinotropous, amphitropous, campylotropous 5. Female gametophyte: Polygonum (monosporic) type of Embryo sac (permanent slides/ photographs) 6. Pollination types and seed dispersal mechanism (including appendages, aril, caruncle) photographs/ specimens	B.Sc. Life Science	CC – III /Plant Anatomy and Embryology
	Tutorials:			
	Assignment :	Entire syllabus		
NOVEMBER	**Theory:**	1.Vascular Cambium – Strucure, Function and Seasonal Activity of Cambium, Secondary growth in root and Stem.	B.Sc. Botany (Hons.)	CC – V / Anatomy of Angiosperms
		2. Wood – Axially and radially oriented elements, types of rays and axial Parenchyma, cyclic aspects and reaction wood, sap wood and heart wood, ring and diffuse porous wood, early and late wood, tyloses, dendrochronology 3. Periderm – Development and composition of Periderm, Rhytidome and lenticels		
		4.Role of Ethnic groups in conservation of plant genetic resources, endangered taxa and forest management (participatory management), Ethnobotany as a tool to protect interests of ethnic groups, sharing of wealth concept with few examples from India 5. Ethnobotany and legal aspects – Biopiracy, Intellectual property rights and traditional knowledge	B. Sc. Botany (Hons) B.Sc. Life Science	SEC : Ethnobotany SEC : Ethnobotany

	Practicals:	1.Epidermal hairs, Trichomes, Maceration, Ring porous, Diffuse porous(Photographs)	B.Sc. Botany (Hons.)	CC – V / Anatomy of Angiosperms
		2. Knowledge of some plants used in various ceremonies	B.Sc. Botany (Hons)	SEC : Ethnobotany
		3.Dissection of embryo/ endosperm from developing seeds 4. Calculation of percentage of germinated pollen in a given medium	B.Sc. Life Science	CC – III /Plant Anatomy and Embryology
	Tutorials:			
	<u>Test</u>	Entire syllabus		

SEMESTER WISE TEACHING PLAN (2019-2020)
SRI VENKATESWARA COLLEGE

Name of the Faculty: Dr. Pamil Tayal   **Department: Botany**

Semester : I/III/V

Month		Topics	Course	Paper Code/Name
AUGUST	**Theory**	Principle of Microscopy (light Microscopy), Numerical Aperture	**B.Sc. (H) Botany**	**Analytical Techniques in Plant Sciences**
		Introduction to ethnobotany, its aims and scope, interdisciplinary science, folk medicine and Indian tribes	**B.Sc. (H) Botany and B.Sc. Life Science**	**SEC-Ethnobotany**
		Introduction to cell, overview of prokaryotic and eukaryotic cells with animals and plant cells, history of cell biology	**B.Sc. (H) Biological Science**	**Concepts in cell Biology**
	Practicals	Study of Blotting Techniques (Southern, Northern and Western), Polymerase Chain Reaction, DNA finger printing and DNA sequencing	**B.Sc. (H) Botany**	**Analytical Techniques in Plant Sciences**
		Preparation of Herbaria and Collection methods of plants from the field	**B.Sc. (H) Botany**	**SEC-Ethnobotany**
		To study prokaryotic cell, eukaryotic cell, TMV, virus types and different cell organelles, to prepare temporary squash preparation of mitochondria, to study mitotic divisional stages	**B.Sc. Life Science**	**Cell and Molecular Biology**
	Tutorials			

SEPTEMBER	Theory:	working and applications of Transmission and Scanning Electron Microscopy, negative and positive staining	B.Sc. (H) Botany	Analytical Techniques in Plant Sciences
		ethnobotany of India and their distribution of tribal communities, role of folk medicine in traditional practices, applications of natural plant products against common diseases	B.Sc. (H) Botany and B.Sc. Life Science	SEC-Ethnobotany
		Details of Virus structure and their replication, Bacteria types and their reproduction, Mycoplasmas	B.Sc. (H) Biological Science	Concepts in cell Biology
	Practicals:	Study of ELISA, To separate nitrogenous bases by paper chromatography, to separate sugars by TLC, AGE and PAGE	B.Sc. (H) Botany	Analytical Techniques in Plant Sciences
		To extract active principle components or secondary metabolites from commonly available medicinal plants, understanding the morphology and identification and usage of common medicinal plants, understand indigenous system of medicine	B.Sc. (H) Botany	SEC-Ethnobotany
		To study structure of plant cell and animal cell, nerve cell and muscle fiber through photographs, to study meiotic divisional stages in flower buds of onion, to study the effect of temperature and organic matter on the permeability of plasma membrane	B.Sc. Life Science	Cell and Molecular Biology
	Tutorials:			

	Assignment :	Assignment related to theory was given to every student		
OCTOBER	**Theory:**	Methods of sample preparation for electron microscopy (shadow casting, freeze fracture, etching), characterization of nucleic acids	**B.Sc. (H) Botany**	**Analytical Techniques in Plant Sciences**
		Role of ethnic groups in the conservation of plant genetic resources, Biopiracy and Intellectual Property Rights (IPR)	**B.Sc. (H) Botany and B.Sc. Life Science**	**SEC-Ethnobotany**
		Cell wall, distribution, chemical composition, functions and varieties in prokaryotic and eukaryotic cells, cytoskeletal elements, types and their functions	**B.Sc. (H) Biological Science**	**Concepts in cell Biology**
	Practicals:	Isolation of chloroplast by differential centrifugation, study of different microscopic techniques, FISH and fluorescence microscopy	**B.Sc. (H) Botany**	**Analytical Techniques in Plant Sciences**
		Conservation strategies, propagation of medicinal plants, herbaria preparation, and systems of medicine	**B.Sc. (H) Botany**	**SEC-Ethnobotany**
		Measurement of cell size by stage and ocular, DNA packaging, study of special chromosomes, preparation of karyotype and ideograms, plasmolysis and deplasmolysis, dialysis	**B.Sc. Life Science**	**Cell and Molecular Biology**
	Tutorials:			
	Test	Internal theory test was conducted as per the date sheet		

NOVEMBER	Theory:	X-Ray Crystallography and diffraction patterns, Flow cytometry	**B.Sc. (H) Botany**	**Analytical Techniques in Plant Sciences**
		Etnomedicinal plants and gardens, herbal gardens, sacred groves, Role of Ethnobotany in modern medicine : Medico Ethnobotanical sources in India, significance of the following plants in Ethnobotanical practices(along with their habitat and morphology)a)*Azardirachta indica,* b)*Ocimum sanctum*, c)*Vitex negundo*, d)*Gloriosa superba*	**B.Sc. (H) Botany and B.Sc. Life Science**	**SEC-Ethnobotany**
		Structure and organization of microfilaments, intermediate filaments and microtubules, structure of cilia and flagella, role of motor proteins (kinesin and dynein)	**B.Sc. (H) Biological Science**	**Concepts in cell Biology**
	Practicals:	Estimation of proteins by Lowry's method, Gel electrophoresis and Mock test and file evaluation	**B.Sc. (H) Botany**	**Analytical Techniques in Plant Sciences**
		Significance of following plants e) *Tribulus terrestris, f) Pongamia pinnata, g) Cassia auriculata, h)Indigofera tinctoria,* 6. Role of Ethnobotany in modern medicine with special example – *Rauvolfia serpentine, Trichopus zeylanicus, Artemesia, Withania,* Field Survey and collection of information on Ethnobotanical uses from traditional healers (any 2), To develop scientific knowledge of plants used for treatment of various purposes in ancient literature.	**B.Sc. (H) Botany**	**SEC-Ethnobotany**
		Study of all photomicrographs, and effect of organic solvent and temperature on the permeability of plasma membrane	**B.Sc. Life Science**	**Cell and Molecular Biology**
	Practical Test:	Practical test was conducted and evaluated as per the date sheet		

DECEMBER	**Theory:**			
	Practicals:			
	Tutorials:			

SEMESTER WISE TEACHING PLAN
SRI VENKATESWARA COLLEGE

Name of the Faculty: Dr. Sunita Yadav
Department: Botany   **Semester : I/III/V 2020**

Month		Topics	Course	Paper Code/Name
JULY	**Theory**	Introduction to paper and discussion about the paper	B.Sc. (H) Botany Semester V	Plant Physiology
		Introduction to paper Unit 6: Structure and properties of enzymes	GE-III	Plant physiology and metabolism
	Practicals	• To determine osmotic potential of plant cell sap by plasmolytic method	B.Sc. (H) Botany Semester V	Plant Physiology
		• To determine osmotic potential of plant cell sap by plasmolytic method	GE-III	Plant physiology and metabolism
	Tutorials	--------------------------		
AUGUST	**Theory:**	Unit-5 Plant Growth regulators: Discovery, structure, bioassay and physiological roles	B.Sc. (H) Botany Semester V	Plant Physiology
		Unit 6: Mechanism of enzyme catalysis and inhibition Unit 7: Biological nitrogen fixation, nitrate and ammonium assimilation Unit8: Physiological roles of auxins, gibberellins	GE-III	Plant physiology and metabolism

	Practicals:	• To determine water potential of given tissue by weight method. • To study the effect of two environmental factors (light and wind) on transpiration by excised twig • To calculate stomatal index and stomatal frequency from two surfaces of leaves of a mesophyte and xerophytes. • To calculate the area of open stoma and percentage of leaf area open through stomata in a mesophyte and xerophytes (both surfaces).	B.Sc. (H) Botany Semester V	Plant Physiology
		• Comparison of the rate of respiration in any two parts of a plant. • To study the effect of two environmental factors (light and wind) on transpiration by excised twig • To demonstrate hill reaction	GE-III	Plant physiology and metabolism
	Tutorials:	--------------------		
SEPTEMBER	**Theory:**	Unit-6 physiology of flowering: photoperiodism, Flowering stimulus, florigen, vernalization, seed dormancy Unit-7 Phytochrome: discovery, chemical nature, role in photomorphogenesis, LER and HIR, mode of action	B.Sc. (H) Botany Semester V	Plant Physiology
		Unit 8: Physiological roles of cytokinins, ABA, ethylene Unit 9: Photoperiodism, phytochrome, red and far red responses on photomorphogenesis, vernalization Unit 1: Importance of water, water potential and its components, Transpiration, Root pressure, Guttation	GE-III	Plant physiology and metabolism

	Practicals:	• To study the phenomenon of seed germination • To study the induction of amylase activity in germinating barley grains • To study the effect of different concentrations of IAA on coleoptiles elongation • To demonstrate bolting	B.Sc. (H) Botany Semester V	Plant Physiology
		• To study the activity of catalase • To study the effect of pH on catalase • To study the effect of enzyme concentration on catalase	GE-III	Plant physiology and metabolism
	Tutorials:	---------		
	Assignment :	Given to all students for respective papers		
OCTOBER	**Theory:**	Unit-1 Plant water relationship: water potential, aquaporins, pathway of water movement, root pressure, guttation, ascent of sap, transpiration	B.Sc. (H) Botany Semester V	Plant Physiology
		Unit 2: Essential elements, macro and micronutrients, criteria of essentiality of elements, role of essential elements Unit 3: Composition of phloem sap, girdling experiment, pressure flow model, phloem loading and unloading Unit 5: Glycolysis, anaerobic respiration	GE-III	Plant physiology and metabolism
	Practicals:	• To demonstrate effect of auxins on rooting • To demonstrate suction due to transpiration • To demonstrate fruit ripening	B.Sc. (H) Botany Semester V	Plant Physiology
		• To demonstrate bolting • To demonstrate effect of auxins on rooting • To demonstrate suction due to transpiration	GE-III	Plant physiology and metabolism
	Tutorials:	---------		
	Test	Conducted for all papers	B.Sc. (H)	

NOVEMBER	Theory:	Unit-4 translocation in the phloem: pressure-flow hypothesis, phloem loading and unloading, source-sink relationship Revision and test	B.Sc. (H) Botany Semester V	Plant Physiology
		Unit 5: TCA cycle, oxidative phosphorylation Revision and test	GE-III	Plant physiology and metabolism
	Practicals:	• Repetitions of experiments which students feel • Revision and test	B.Sc. (H) Botany Semester V	Plant Physiology
		• Repetitions of experiments which students feel • Revision and test	GE-III	Plant physiology and metabolism
	Tutorials:	--------		

SEMESTER WISE TEACHING PLAN (2020-2021)
SRI VENKATESWARA COLLEGE

Name of the Faculty: Ms. Kavita Meena   **Department: Botany**

Semester: I/III/V

Month		Topics	Course	Paper
SEPTEMBER	**Theory**	Polyherbal formulations (with special references to Safi, Chyawanprash, trifala, swalin, amukkara choorna, gandhak rasayana). Natural compounds- compounds responsible for biological activity of medicinal plants; their biology, and pharmacology (curcumin, vinblastine, vincristine, Ecliptine, Cinchonine, Azadirachtin, Artemisinin).	B.Sc.(honors.) Biological science Semester III	SEC-1 Medicinal botany
		SEED- Structure, importance	B.Sc.(honors.) Botany Semester V	CC XI Reproductive Biology of Angiosperms
		Asexual and sexual reproduction- an overview (regeneration)	B.Sc.(honors.) Biological science Semester V	C-11 Growth and reproduction
		Pollination and fertilization- Pollination types and adaptations.	B.Sc. Life Science-SEC A and B Semester III	LSCL4 Plant anatomy and embryology
	Practicals	AGE, Thin layer chromatography	B.Sc.(honors.) Botany Semester V	Analytical techniques in plant Sciences
	Tutorials			

OCTOBER	**Theory:**	Ethnobotany and folk medicines Introduction, concept, scope and objective; Ethnobotany in India: Methods to study ethnobotany; Folk medicines of ethnobotany. Role of ethnobotany in modern medicine with reference to Rauvolfia serpentina, Trichopus zeylanicus, Artemisia, Withania.	B.Sc.(honors.) Biological science Semester III	SEC-1 Medicinal botany
		Seed dispersal mechanisms (adaptation-autochory, anemochory, hydrochory, zoochory, 2 examples each).	B.Sc.(honors.) Botany Semester V	CC XI Reproductive Biology of Angiosperms
		Archegonium, heterospory, siphonogamy, apogamy.	B.Sc.(honors.) Biological science Semester V	C-11 Growth and reproduction
		Double fertilization and triple fusion. Seed structure (dicot and monocot) appendages and dispersal mechanism).	B.Sc. Life Science-SEC A and B Semester III	LSCL4 Plant anatomy and embryology
	Practicals:	Isolation of chloroplast by differential centrifugation, study different microscopic techniques, FISH and fluorescence microscopy.	B.Sc. (H) Botany Semester V	Analytical techniques in plant Sciences
		Conservation strategies, propagation of medicinal plants, herbaria preparation and system of medicines.	B.Sc. (H) Botany Semester III	SEC-1 Ethnobotany
		Write details of any two commonly used medicines from the indigenous system of medicine (Ayurveda, siddha and Unani)	B.Sc.(H) Biological Sciences	Medicinal botany
	Tutorials:			

Month		Topics	Course	Paper
NOVEMBER	**Theory**	Application of natural products in certain diseases-Jaundice, cardiac, infertility, diabetics, blood pressure and skin diseases. Role of ethnic groups in conservation of plant genetic resources; brief account of biopiracy and IPR.	B.Sc.(honors.) Biological science Semester III	SEC-1 Medicinal botany
		Germline transformation- pollen grain and ovules through pollen tube pathway method/ Agrobacterium/electrofusion/floral dip/biolistic.	B.Sc.(honors.) Botany Semester V	CC XI Reproductive Biology of Angiosperms
		Apospory, apomixis. Doubt classes and revision	B.Sc.(honors.) Biological science Semester V	C-11 Growth and reproduction
		Type of embryo sac. Doubt classes and Revision.	B.Sc. Life Science-SEC A and B Semester III	LSCL4 Plant anatomy and embryology
	Practicals	Double staining, PAGE, Differential centrifugation Mock test	B.Sc.(honors.) Biological science Semester V	Analytical techniques in plant sciences.
		Mock test and evaluation	B.Sc. (H) Botany Semester III	SEC-1 Ethnobotany
		Mock test and evaluation	B.Sc.(honors.) Biological science Semester III	SEC-1 Medicinal botany
	Tutorials			

DECEMBER	**Theory:**			
	Practicals:	,		
	Tutorials:			

SEMESTER WISE
TEACHING PLAN (2020-21)
SRI VENKATESWARA COLLEGE

Name of the Faculty: Dr. Upasana Sharma   **Department: Botany**

Semester : Odd sem (I) (November-Dec 2020)

Month		Topics	Course	Paper
November	**Theory**	Biomolecules- Proteins: Structure of amino acids, peptide bonds	B.Sc. (H.) Botany Sem.I	Biomolecules and Cell Biology
		Introduction to light and life: Nature of light (Wave and particle), spectrum of light, measurement of light, Polarized light	B.Sc. (H) Biological Sciences Sem I	Light and Life
		Algae: General Characteristics and pigment system	B.Sc. Life Sciences Sem I	Biodiversity (Microbes, Algae, Fungi and Archegoniates)
	Practicals	• Study of plant cell structure with the help of epidermal peel mount of Onion/*Rhoeo*.	B.Sc. (H.) Botany Sem.I	Biomolecules and Cell Biology
		To study oxygen liberation during photosynthesis using *Hydrilla*.	B.Sc. (H) Biological Sciences Sem I	Light and Life
		Viruses: structure of TMV, T-phage, Lytic and lysogenic cycles.	B.Sc. Life Sciences Sem I	Biodiversity (Microbes, Algae, Fungi and Archegoniates)
	Tutorials			
December	**Theory:**	Biomolecules- Proteins: levels of protein structure-primary, secondary, tertiary and quaternary. Isoelectric point, protein denaturation and biological roles of proteins. The cell: Cell as a unit of structure and function; characteristics of prokaryotic and Eukaryotic cells; Origin of Eukaryotic cell (Endosymbiotic theory). Structure and function of plant cell wall.	B.Sc. (H.) Botany Sem.I	Biomolecules and Cell Biology

		Light as an ecological factor affecting distribution of plants in terrestrial and aquatic ecosystems. Latitudinal diversity gradient, altitudinal and latitudinal variations in light intensity and photoperiod.	B.Sc. (H) Biological Sciences Sem I	Light and Life
		Algae: Outline of Classification (Fritsch), Economic importance. Thallus organization and reproduction in *Nostoc, Chlamydomonas* and *Vaucheria*	B.Sc. Life Sciences Sem I	Biodiversity (Microbes, Algae, Fungi and Archegoniates)
	Practicals:	• Qualitative tests for carbohydrates, reducing sugars, non-reducing sugars, lipids and proteins. • Demonstration of the phenomenon of protoplasmic streaming in *Hydrilla* leaf. • Separate chloroplast pigments by paper chromatography. • Demonstrate the activity of enzymes: Urease and Catalase	B.Sc. (H.) Botany Sem.I	Biomolecules and Cell Biology
		• To study light penetration in water using Secchi disc. • Separation of Chloroplast pigments by paper chromatography. • To demonstrate the effect of light on soil fauna using Berlese Funnel Setup. • Measurement of light using Luxmeter	B.Sc. (H) Biological Sciences Sem I	Light and Life
		• Bacteria-Types and structure; EM bacterium, Binary fission, and conjugation (photographs) • Study of vegetative and reproductive structures through photographs: *Chlamydomonas* (EM), *Nostoc, Vaucheria*	B.Sc. Life Sciences Sem I	Biodiversity (Microbes, Algae, Fungi and Archegoniates)
	Tutorials:			
	Assignment :			

Name of the Faculty: Dr. Sachin Kumar   **Department: Botany**

Semester : Odd and Even sem. (I/IV/VI, Jan.-March, 2021)

Month		Topics	Course	Paper Code/Name
JANUARY	**Theory:**	Unit 1: Carbohydrates: Nomenclature and classification; Role of monosaccharides (glucose, fructose, sugar alcohols – mannitol and sorbitol); Disaccharides (sucrose, maltose, lactose), Oligosaccharides and polysaccharides (structural-cellulose, hemicelluloses, pectin, chitin, mucilage; storage – starch, inulin).	B.Sc(H) Botany Sem-I	BHCC2/Biomolecules and Cell Biology
		Unit 1: Bacteria – Discovery; General Characteristics and Cell Structure; Reproduction Vegetative, Asexual and Genetic Recombination (Conjugation, Transformation and Transduction); Economic Importance.	B.Sc(P) Life Sciences Sem-I Section A and B	LSCC2/Biodiversity (Microbes, Fungi, Algae and Archegoniates)
		Unit 3: Photosynthesis-Photolysis of water, oxygen-evolving complex (OEC), concept of Reaction centers, Q-cycle.	B.Sc(H) Biological Science Sem-I	BS C-2/Light and Life
		Unit 6: Applications of Bioinformatics-Structural Bioinformatics in Drug Discovery, Quantitative structure-activity relationship (QSAR) techniques in Drug Design	B.Sc(H) Botany Sem-VI	BHDS4/Bioinformatics
	Practicals:	To study the morphological characteristics in *Marchantia, Anthoceros* and *Funaria* To study the morphological characteristics of *Selaginella*.	B.Sc(P) Life Sciences Sem-I Batch-III	LSCC2/Biodiversity (Microbes, Fungi, Algae and Archegoniates)

		Study of plant cell structure with the help of epidermal peel mount of Onion/*Rhoeo*/*Crinum*. Study of cell and its organelles with the help of electron micrographs	B.Sc(H) Botany Sem-I	BHCC2/Biomolecules and Cell Biology
		1. Isolation of chromosomal DNA. 2. To assess the purity by A260/A280 Ratio. 3. Isolation of total RNA from bacteria/yeast.	B.Sc(H) Biological Science Sem-IV	BS C-9/Molecular Biology
	Tutorials:			
FEBRUARY	**Theory:**	Unit 1: Lipids- Definition and major classes of storage and structural lipids. Storage lipids: Fatty acids structure and functions, Structural lipid: Phosphoglycerides; Building blocks, General structure, functions and properties. Lipid functions: cell signals, cofactors, prostaglandins, Introduction of lipid micelles, monolayers, bilayers.	B.Sc(H) Botany Sem-I	BHCC2/Biomolecules and Cell Biology
		Unit 4: Bryophytes- General Characteristics; Outline Classification; Ecological and Economic Importance; Morphology, Structure and Reproduction in *Marchantia*, *Anthoceros* and *Funaria*.	B.Sc(P) Life Sciences Sem-I Section A and B	LSCC2/Biodiversity (Microbes, Fungi, Algae and Archegoniates)
		Unit 5: Pteridophytes- General Characteristics; Outline Classification; Economic Importance; Morphology, Structure and Reproduction in *Selaginella*, *Equisetum*.	B.Sc(P) Life Sciences Sem-I **Section A**	LSCC2/Biodiversity (Microbes, Fungi, Algae and Archegoniates)
		Unit 3: Photosynthesis- Dark Reactions in Photosynthesis, C3, C4, CAM cycle, Regulation of PCR cycle.	B.Sc(H) Biological Science Sem-I	BS C-2/Light and Life
		Unit 6: Applications of Bioinformatics- Microbial genome applications, Crop improvement.	B.Sc(H) Botany Sem-VI	BHDS4/Bioinformatics
	Practicals:	To study the morphological characteristics of *Equisetum* and *Pteris*. To study the morphological characteristics of *Cycas* and *Pinus*.	B.Sc(P) Life Sciences Sem-I Batch-III	LSCC2/Biodiversity (Microbes, Fungi, Algae and Archegoniates)

		1. Study the phenomenon of plasmolysis and deplasmolysis. 2. Study the effect of organic solvent and temperature on membrane permeability. 3. Study different stages of mitosis.	B.Sc(H) Botany Sem-I	BHCC2/Biomolecules and Cell Biology
		1. Determination of DNA concentration by A260nm. 2. Quantitative estimation of DNA by DPA method.	B.Sc(H) Biological Science Sem-IV	BS C-9/Molecular Biology
	Tutorials:			
	Assignment :	Test: Entire syllabus (Theory and Practical)	B.Sc(H) Botany Sem-I	BHCC2/Biomolecules and Cell Biology
		Assignments: Entire syllabus (Theory), Test: Entire syllabus (Practical)	B.Sc. (P) Life Sciences Sem I	LSCC2/Biodiversity (Microbes, Algae, Fungi and Archegoniates)
		Test: Entire syllabus (Theory)	B.Sc.(H) Biological Science Sem I	BS C-2/Light and Life
MARCH	**Theory:**	Unit 1: Types and significance of chemical bonds; Structure and properties of water; pH and buffers.	B.Sc(H) Botany Sem-I	BHCC2/Biomolecules and Cell Biology
		Unit 5: Pteridophytes-Morphology, Structure and Reproduction in *Pteris*.	B.Sc(P) Life Sciences Sem-I Section A	LSCC2/Biodiversity (Microbes, Fungi, Algae and Archegoniates)
		Unit 3: Photosynthesis-Photoautotroph vs. photoheterotrophs; Photoautotroph vs. chemoautotroph, Anoxygenic and oxygenic photosynthesis.	B.Sc(H) Biological Science Sem-I	BS C-2/Light and Life
		Unit 5: Molecular Phylogeny-Methods of Phylogeny	B.Sc (H) Botany Sem-VI	BHDS4/Bioinformatics
	Practicals:	1. Quantitative estimation of RNA by orcinol method. 2. Ultraviolet absorption spectrum of DNA/RNA.	B.Sc(H) Biological Science Sem-IV	BS C-9/Molecular Biology
	Tutorials:			

CHEMISTRY TEACHING PLAN

ALL TEACHERS

2020-21 ODD SEMESTER

Name of the Faculty: Mr. H. C. Tandon

Department: Chemistry   **Semester: I/III/V**

Month		Topic	Course	Paper
AUGUST	**Theory:**	Quantum Chemistry: Postulates of quantum mechanics	B. Sc. (H) Chemistry III year, Semester V	C XII: PHYSICAL CHEMISTRY V
	Practicals:	Introduction to word processor. Incorporating chemical structures, chemical equations, expressions from chemistry (e.g. Maxwell-Boltzmann distribution law, Bragg's law, van der Waals equation, etc.) into word processing documents. Incorporating tables and graphs into word processing documents.	B. Sc. (H) Chemistry II year, Semester III	SEC: IT SKILLS FOR CHEMISTS
		Verification of Lambert Beer's Law	B. Sc. (H) Chemistry III year, Semester V	C – XII: PHYSICAL CHEMISTRY V
			B. Sc. (Prog) Life Sciences II year, Semester III	CHEMISTRY LAB: SOLUTIONS, PHASE EQUILIBRIUM, CONDUCTANCE, ELECTROCHEMISTRY & BIOMOLECULES
	Tutorials:	NA	NA	NA
SEPTEMBER	**Theory:**	Quantum Chemistry	B. Sc. (H) Chemistry III year, Semester V	C XII: PHYSICAL CHEMISTRY V

	Practicals:	Handling numeric data: Spreadsheet software (Excel), creating a spreadsheet, entering and formatting information, basic functions and formulae, creating charts, tables and graphs. Simple calculations, plotting graphs using a spreadsheet. Graphical solution of equations. Numeric modelling	B. Sc. (H) Chemistry II year, Semester III	SEC: IT SKILLS FOR CHEMISTS
		Determine the concentration of CuSO4/KMnO4/K2Cr2O7 in a solution of unknown concentration Determine the concentrations of KMnO4 and K2Cr2O7 in a mixture Determine the dissociation constant of an indicator (phenolphthalein).	B. Sc. (H) Chemistry III year, Semester V	C – XII: PHYSICAL CHEMISTRY V
		a)Construction of the phase diagram of a binary system (simple eutectic) using cooling curves. b)Determination of the critical solution temperature and composition of the phenol water system and study of the effect of impurities on it. c)Study of the variation of mutual solubility temperature with concentration for the phenol water system and determination of the critical solubility temperature.	B. Sc. (Prog) Life Sciences II year, Semester III	CHEMISTRY LAB: SOLUTIONS, PHASE EQUILIBRIUM, CONDUCTANCE, ELECTROCHEMISTRY & BIOMOLECULES
	Tutorials:	NA	NA	NA
OCTOBER	**Theory:**	Quantum Chemistry	B. Sc. (H) Chemistry III year,	C XII: PHYSICAL CHEMISTRY V

			Semester V	
		Algebraic operations on real scalar. Roots of quadratic equations analytically and iteratively Numerical methods of finding roots	B. Sc. (H) Chemistry II year, Semester III	SEC: IT SKILLS FOR CHEMISTS
	Practicals:	Numerical curve fitting, linear regression numerical differentiation integration	B. Sc. (H) Chemistry II year, Semester III	SEC: IT SKILLS FOR CHEMISTS
		Study the kinetics of iodination of propanone in acidic medium. Determine the amount of iron present in a sample using 1, 10-phenathroline. Study the kinetics of interaction of crystal violet/ phenolphthalein with sodium hydroxide.	B. Sc. (H) Chemistry III year, Semester V	C – XII: PHYSICAL CHEMISTRY V
		I.Determination of cell constant II.Determination of equivalent conductance, degree of dissociation and dissociation constant of a weak acid. III.Perform the following conductometric titrations: i.Strong acid vs. strong base ii.Weak acid vs. strong base	B. Sc. (Prog) Life Sciences II year, Semester III	CHEMISTRY LAB: SOLUTIONS, PHASE EQUILIBRIUM, CONDUCTANCE, ELECTROCHEMISTRY & BIOMOLECULES
	Tutorials:	NA	NA	NA
	Assignment	Assignment-I	B. Sc. (H) Chemistry III year, Semester V	C XII: PHYSICAL CHEMISTRY V
NOVEMBER	**Theory:**	Electronic Spectroscopy, NMR	B. Sc. (H) Chemistry III year, Semester V	C XII: PHYSICAL CHEMISTRY V

	Practicals:	Statistical analysis: Gaussian distribution and Errors in measurements and their effect on data sets. Descriptive statistics using Excel. Statistical significance testing: The t test. The Ftest.	B. Sc. (H) Chemistry II year, Semester III	SEC: IT SKILLS FOR CHEMISTS
		Study the 200-500 nm absorbance spectra of $KMnO_4$ and $K_2C_2O_7$ (in 0.1 M H_2SO4) and determine the λ_{max} values. Calculate the energies of the two transitions in different units	B. Sc. (H) Chemistry III year, Semester V	C – XII: PHYSICAL CHEMISTRY V
		Perform the following potentiometric titrations: i.Strong acid vs. strong base ii.Weak acid vs. strong base	B. Sc. (Prog) Life Sciences II year, Semester III	CHEMISTRY LAB: SOLUTIONS, PHASE EQUILIBRIUM, CONDUCTANCE, ELECTROCHEMISTRY & BIOMOLECULES
	Tutorials:	NA	NA	NA
	Test	Test-I	B. Sc. (H) Chemistry III year, Semester V	C XII: PHYSICAL CHEMISTRY V
November	**Theory:**	ESR	B. Sc. (H) Chemistry III year, Semester V	C XII: PHYSICAL CHEMISTRY V
	Practicals:	Presentation: Presentation graphics	B. Sc. (H) Chemistry II year, Semester III	SEC: IT SKILLS FOR CHEMISTS
		Analysis of the given vibration-rotation spectrum of HCl(g)	B. Sc. (H) Chemistry III year, Semester V	C – XII: PHYSICAL CHEMISTRY V

		Practice excercise	B. Sc. (Prog) Life Sciences II year, Semester III	CHEMISTRY LAB: SOLUTIONS, PHASE EQUILIBRIUM, CONDUCTANCE, ELECTROCHEMISTRY & BIOMOLECULES
	Tutorials:	NA	NA	NA

Name of the Faculty: Dr. Mercy Jacob   Department: Chemistry

Semester: I/III/V

Month		Topics	Course	Paper Code/Name
AUGUST	**Theory**	General Principles of Metallurgy: Chief modes of occurrence of metals based on standard electrode potentials. Ellingham diagrams for reduction of metal oxides using carbon and carbon monoxide as reducing agent.	B.Sc. (H) Chemistry IInd Year, Semester-III	CHEMISTRY - CV: INORGANIC CHEMISTRY – II s- and p-Block Elements
	Practicals	Inorganic preparations (i) Cuprous Chloride, Cu_2Cl_2	B.Sc. (Hons.) Chemistry IInd Year	CHEMISTRY - CV: INORGANIC CHEMISTRY – II s- and p-Block Elements
		Synthesis of silver nanoparticles using different reagents	B.Sc. (Hons.) Chemistry IIIrd Year	DSE LAB: NOVEL INORGANIC SOLIDS
	Tutorials			
SEPTEMBER	**Theory:**	Electrolytic Reduction, Hydrometallurgy with reference to cyanide process for silver and gold. Methods of purification of metals: Electrolytic process, Van Arkel-De Boer process, Zone refining.	B.Sc. (H) Chemistry IInd Year, Semester-III	CHEMISTRY - CV: INORGANIC CHEMISTRY – II s- and p-Block Elements
	Practicals	Preparations: (ii) Manganese(III) phosphate, MnPO4.H2O (iii) Aluminium potassium sulphate $KAl(SO_4)_2.12H_2O$ (Potash alum) Estimation of Zn^{2+} Complexometric titrations using disodium salt of EDTA	B.Sc. (Hons.) Chemistry IInd Year	CHEMISTRY - CV: INORGANIC CHEMISTRY – II s- and p-Block Elements
		Synthesis of lead sulphide, zinc sulphide, copper sulphide, manganese sulphide, nickel sulphide, cadmium sulphide	B.Sc. (Hons.) Chemistry III Year	DSE : NOVEL INORGANIC SOLIDS
	Tutorials:			

OCTOBER	**Theory:**	Chemistry of *p*- Block Elements: Electronic configuration, atomic and ionic size, metallic/non-metallic character, melting point, ionization enthalpy, electron gain enthalpy, electronegativity, Catenation, Allotropy of C, P, S; inert pair effect, diagonal relationship between B and Si and anomalous	B.Sc. (H) Chemistry IInd Year, Semester-III	CHEMISTRY - CV: INORGANIC CHEMISTRY – II *s*- and *p*-Block Elements
	Practicals	Estimation of Mg^{2+} Complexometric titrations using disodium salt of EDTA Estimation of Ca^{2+} Complexometric titrations using disodium salt of EDTA	B.Sc. (Hons.) Chemistry IInd Year	CHEMISTRY - CV: INORGANIC CHEMISTRY – II *s*- and *p*-Block Elements
		Preparation of polyaniline Intercalation of hydrogen in tungsten trioxide Preparation of zeolite	B.Sc. (Hons.) Chemistry III Year	DSE LAB: NOVEL INORGANIC SOLIDS
	Tutorials:			
	Assignment:	Chemistry of *s* and *p* block elements	B.Sc. (H) Chemistry IInd Year, Semester-III	CHEMISTRY - CV: INORGANIC CHEMISTRY – II *s*- and *p*-Block Elements
NOVEMBER	**Theory:**	Structure, bonding and properties: Acidic/basic nature, stability, ionic/covalent nature, oxidation/reduction, hydrolysis, action of heat of the following: • Hydrides: hydrides of Group 13 (only diborane), Group 14, Group 15 (EH3 where E = N, P, As, Sb, Bi), Group 16 and Group 17. • Oxides: oxides of phosphorus, sulphur and chlorine	B.Sc. (H) Chemistry IInd Year, Semester-III	CHEMISTRY - CV: INORGANIC CHEMISTRY – II *s*- and *p*-Block Elements
	Practicals	Synthesis of Inorganic pigments-Prussian blue, malachite green, chrome yellow, chromium oxide,	B.Sc. (Hons.) Chemistry III Year	DSE LAB: NOVEL INORGANIC SOLIDS
		(A) Titrimetric Analysis (i) Calibration and use of apparatus (ii) Preparation of solutions of titrants of different Molarity/Normality	B.Sc. (H) Chemistry Ist Year, Semester-I	CHEMISTRY - C I: INORGANIC CHEMISTRY-I
	Tutorials:			
	Test	Chemistry of *s* and *p* block elements	B.Sc. (Hons.) Chemistry IInd Year	CHEMISTRY - CV: INORGANIC CHEMISTRY – II *s*- and *p*-Block Elements

DECEMBER	**Theory:**	• Oxoacids: oxoacids of phosphorus and chlorine; peroxoacids of sulphur • Halides: halides of silicon and phosphorus	B.Sc. (H) Chemistry IInd Year, Semester-III	CHEMISTRY - CV: INORGANIC CHEMISTRY – II s- and p-Block Elements
	Practicals	Estimation of antimony in tartar-emetic iodimetrically	B.Sc. (Hons.) Chemistry IInd Year	CHEMISTRY - CV: INORGANIC CHEMISTRY – II s- and p-Block Elements
		Determination of total difference of solids.	B.Sc. (Hons.) Chemistry III Year	DSE LAB: NOVEL INORGANIC SOLIDS
		(B) Acid-Base Titrations Principles of acid-base titrations to be discussed. (i) Estimation of sodium carbonate using standardized HCl. (ii) Estimation of carbonate and hydroxide present together in a mixture. (iii) Estimation of carbonate and bicarbonate present together in a mixture.	B.Sc. (H) Chemistry Ist Year, Semester-I	CHEMISTRY - C I: INORGANIC CHEMISTRY-I
	Tutorials:			
JANUARY	**Practicals**	(iv) Estimation of free alkali present in different soaps/detergents (C) Oxidation-Reduction Titrimetry Principles of oxidation-reduction titrations (electrode potentials) to be discussed. (i) Estimation of Fe(II) and oxalic acid using standardized KMnO4 solution	B.Sc. (H) Chemistry Ist Year, Semester-I	CHEMISTRY - C I: INORGANIC CHEMISTRY-I
FEBRUARY	**Practicals**	Estimation of Cu(II) and K2Cr2O7 using sodium thiosulphate solution (Iodometrically)	B.Sc. (H) Chemistry IInd Year, Semester-III	CHEMISTRY - CV: INORGANIC CHEMISTRY – II s- and p-Block Elements
MARCH	**Practicals**	(iii) Estimation of Fe(II) with K2Cr2O7 using internal indicator (diphenylamine, Nphenylanthranilic acid) and discussion of external indicator	B.Sc. (H) Chemistry Ist Year, Semester-I	CHEMISTRY - C I: INORGANIC CHEMISTRY-I

SEMESTER WISE TEACHING PLAN
SRI VENKATESWARA COLLEGE

Name of the Faculty: Dr. Vibha Saxena

Department: Chemistry   **Semester : I/III/V**

Month		Topics	Course	Paper Code/Name
August	**Theory**	*Section A: Inorganic Chemistry-3* (30 Lectures) Transition Elements (3d series) General group trends	B.Sc.(P) Life Science III year	**DSE CHEMISTRY 11 CHEMISTRY OF d-BLOCKELEMENTS, QUANTUM CHEMISTRY & SPECTROSCOPY**
	Practicals	Synthesis of silver nanoparticles	B.Sc. (Hons.) Chemistry III Year	CHEMISTRY PRACTICAL - DSE LAB: NOVEL INORGANIC SOLIDS
September	**Theory:**	variable valency, colour, magnetic and catalytic properties, ability to form complexes and stability of various oxidation states (Latimer diagrams) for Mn, Fe and Cu.	B.Sc.(P) Life Science III year	**DSE CHEMISTRY 11 CHEMISTRY OF d-BLOCKELEMENTS, QUANTUM CHEMISTRY & SPECTROSCOPY**
	Practicals	Sol-gel methods, Hydrothermal method, Ion-exchange and Intercalation methods. Inorganic solids of technological importance: Solid	B.Sc. (Hons.) Chemistry III Year	CHEMISTRY-DSE 1: NOVEL INORGANIC SOLIDS
October	**Theory:**	Lanthanoids and actinoids: Electronic configurations, oxidation states, colour, magnetic	B.Sc.(P) Life Science III year	**DSE CHEMISTRY 11 CHEMISTRY OF d-BLOCKELEMENTS, QUANTUM CHEMISTRY & SPECTROSCOPY**
	Practicals	Determination of total difference of solids.	B.Sc. (Hons.) Chemistry III Year	CHEMISTRY PRACTICAL - DSE LAB: NOVEL INORGANIC SOLIDS
November	**Theory:**	Coordination Chemistry Valence Bond Theory (VBT): Inner and outer orbital complexes of Cr, Fe, Co, Ni and Cu (coordination numbers 4 and 6). Structural and stereoisomerism in complexes with coordination numbers 4 and 6. Drawbacks of VBT. IUPAC system of nomenclature.	B.Sc.(P) Life Science III year	**DSE CHEMISTRY 11 CHEMISTRY OF d-BLOCKELEMENTS, QUANTUM CHEMISTRY & SPECTROSCOPY**

December		(iii) *Metallic Bond:* Qualitative idea of valence bond and band theories.	B.Sc. (Hons.) Chemistry I Year	CHEMISTRY - C I: INORGANIC CHEMISTRY-I
	Practicals	Synthesis of hydrogel by co-precipitation method.	B.Sc. (Hons.) Chemistry III Year	CHEMISTRY PRACTICAL - DSE LAB: NOVEL INORGANIC SOLIDS
		(A) Titrimetric Analysis (i) Calibration and use of apparatus (ii) Preparation of solutions of titrants of different Molarity/Normality	B.Sc. (Hons.) Chemistry I Year	Practical C – I Lab
	Theory:	Semiconductors and insulators, defects in solids. (iv) *Weak Chemical Forces:* van der Waals	B.Sc. (Hons.) Chemistry I Year	CHEMISTRY - C I: INORGANIC CHEMISTRY-I
		Factors affecting the magnitude of D. Spectrochemical series. Comparison of CFSE for *Oh* and *Td* complexes, Tetragonal distortion of octahedral geometry. Jahn-Teller distortion, Square planar coordination	B.Sc.(P) Life Science III year	**DSE CHEMISTRY 11 CHEMISTRY OF d-BLOCKELEMENTS, QUANTUM CHEMISTRY & SPECTROSCOPY**
	Practicals:	(B) Acid-Base Titrations Principles of acid-base titrations to be discussed. (i) Estimation of sodium carbonate using standardized HCl. (ii) Estimation of carbonate and hydroxide present together in a mixture. (iii) Estimation of carbonate and bicarbonate present together in a mixture.	B.Sc. (Hons.) Chemistry I Year	Practical C – I Lab
		Sol-gel methods, Hydrothermal method, Ion-exchange and Intercalation methods. Inorganic solids of technological importance: Solid electrolytes – Cationic, anionic, mixed Inorganic pigments – coloured solids, white and black pigments. One-dimensional metals, molecular magnets, inorganic liquid crystals.	B.Sc. (Hons.) Chemistry III Year	CHEMISTRY-DSE 1: NOVEL INORGANIC SOLIDS

		Synthesis of gold metal nanoparticles	B.Sc. (Hons.) Chemistry III Year	CHEMISTRY PRACTICAL - DSE LAB: NOVEL INORGANIC SOLIDS
January	**Theory:**	induced dipole interaction. Hydrogen bonding (theories of hydrogen bonding, valence bond treatment)	B.Sc. (Hons.) Chemistry I Year	CHEMISTRY - C I: INORGANIC CHEMISTRY-I
	Practicals:	(iv) Estimation of free alkali present in different soaps/detergents (C) Oxidation-Reduction Titrimetry Principles of oxidation-reduction titrations (electrode potentials) to be discussed. (i) Estimation of Fe(II) and oxalic acid using standardized KMnO4 solution	B.Sc. (Hons.) Chemistry I Year	Practical C – I Lab

February	**Theory:**	Effects of weak chemical forces, melting and boiling points, solubility,	B.Sc. (Hons.) Chemistry I Year	CHEMISTRY - C I: INORGANIC CHEMISTRY-I
	Practicals:	(ii) Estimation of oxalic acid and sodium oxalate in a given mixture	B.Sc. (Hons.) Chemistry I Year	Practical C – I Lab
	<u>Assignment</u>	• Atomic structure and chemical bonding. Chemistry of d-block elements.		CHEMISTRY - C I: INORGANIC CHEMISTRY-I **CHEMISTRY OF d-BLOCKELEMENTS, QUANTUM** **CHEMISTRY & SPECTROSCOPY**
March	**Theory:**	energetics of dissolution process.	B.Sc. (Hons.) Chemistry I Year	CHEMISTRY - C I: INORGANIC CHEMISTRY-I
	Practicals:	(iii) Estimation of Fe(II) with K2Cr2O7 using internal indicator (diphenylamine, Nphenylanthranilic acid) and discussion of external indicator	B.Sc. (Hons.) Chemistry I Year	Practical C – I Lab
	<u>Test</u>	• Atomic structure and chemical bonding. Chemistry of d-block elements.		CHEMISTRY - C I: INORGANIC CHEMISTRY-I **CHEMISTRY OF d-BLOCKELEMENTS, QUANTUM CHEMISTRY & SPECTROSCOPY**
		•		

Name of the Faculty: Dr. Sanjay Kumar   **Department: CHEMISTRY**

Semester: I/III/V

Month		Topics	Course	Paper Code/Name
AUGUST	**Theory**	FCH session started late in November due to pandemic.		
	Practical	Determination of the Critical Solution temperature and composition of the phenol water system. Determination of the Critical Solution temperature and composition of the phenol water system and study the effect of impurities on it	B.Sc. CHEMISTRY (Hons.) II Year, Semester III **(Batch 1)**	CHEMISTRY – C VII; PHYSICAL CHEMISTRY III
		Verify Lambert-Beer's law and determine the concentration of CuSO4/KMnO4/K2Cr2O7 in a solution of unknown concentration	B.Sc. CHEMISTRY (Hons.) III Year, Semester V	CHEMISTRY -C XII: PHYSICAL CHEMISTRY V
SEPTEMBER	**Theory**	FCH session started late in November due to pandemic.		
	Practical	Construction of the phase diagram using cooling curves method for simple eutectic systems. (Different systems)	B.Sc. CHEMISTRY (Hons.) II Year, Semester III **(Batch 1)**	CHEMISTRY – C VII; PHYSICAL CHEMISTRY III
		Determine the concentrations of KMnO4 and K2Cr2O7 in a mixture. Determine the amount of iron present in a sample using 1, 10-phenathroline. Determine the dissociation constant of an indicator (phenolphthalein). Study the kinetics of interaction of crystal violet/ phenolphthalein	B.Sc. CHEMISTRY (Hons.) III Year, Semester V	CHEMISTRY -C XII: PHYSICAL CHEMISTRY V
OCTOBER	**Theory**	FCH session started late in November due to pandemic.		
	Practical	Determination of the Critical Solution temperature and composition of the phenol water system and study the effect of impurities on it Construction of the phase diagram using cooling curves method for congruently melting systems.	B.Sc. CHEMISTRY (Hons.) II Year, Semester III **(Batch 1)**	CHEMISTRY – C VII; PHYSICAL CHEMISTRY III
		Verify the Freundlich and Langmuir isotherms for adsorption of acetic acid on activated charcoal. Analysis of the given vibration-rotation spectrum of HCl(g) Study the kinetics of iodination of propanone in acidic medium.	B.Sc. CHEMISTRY (Hons.) III Year, Semester V	CHEMISTRY -C XII: PHYSICAL CHEMISTRY V

		.		
NOVEMBER	**Theory**	**Ionic equilibria:** Strong, moderate and weak electrolytes, degree of ionization, factors affecting degree of ionization, ionization constant and ionic product of water. Ionization of weak acids and bases, pH scale, common ion effect	B.Sc.(H) CHEMISTRY Semester I **(Sec: A)**	C II: PHYSICAL CHEMISTRY I
		Ionic equilibria: Strong, moderate and weak electrolytes, degree of ionization, factors affecting degree of ionization, ionization constant and ionic product of water. Ionization of weak acids and bases, pH scale, common ion effect;	B.Sc.(H) CHEMISTRY Semester I **(Sec: B)**	C II: PHYSICAL CHEMISTRY I
	Practical	**Revision Exercises along with Viva**	B.Sc. CHEMISTRY (Hons.) II Year, Semester III **(Batch 1)**	CHEMISTRY – C VII; PHYSICAL CHEMISTRY III
		Revision Exercises along with Viva	B.Sc. CHEMISTRY (Hons.) III Year, Semester V	CHEMISTRY -C XII: PHYSICAL CHEMISTRY V
		Determination of enthalpy of neutralization of hydrochloric acid with sodium hydroxide Determination of basicity of a diprotic acid by the thermochemical method in terms of the changes of temperatures observed in the graph of temperature versus time for different additions of a base. Also calculate the enthalpy of neutralization of the first step.	B.Sc. Biological science, I Year, Semester I	**CHEMISTRY LAB**
DECEMBER	**Theory**	**Ionic Equilibria:** dissociation constants of mono and diprotic acids. Salt hydrolysis-calculation of hydrolysis constant, degree of hydrolysis and pH for different salts. Buffer solutions; derivation of Henderson equation and its applications. Solubility and solubility product of sparingly soluble salts	B.Sc.(H) CHEMISTRY Semester I **(Sec: A)**	C II: PHYSICAL CHEMISTRY I
		Ionic Equilibria: dissociation constants of mono and diprotic acids. Salt hydrolysis-calculation of hydrolysis constant, degree of hydrolysis and pH for different salts. Buffer solutions; derivation of Henderson equation and its applications. Solubility and solubility product of sparingly soluble salts	B.Sc.(H) CHEMISTRY Semester I **(Sec: B)**	C II: PHYSICAL CHEMISTRY I
	Practical	Determination of integral enthalpy (endothermic and exothermic) solution of salts Determination of melting and boiling points of organic compounds	B.Sc. Biological science, I Year, Semester I	**CHEMISTRY LAB**
JANUARY	**Theory**	**Ionic Equilibria:** Applications of solubility product principle. Qualitative treatment of acid – base titration	B.Sc.(H) CHEMISTRY Semester I **(Sec: A)**	C II: PHYSICAL CHEMISTRY I

		curves (calculation of pH at various stages). Theory of acid–base indicators; selection of indicators and their limitations.		
		Ionic Equilibria: Applications of solubility product principle. Qualitative treatment of acid – base titration curves (calculation of pH at various stages). Theory of acid–base indicators; selection of indicators and their limitations.	B.Sc.(H) CHEMISTRY Semester I **(Sec: B)**	C II: PHYSICAL CHEMISTRY I
	Practical	Mechano-Chemical solvent free synthesis of azomethine Acetylation of amines using green approach Qualitative functional group tests for alcohols, aldehydes, ketones, carboxylic acids, esters, amines and amides	B.Sc. Biological science, I Year, Semester I	**CHEMISTRY LAB**
FEBRUARY	**Theory**	**Liquid state:** Qualitative treatment of the structure of the liquid state; physical properties of liquids; vapour pressure, surface tension and coefficient of viscosity, and their determination. Effect of addition of various solutes on surface tension and viscosity. Explanation of cleansing action of detergents. Temperature variation of viscosity of liquids and comparison with that of gases.	B.Sc.(H) CHEMISTRY Semester I **(Sec: A)**	C II: PHYSICAL CHEMISTRY I
		Liquid state: Qualitative treatment of the structure of the liquid state; physical properties of liquids; vapour pressure, surface tension and coefficient of viscosity, and their determination. Effect of addition of various solutes on surface tension and viscosity. Explanation of cleansing action of detergents. Temperature variation of viscosity of liquids and comparison with that of gases. **ASSIGENMNET TO BOTH CLASSES**	B.Sc.(H) CHEMISTRY Semester I **(Sec: B)**	C II: PHYSICAL CHEMISTRY I
	Practical	Estimation of sodium carbonate and sodium hydrogen carbonate present in a mixture Estimation of Mohr‟s salt by titrating it with $KMnO_4$. Synthesis and characterization of silver nanoparticles using UV-Visible spectrophotometer	B.Sc. Biological science, I Year, Semester I	**CHEMISTRY LAB**
MARCH	**Theory**	**Revisionary Exercises and solving previous years question papers.**	B.Sc.(H) CHEMISTRY Semester I **(Sec: A)**	C II: PHYSICAL CHEMISTRY I
		Revisionary Exercises and solving previous years question papers.	B.Sc.(H) CHEMISTRY Semester I **(Sec: B)**	C II: PHYSICAL CHEMISTRY I
	Practical	**Revision exercises**	B.Sc. Biological science, I Year, Semester I	**CHEMISTRY LAB**

Name of the Faculty: Dr. Sharda Pasricha

Department: CHEMISTRY   **Semester: V**

Month		Topics	Course	Paper Code/Name
AUGUST	**Theory**	**Amino acids, Polypeptides and Proteins**: Preparations, properties and reactions of amino acids. Correlation of Configuration. (5 lectures)	B.Sc. CHEMISTRY (Hons.) III Year, Semester V	CHEMISTRY - C XI: ORGANIC CHEMISTRY IV
	Practical	Isolation and characterization of DNA from onion/ cauliflower/peas.	B.Sc. CHEMISTRY (Hons.) III Year, Semester V	CHEMISTRY - C XI: ORGANIC CHEMISTRY IV
		Preparation and characterization of biodiesel from vegetable oil/ waste cooking oil.	B.Sc. CHEMISTRY (Hons.) IIIrd Year, Semester V	CHEMISTRY PRACTICAL – DSE II LAB: GREEN CHEMISTRY
		Organic preparations: i. Acetylation of one of the following compounds: amines (aniline, o-, m-, p-toluidines and o-, m-, p-anisidine) and phenols (β -naphthol, vanillin, salicylic acid) by any one method: a. Using conventional method. b. Using green approach	B.Sc. CHEMISTRY (Hons.) II Year, Semester III	CHEMISTRY -CVI: Organic Chemistry II

SEPTEMBER	Theory:	**Amino acids, PolyPeptides and Proteins**: Study of peptides: determination of their primary structures-end group analysis, methods of peptide synthesis. Synthesis of peptides using N-protecting, C-protecting and C-activating groups, Solid-phase synthesis; primary, secondary and tertiary structures of proteins, Denaturation (12 Lectures)	B.Sc. CHEMISTRY (Hons.) III Year, Semester V	CHEMISTRY - C XI: ORGANIC CHEMISTRY IV
	Practical:	1.Study of the titration curve of glycine. 2. Estimation of glycine by Sorenson's formalin method. 3. Estimation of Protein by Lowry's method	B.Sc. CHEMISTRY (Hons.) III Year, Semester V	CHEMISTRY - C XI: ORGANIC CHEMISTRY IV
		Mechanochemical solvent free synthesis of azomethines. Benzoin condensation using Thiamine Hydrochloride as a catalyst instead of cyanide. Photoreduction of benzophenone to benzopinacol in the presence of sunlight.	B.Sc. CHEMISTRY (Hons.) IIIrd Year, Semester V	CHEMISTRY PRACTICAL – DSE II LAB: GREEN CHEMISTRY
		Functional group tests: for Alcohols, phenols, Carbonyl and carboxylic acid group ii. Benzolyation of one of the following amines (aniline, o-, m-, p- toluidines and o-, m, p-anisidine) and one of the following phenols (β -naphthol, resorcinol, p- cresol) by Schotten-Baumann reaction. iii)Hydrolysis of esters and amides iv). Oxidation of ethanol/ isopropanol (Iodoform reaction).	B.Sc. CHEMISTRY (Hons.) II Year, Semester III	CHEMISTRY -CVI: Organic Chemistry II

| OCTOBER | **Theory:** | **Enzymes :**
Introduction, classification and characteristics of enzymes. Salient features of active site of enzymes. Mechanism of enzyme action (taking trypsin as example), factors affecting enzyme action, coenzymes and cofactors, specificity of enzyme action (including stereospecificity), enzyme inhibitors and their importance. **(6 Lectures)**
Nucleic Acids:
Components of nucleic acids, Nucleosides and nucleotides;

Structure, synthesis and reactions of: Adenine, Guanine, Cytosine, Uracil and Thymine.(6 Lectures) | B.Sc. CHEMISTRY (Hons.) III Year, Semester V | CHEMISTRY - C XI: ORGANIC CHEMISTRY IV |

| | **Practicals:** | 1. Study of the action of salivary amylase on starch at optimum conditions.
2. Effect of temperature on the action of salivary amylase.
3. Saponification value of an oil or a fat. | B.Sc. CHEMISTRY (Hons.) III Year, Semester V | CHEMISTRY - C XI: ORGANIC CHEMISTRY IV |
| | | Preparation and characterization of nano particles of gold using tea leaves.

Principle of atom economy. Use of molecular model kit to stimulate the reaction to investigate how the atom economy can illustrate Green Chemistry.
Preparation of propene by two methods can be studied
(I) Triethylamine ion + OH- → propene + trimethylpropene + water | B.Sc. CHEMISTRY (Hons.) III Year, Semester V | CHEMISTRY PRACTICAL - DSE LAB: GREEN CHEMISTRY |

		iv.Selective reduction of meta dinitrobenzene to m-nitroaniline. v.**Semicarbazone of any one of the following compounds**: acetone, ethyl methyl ketone, cyclohexanone, benzaldehyde. Any pending Work From previous Month. vi) **S-Benzylisothiouronium salt of one each of water soluble and water insoluble acids (benzoic** acid, oxalic acid, phenyl acetic acid and phthalic acid).	B.Sc. CHEMISTRY (Hons.) IInd Year, Semester III	CHEMISTRY - C VI: ORGANIC CHEMISTRY III
	Assignment :			
NOVEMBER	**Theory:**	**Structure of polynucleotides (DNA and RNA). (2 Lectures) Concept of Energy in Biosystems:** Cells obtain energy by the oxidation of foodstuff (organic molecules). Introduction to metabolism (catabolism, anabolism). ATP: The universal currency of cellular energy, ATP hydrolysis and free energy change. Agents for transfer of electrons in biological redox systems: NAD+, FAD. Conversion of food to energy: Outline of catabolic pathways of carbohydrate- glycolysis, fermentation, Krebs cycle. Caloric value of food, standard caloric content of food types. (8 Lectures)	B.Sc. CHEMISTRY (Hons.) III Year, Semester V	CHEMISTRY - C XI: ORGANIC CHEMISTRY IV
	Practicals:	Determination of Iodine number of an oil/ fat. Any pending work	B.Sc. CHEMISTRY (Hons.) III Year, Semester V	CHEMISTRY - C XI: ORGANIC CHEMISTRY IV
		Extraction of D-limonene from orange peel using liquid CO_2 prepared from dry ice. Solvent free, microwave assisted one pot synthesis of phthalocyanine complex of copper (II).	B.Sc. CHEMISTRY (Hons.) III Year, Semester V	CHEMISTRY PRACTICAL - DSE LAB: GREEN CHEMISTRY

		viii. Aldol condensation using either conventional or green method Any pending Work from previous Month	B.Sc. CHEMISTRY (Hons.) IInd Year, Semester III	CHEMISTRY - C VI: ORGANIC CHEMISTRY III
	Test			
DECEMBER	**Theory:**	Any Pending Work from Previous Month Revision and Discussion of Previous year papers.	B.Sc. CHEMISTRY (Hons.) III Year, Semester V	CHEMISTRY - C XI: ORGANIC CHEMISTRY IV
	Practicals:	Mock Practicals	B.Sc. CHEMISTRY (Hons.) III Year, Semester V	CHEMISTRY - C XI: ORGANIC CHEMISTRY IV
		Mock Practicals	B.Sc. CHEMISTRY (Hons.) III Year, Semester V	CHEMISTRY - C VI: ORGANIC CHEMISTRY III
		Mock Practicals	B.Sc. CHEMISTRY (Hons.) IInd Year, Semester III	CHEMISTRY - C VI: ORGANIC CHEMISTRY III

SEMESTER WISE TEACHING PLAN 202021
SRI VENKATESWARA COLLEGE

Name of the Faculty: Dr. SHEFALI SHUKLA

Department: CHEMISTRY   Semester: I/III/V (2020, odd sem)

Month		Topics	Course	Paper Code/Name
JULY	**Theory**	Introduction to Green Chemistry.	B.Sc. CHEMISTRY (Hons.) III Year, Semester V	CHEMISTRY-DSE: GREEN CHEMISTRY
	Practicals			
AUGUST	**Theory:**	**Principles of Green Chemistry (**Designing a Green Synthesis, concept of atom economy, green solvents, Selection of starting materials, use of catalytic reagents**)**	B.Sc. CHEMISTRY (Hons.) III Year, Semester V	CHEMISTRY-DSE: GREEN CHEMISTRY
	Practicals:	Isolation and characterization of DNA from cauliflower Saponification value of an oil or a fat.	B.Sc. CHEMISTRY (Hons.) III Year, Semester V	CHEMISTRY - C XI: ORGANIC CHEMISTRY IV
		Organic preparations: i. Acetylation of one of the following compounds: amines (aniline, o-, m-, p-toluidines and o-, m-, p-anisidine) and phenols (β -naphthol, vanillin, salicylic acid) by any one method: a. Using conventional method. b. Using green approach	B.Sc. CHEMISTRY (Hons.) II Year, Semester III	C VI: ORGANIC CHEMISTRY II
		Principle of atom economy	B.Sc. CHEMISTRY (Hons.) III Year, Semester V	CHEMISTRY-DSE: GREEN CHEMISTRY
SEPTEMBER	**Theory:**	Prevention of chemical accidents Strengthening/ development of analytical techniques Examples of Green Synthesis/ Reactions	B.Sc. CHEMISTRY (Hons.) III Year, Semester V	CHEMISTRY-DSE: GREEN CHEMISTRY

	Practicals:	To perform quantitative estimation of protein using Lowry's method Determination of Iodine number of an oil/ fat. To draw the Maltose standard curve	B.Sc. CHEMISTRY (Hons.) III Year, Semester V	CHEMISTRY - C XI: ORGANIC CHEMISTRY IV C VI: ORGANIC CHEMISTRY II
		Benzolyation of one of the following amines (aniline, o-, m-, p- toluidines and o-, m, p-anisidine) and one of the following phenols (β -naphthol, resorcinol, p- cresol) by Schotten-Baumann reaction. iii. Oxidation of ethanol/ isopropanol (Iodoform reaction) **iv. Semicarbazone of any one of the following compounds**: acetone, ethyl methyl ketone, cyclohexanone, benzaldehyde. v.Selective reduction of meta dinitrobenzene to m-nitroaniline.	B.Sc. (Hons) Chemistry II Year, Semester III	
		Preparation and characterization of nano particles of gold using tea leaves. Preparation and characterization of biodiesel from vegetable oil/ waste cooking oil Extraction of D-limonene from orange peel using liquid CO_2 prepared from dry ice. Mechanochemical solvent free synthesis of azomethines	B.Sc. CHEMISTRY (Hons.) III Year, Semester V	CHEMISTRY-DSE: GREEN CHEMISTRY
	Assignment :	Principles of Green Chemistry	B.Sc. CHEMISTRY (Hons.) III Year, Semester V	CHEMISTRY-DSE: GREEN CHEMISTRY
OCTOBER	**Theory:**	Future Trends in Green Chemistry	B.Sc. CHEMISTRY (Hons.) III Year, Semester V	CHEMISTRY-DSE: GREEN CHEMISTRY

	Practicals:	Study of the action of salivary amylase on starch at optimum conditions. Effect of temperature on the action of salivary amylase. Estimation of glycine by Sorenson's formalin method.	B.Sc. CHEMISTRY (Hons.) III Year, Semester V	CHEMISTRY - C XI: ORGANIC CHEMISTRY IV
		Hydrolysis of amides and esters		C VI: ORGANIC CHEMISTRY II
		S-Benzylisothiouronium salt of one each of water soluble and water insoluble acids (benzoic acid, oxalic acid, phenyl acetic acid and phthalic acid). viii. Aldol condensation using either conventional or green method	B.Sc. CHEMISTRY (Hons.) II Year, Semester V	
		Benzoin condensation using Thiamine Hydrochloride as a catalyst instead of cyanide .	B.Sc. CHEMISTRY (Hons.) III Year, Semester V	CHEMISTRY-DSE: GREEN CHEMISTRY
	Test	Principles of Green Chemistry Atom economy, green solvents	B.Sc. CHEMISTRY (Hons.) III Year, Semester V	CHEMISTRY-DSE: GREEN CHEMISTRY
NOVEMBER	**Theory:**	Green chemistry in sustainable development	B.Sc. CHEMISTRY (Hons.) III Year,	CHEMISTRY-DSE: GREEN CHEMISTRY
	Practicals:	Study of the titration curve of glycine. Practice Exercise	B.Sc. CHEMISTRY (Hons.) III Year, Semester V	CHEMISTRY - C XI: ORGANIC CHEMISTRY IV
		Functional group tests: for Alcohols, phenols, Carbonyl and carboxylic acid group Practice Exercise	B.Sc. CHEMISTRY (Hons.) II Year, Semester III	C VI: ORGANIC CHEMISTRY II
		Photoreduction of benzophenone to benzopinacol in the presence of sunlight. Solvent free, microwave assisted one pot synthesis of phthalocyanine complex of copper (II) Practice exercise	B.Sc. CHEMISTRY (Hons.) III Year, Semester V	CHEMISTRY-DSE: GREEN CHEMISTRY

Name of the Faculty: Dr. PRAGYA GAHLOT   **Department: CHEMISTRY**   **Semester: I/III/V**

Month		Topics	Course	Paper Code/Name
August	**Theory**	**Phase Equilibria:** Concept of phases, components and degrees of freedom, derivation of Gibbs Phase Rule for nonreactive and reactive systems; Clausius-	B.Sc. CHEMISTRY (Hons.) II Year, Semester III	C – VII: PHYSICAL CHEMISTRY III
	Practicals	Introduction to word processor. Incorporating chemical structures, chemical equations, expressions from chemistry into word processing documents. Incorporating tables and graphs into word processing documents.	B.Sc. CHEMISTRY (Hons.) II Year, Semester III	SEC: IT SKILLS FOR CHEMISTS
		Perform the following potentiometric titrations: i.Strong acid vs. strong base	B. Sc. Life Sciences II year, Semester III	CHEMISTRY LAB: CHEMISTRY –Core Paper-3 Solutions, Phase Equilibrium, Conductance, Electrochemistry and Functional Group Organic Chemistry-II
September	**Theory:**	Phase diagrams for systems of solid-liquid equilibria involving eutectic, congruent and incongruent melting points. Binary solutions: Gibbs-Duhem-	B.Sc. CHEMISTRY (Hons.) II Year, Semester III	C – VII: PHYSICAL CHEMISTRY III
	Practicals:	Handling numeric data: Spreadsheet software (Excel) Plotting graphs using a spreadsheet. Graphical solution of	B.Sc. CHEMISTRY (Hons.) II Year, Semester III	SEC: IT SKILLS FOR CHEMISTS
		Determination of CST of phenol-water system. Effect of impurities on CST of phenol-water system. Potentiometric titrations	B. Sc. Life Sciences II year, Semester III	CHEMISTRY LAB: CHEMISTRY –Core Paper-3 Solutions, Phase Equilibrium

October	Theory :	**Surface chemistry**: Physical adsorption, chemisorption, adsorption isotherms (Langmuir and Freundlich). Nature of adsorbed state. Qualitative discussion of BET.	B.Sc. CHEMISTRY (Hons.) II Year, Semester III	C – VII: PHYSICAL CHEMISTRY III
	Practicals:	Numerical curve fitting, linear regression numerical differentiation integration	B.Sc. CHEMISTRY (Hons.) II Year, Semester III	SEC: IT SKILLS FOR CHEMISTS
		Conductometric titrations of strong acid vs strong base, Functional group analysis Cooling curves	B. Sc. Life Sciences II year, Semester III	CHEMISTRY LAB: CHEMISTRY –Core Paper-3 Solutions, Phase
	Assignment :		B.Sc. CHEMISTRY (Hons.) II Year,	C – VII: PHYSICAL CHEMISTRY III

SEMESTER WISE TEACHING PLAN

SRI VENKATESWARA COLLEGE

Name of the Faculty: Mr Harshvardhan Meena

Department: Chemistry   **Semester: I/III/V**

Month		Topics	Course	Paper Code/Name
JULY	**Theory**	**Introduction:** Introduction to Analytical Chemistry and its interdisciplinary nature.	BSc. (P) Life Science II Year	Skill Enhancement Course **BASIC ANALYTICAL CHEMISTRY**
	Tutorials	NA	NA	NA
AUGUST	**Theory:**	Concept of sampling. Importance of accuracy, precision and sources of error in analytical measurements. Presentation of experimental data and results, from the point of view of significant figures. **Analysis of soil**: Composition of soil, Concept of pH and pH measurement, Complexometric titrations, Chelation, Chelating agents, use of indicators a. Determination of pH of soil samples. b. Estimation of Calcium and Magnesium ions as Calcium carbonate by complexometric titration.	BSc. (P) Life Science III Year	Skill Enhancement Course **BASIC ANALYTICAL CHEMISTRY**
	Tutorials:	NA	NA	NA

SEPTEMBER	**Theory:**	**Analysis of water:** Definition of pure water, sources responsible for contaminating water, water sampling methods, water purification methods. a. Determination of pH, acidity and alkalinity of a water sample. b. Determination of dissolved oxygen (DO) of a water sample. **Chromatography:** Definition, general introduction on principles of chromatography, paper chromatography, TLC etc.	BSc. (P) Life Science II Year	Skill Enhancement Course **BASIC ANALYTICAL CHEMISTRY**

		Section B: Physical Chemistry (I) Potentiometric measurements (a) Strong acid with strong base (b) Weak acid with strong base (c) Mohr's salt with potassium dichromate	B.Sc.(P) Life Science III year (V semester)	Chemistry of d-block elements, Quantum Chemistry and Spectroscopy
	Practicals:			
	Tutorials:	NA	NA	NA
	Assignment :	Basic Analytical Chemistry	BSc. (P) Life Science III Year	Skill Enhancement Course **BASIC ANALYTICAL CHEMISTRY**
OCTOBER	**Theory:**	Paper chromatographic separation of mixture of metal ion (Ni2+ and Co2+). **Ion-exchange:** Column, ion-exchange chromatography etc. Determination of ion exchange capacity of anion / cation exchange resin (using batch procedure if use of column is not feasible).	BSc. (P) Life Science II Year	Skill Enhancement Course **BASIC ANALYTICAL CHEMISTRY**
		Analysis of water: Definition of pure water, sources responsible for contaminating water, water sampling methods, water purification methods. a. Determination of pH, acidity and alkalinity of a water sample.	BSc. (P) Life Science II Year	Skill Enhancement Course **BASIC ANALYTICAL CHEMISTRY**
		Potentiometric measurements (a) Strong acid		

	Practicals:	(II) Conductometric measurements. (a) Determination of the cell constant. (b) Study of the variation of molar conductivity of a strong electrolyte (KCl) and of a weak electrolyte (acetic acid) with concentration. (c) Conductometric titrations for the following systems (i) strong acid - strong base (ii) weak acid - strong base	B.Sc.(P) Life Science III year (V semester)	Chemistry of d-block elements, Quantum Chemistry and Spectroscopy
	Tutorials:	NA	NA	NA
	Test	Basic Analytical Chemistry	BSc. (P) Life Science III Year	Skill Enhancement Course **BASIC ANALYTICAL CHEMISTRY**
NOVEMBER	**Theory:**	Suggested Applications (Any one): a. To study the use of phenolphthalein in trap cases. b. To analyze arson accelerants. c. To carry out analysis of gasoline. Suggested Instrumental demonstrations: a. Estimation of macro nutrients: Potassium, Calcium, Magnesium in soil samples by flame photometry. b. Spectrophotometric determination of Iron in Vitamin / Dietary Tablets. c. Spectrophotometric Identification and Determination of Caffeine and Benzoic Acid in Soft Drink.	BSc. (P) Life Science II Year	Skill Enhancement Course **BASIC ANALYTICAL CHEMISTRY**
	Practicals:	(III) Kinetic studies Study of the kinetics of the following reactions by integrated rate method: a. Acid hydrolysis of methyl acetate with hydrochloric acid, volumetrically or conductometrically	B.Sc.(P) Life Science III year (V semester)	Chemistry of d-block elements, Quantum Chemistry and Spectroscopy
		(A) Titrimetric Analysis (i) Calibration and use of apparatus (ii) Preparation of solutions of titrants of different Molarity/Normality	B.Sc. (Hons.) Chemistry I Year	Practical C – I Lab

		(i) Introductory class (ii) Purification of organic compounds by crystallization	B.Sc (P) Life Sciences Sem-I (B-I)	Atomic Structure, Bonding, General Organic Chemistry & Aliphatic Hydrocarbons
	Tutorials:	NA	NA	NA
December	**Theory:**	Normalized and orthogonal wave functions. Sign of wave functions. Radial and angular wave functions for hydrogen atom. Radial and angular distribution curves. Shapes of s, p, and d orbitals, Relative energies of orbitals. Pauli's Exclusion Principle, Hund's rule of maximum spin multiplicity, Aufbau principle and its limitations. Periodicity of Elements: Brief discussion of the following properties of the elements, with reference to s & p-block and the trends shown: (a) Effective nuclear charge, shielding or screening effect, Slater rules, variation of effective nuclear charge in periodic table. (b) Atomic and ionic radii .(c) Ionization enthalpy, Successive ionization enthalpies and factors affecting ionization enthalpy and trends in groups and periods.	B.Sc. (Hons.) Chemistry I Year	CHEMISTRY - C I: INORGANIC CHEMISTRY-I
	Practicals	(i) Melting point determination of organic compound (ii) Boiling point determination of given organic compounds	B.Sc (P) Life Sciences Sem-I (B-I)	Atomic Structure, Bonding, General Organic Chemistry & Aliphatic Hydrocarbons
		b. Iodide-persulphate reaction.	B.Sc.(P) Life Science III year (V semester)	Chemistry of d-block elements, Quantum Chemistry and Spectroscopy
		(B) Acid-Base Titrations Principles of acid-base titrations to be discussed. (i) Estimation of sodium carbonate using standardized HCl. (ii) Estimation of carbonate and hydroxide present together in a mixture. (iii) Estimation of carbonate and bicarbonate present together in a mixture.	B.Sc. (Hons.) Chemistry I Year	Practical C – I Lab

January	Theory:	(d) Electron gain enthalpy and trends in groups and periods. (e) Electronegativity, P auling's/ Allred Rochow's scales. Variation of electronegativity with bond order, partial charge, hybridization, group electronegativity. Chemical Bonding: Ionic bond: General characteristics, types of ions, size effects, radius ratio rule and its limitations. Packing of ions in crystals. Born-Landé equation with derivation and importance of Kapustinskii expression for lattice energy.	B.Sc. (Hons.) Chemistry I Year	CHEMISTRY - C I: INORGANIC CHEMISTRY-I
	Practicals	i) Separation of Two Amino Acids Mixture by Paper Chromatography (ii) Copper sulphate determination by iodometrically (iii) Estimation of oxalic acid by titrating it with KMnO4.	B.Sc (P) Life Sciences Sem-I (B-I)	Atomic Structure, Bonding, General Organic Chemistry & Aliphatic Hydrocarbons
		(iv) Estimation of free alkali present in different soaps/detergents (C) Oxidation-Reduction Titrimetry Principles of oxidation-reduction titrations (electrode potentials) to be discussed. (i) Estimation of Fe(II) and oxalic acid using standardized KMnO4 solution	B.Sc. (Hons.) Chemistry I Year	Practical C – I Lab

February	Theory:	Covalent bond: Madelung constant, Born-Haber cycle and its application, Solvation energy. Covalent character in ionic compounds, polarizing power and polarizability. Fajan's rules and consequences of polarization. Valence Bond theory (Heitler-London approach). Energetics of hybridization, equivalent and non-equivalent hybrid orbitals. Bent's rule, Resonance and resonance energy. Ionic character in covalent compounds: Bond moment and dipole moment. Percentage ionic character from dipole moment and electronegativity difference.	B.Sc. (Hons.) Chemistry I Year	CHEMISTRY - C I: INORGANIC CHEMISTRY-I
	Practicals	(ii) Estimation of Fe (II) ions by titrating it with K2Cr2O7 using internal indicator (iii) Identify and separate the sugars present in the given mixture by radial/ascending paper chromatography.	B.Sc (P) Life Sciences Sem-I (B-I)	Atomic Structure, Bonding, General Organic Chemistry & Aliphatic Hydrocarbons
		(ii) Estimation of oxalic acid and sodium oxalate in a given mixture	B.Sc. (Hons.) Chemistry I Year	Practical C – I Lab
March	Theory:	Molecular orbital theory. Molecular orbital diagrams of diatomic Lewis structure, Valence shell electron pair repulsion theory (VSEPR), shapes of the following simple molecules and ions containing lone pairs and bond pairs of electrons: H_2O, NH_3, PCl_3, PCl_5, SF_6, ClF_3, I_3^{3-}, BrF_2^+, PCl_6^-, ICl_2^- ICl_4^-, and SO_4^{2-}.	B.Sc. (Hons.) Chemistry I Year	CHEMISTRY - C I: INORGANIC CHEMISTRY-I
	Practicals	(iii) Estimation of Fe(II) with K2Cr2O7 using internal indicator (diphenylamine, Nphenylanthranilic acid) and discussion of external indicator	B.Sc. (Hons.) Chemistry I Year	Practical C – I Lab

SEMESTER WISE-TEACHING PLAN

SRI VENKATESWARA COLLEGE

Name of the Faculty: Dr. Vinita Kapoor

Department: Chemistry   **Semester : I/III/V**

Month		Topics	Course	Paper Code/Name
AUGUST	**Theory**	**Molecular Spectroscopy:** Interaction of electromagnetic radiation with molecules and various types of spectra; Born Oppenheimer approximation.	B.Sc. (Hons.) Chemistry sem V	Physical chemistry-V
	Theory	Postulates of quantum mechanics, Wave-particle duality	B.Sc. (P) Life Sci. sem V	DSE Chemistry -11 CHEMISTRY OF d-BLOCK ELEMENTS, QUANTUM CHEMISTRY & SPECTROSCOPY
	Practicals	Introduction to word processor. Incorporating chemical structures, chemical equations, expressions from chemistry (e.g. Maxwell-Boltzmann distribution law, Bragg's law, van der Waals equation, etc.) into word processing documents. Incorporating tables and graphs into word processing documents.	B. Sc. (H) Chemistry II year Semester III	SEC: IT SKILLS FOR CHEMISTS
	Practicals	b)Determination of the critical solution temperature and composition of the phenol water system	BSc (P) Life Sci. Semester III	SOLUTIONS, PHASE EQUILIBRIUM, CONDUCTANCE, ELECTROCHEMISTRY & FUNCTIONAL GROUP ORGANICCHEMISTRX-H
	Practicals	Determination of critical solution temperature and composition at CST of the phenolwater system	B.Sc. (Hons.) Chemistry sem 3	**CHEMISTRY - C VII:** *PHYSICAL CHEMISTRY III*

Month		Topics	Course	Paper Code/Name

SEPTEMBER	**Theory**	Vibrational spectroscopy and Rotation spectroscopy	B.Sc. (Hons.) Chemistry sem V	Physical chemistry-V
	Theory	quantum mechanical operators, Free particle. Particle in a I -D box (complete solution), quantization, normalization of wavefunct ions, concept of zero-point energy. Spectroscopy and its importance in chemistry. Wave-particle duality. Link between spectroscopy and quantum chemistry. Electromagnetic radiation and its interaction with matter. Types of spectroscopy. Difference between atomic and molecular spectra. Born- Oppenheimer approximation: Separation of molecular energies into translational, rotational, vibrational and electronic components *Rotational Motion:* Schrodinger equation of a rigid rotator and brief discussion of its results (solution not required). Quantization of rotational energy levels. Microwave (pure rotational) spectra of diatomic molecules. Selection rules. Structural information derived from rotational spectroscopy	B.Sc. (P) Life Sci. sem V	DSE Chemistry -11 CHEMISTRY OF d-BLOCK ELEMENTS, QUANTUM CHEMISTRY & SPECTROSCOPY
	Practicals	Handling numeric data: Spreadsheet software (Excel), creating a spreadsheet, entering and formatting information, basic functions and formulae, creating charts, tables and graphs. Simple calculations, plotting graphs using a spreadsheet. Graphical solution of equations. Numeric modelling	B. Sc. (H) Chemistry II year Semester III	SEC: IT SKILLS FOR CHEMISTS

	Practicals	study of the effect of impurities on cst. c)Study of the variation of mutual solubility temperature with concentration Cor the phenol water system and determination of the critical solubility temperature I. Determination of cell constant, equivalent conductance, degree of dissociation and dissociation constant or a weak acid. l l.Perform the following eonductometric titrations: i.Strong acid vs. strong base	BSc (P) Life Sci. Semester III	SOLUTIONS, PHASE EQUILIBRIUM, CONDUCTANCE, ELECTROCHEMISTRY & FUNCTIONAL GROUP ORGANICCHEMISTRX-H
	Practicals	1. to study the effect of impurities of sodium chloride and succinic acid on cst 2. Perform the following potentiometric titrations: i. Strong acid vs. strong base	B.Sc. (Hons.) Chemistry sem 3	**CHEMISTRY - C VII:** *PHYSICAL CHEMISTRY III*

Month		Topics	Course	Paper Code/Name
OCTOBER	**Theory**	Vibrational spectroscopy	B.Sc. (Hons.) Chemistry sem V	Physical chemistry-V

| Theory | *Vibrational Motion:* Schrodinger equation of a linear harmonic oscillator and brief discussion of its results (solution not required). Quantization of. vibrational energy levels. Selection rules, IR spectra of diatomic molecules. Structural information derived from vibrational spectra. Vibrations of polyatomic molecules. Group frequencies. Effect of hydrogen bonding (inter- and intramolecular) and substitution on vibrational frequencies. | B.Sc. (P) Life Sci. sem V | DSE Chemistry -11

CHEMISTRY OF d-BLOCK ELEMENTS, QUANTUM CHEMISTRY & SPECTROSCOPY |
|---|---|---|---|
| **Practicals** | Numerical curve fitting, linear regression numerical differentiation integration | B. Sc. (H) Chemistry II year Semester III | SEC: IT SKILLS FOR CHEMISTS |
| **Practicals** | ii.Weak acid vs. strong base conductometry PotentiometryPerform the following potentiometric titrations:i.SIrong acid vs. strong base
Weak acid vs. strong base I Systematic Qualitative Organic Analysis of Organic Compounds posSessing monofunctional groups (amide, nitro, amines, Hydrocorbans, Halo Hydrocorbans) and preparation of one derivative. | BSc (P) Life Sci. Semester III | SOLUTIONS, PHASE EQUILIBRIUM, CONDUCTANCE, ELECTROCHEMISTRY & FUNCTIONAL GROUP ORGANICCHEMISTRX-H |

	Practicals	Perform the following potentiometric titrations: i. weak acid vs. strong base ii.. Dibasic acid vs. strong base iv. Potassium dichromate vs. Mohr's salt	B.Sc. (Hons.) Chemistry sem 3	**CHEMISTRY - C VII:** *PHYSICAL CHEMISTRY III*

Month		Topics	Course	Paper Code/Name
NOVEMBER	**Theory**	VIB-ROT SPECTRA, RAMAN SPECTRA, ROT-RAMAN SPECTRA, Vibrational Raman spectra, Stokes and anti-Stokes lines; their intensity difference, rule of mutual exclusion. NMR SPECTRA	B.Sc. (Hons.) Chemistry sem V	Physical chemistry-V
	Theory	*Electronic Spectroscopy:* Electronic excited states. Free Electron model and its application to electronic spectra of polyenes. Colour and constitution, chromophoes, auxochromes, bathochromic and hypsochromic shifts.	B.Sc. (P) Life Sci. sem V	DSE Chemistry -11 CHEMISTRY OF d-BLOCK ELEMENTS, QUANTUM CHEMISTRY & SPECTROSCOPY
	Practicals	Differential calculus: The tangent line and the derivative of a function, numerical differentiation. Numerical integration (Trapezoidal and Simpson's rule, e.g. entropy/enthalpy change from heat capacity data). Computer Programming BASIC language.	B.Sc. (Hons.) Chemistry sem III	SEC: IT SKILLS FOR CHEMISTS

	Practicals	I Systematic Qualitative Organic Analysis of Organic Compounds posSessing monofunctional groups (amide, nitro, amines, Hydrocorbans, Halo Hydrocorbans) and preparation of one derivative. II 1. Determination of the concentration of glycine solution by formylation method 2. Action of salivary amylase on starch	BSc (P) Life Sci. Semester III	SOLUTIONS, PHASE EQUILIBRIUM, CONDUCTANCE, ELECTROCHEMISTRY & FUNCTIONAL GROUP ORGANICCHEMISTRX-H
	Practicals	Phase equilibria: Construction of the phase diagram using cooling curves or ignition tube method: a. simple eutectic and b. congruently melting systems.	B.Sc. (Hons.) Chemistry sem 3	**CHEMISTRY - C VII:** *PHYSICAL CHEMISTRY III*

Month		Topics	Course	Paper Code/Name
DECEMBER	**Theory**	NMR, ESR SPECTRA	B.Sc. (Hons.) Chemistry sem V	Physical chemistry-V
	Theory	Photochemistry Laws of photochemistry. Lambert-Beer's law. Fluorescence and phosphorescence. Quantum efficiency and reasons for high and low quantum yields. Primary and secondary processes in photochemical reactions. Photochemical and thermal reactions. Photoelectric cells	B.Sc. (P) Life Sci. sem V	DSE Chemistry -11 CHEMISTRY OF d-BLOCK ELEMENTS, QUANTUM CHEMISTRY & SPECTROSCOPY

Practicals	Constants, variables, bits, bytes, binary and ASCII formats, arithmetic expressions, hierarchy of operations, inbuilt functions. Elements of the BASIC language.	B.Sc. (Hons.) Chemistry sem III	SEC: IT SKILLS FOR CHEMISTS
Practicals	Differentiation between a reducing and nonreducing sugar	BSc (P) Life Sci. Semester III	SOLUTIONS, PHASE EQUILIBRIUM, CONDUCTANCE, ELECTROCHEMISTRY & FUNCTIONAL GROUP ORGANICCHEMISTRX-H
Practicals	Phase equilibria: Construction of the phase diagram using cooling curves or ignition tube method: a. simple eutectic and b. congruently melting systems.	B.Sc. (Hons.) Chemistry sem 3	**CHEMISTRY - C VII:** *PHYSICAL CHEMISTRY III*

SEMESTER WISE TEACHING PLAN

SRI VENKATESWARA COLLEGE

Name of the Faculty: Dr. Shikha Gulati

Department: Chemistry   **Semester: V**

Month		Topics	Course	Paper Code/Name
AUGUST	**Theory**	Conventional heat and beat methods, Co-precipitation method,	B.Sc. (Hons.) Chemistry III Year	CHEMISTRY-DSE 1: NOVEL INORGANIC SOLIDS
	Practicals	Synthesis of silver nanoparticles	B.Sc. (Hons.) Chemistry III Year	CHEMISTRY PRACTICAL - DSE LAB: NOVEL INORGANIC SOLIDS
		(A) Titrimetric Analysis (i) Calibration and use of apparatus (ii) Preparation of solutions of titrants of different Molarity/Normality	B.Sc. (Hons.) Chemistry I Year	Practical C – I Lab
		Estimation of carbonate	B.Sc. (P) Life Science I year	Chemistry Lab
	Tutorials	NA	NA	NA
SEPTEMBER	**Theory:**	Sol-gel methods, Hydrothermal method, Ion-exchange and Intercalation methods. (10 Lectures) Inorganic solids of technological importance:	B.Sc. (Hons.) Chemistry III Year	CHEMISTRY-DSE 1: NOVEL INORGANIC SOLIDS
	Practicals:	Determination of cation exchange method	B.Sc. (Hons.) Chemistry III Year	CHEMISTRY PRACTICAL - DSE LAB: NOVEL INORGANIC SOLIDS

		(i) Estimation of sodium carbonate and bicarbonate using standardized HCl. (ii) Estimation of oxalic acid using standardized KMnO4 solution. (iii) Estimation of water of crystallization of Mohr salt by titrating with KMnO4	B.Sc. (P) Life Science I year	Chemistry Lab
		(B) Acid-Base Titrations Principles of acid-base titrations to be discussed. (i)	B.Sc. (Hons.) Chemistry I Year	Practical C – I Lab
	Tutorials:	NA	NA	NA
OCTOBER	**Theory:**	Nanomaterials: Overview of nanostructures and nanomaterials: classification. Preparation of gold and silver metallic nanoparticles, self-assembled nanostructures-control of nanoarchitecture-one dimensional control. Carbon nanotubes and inorganic nanowires. Bioinorganic nanomaterials, DNA and nanomaterials, natural and antisical nanomaterials, bionano composites. (10 Lectures) Introduction to engineering materials for mechanical construction: Composition, mechanical and fabricating characteristics and applications of various types of cast irons, plain carbon and alloy steels, copper, aluminum and their alloys like duralumin, brasses and bronzes cutting tool materials, super alloys thermoplastics, thermosets and composite materials.	B.Sc. (Hons.) Chemistry III Year	CHEMISTRY-DSE 1: NOVEL INORGANIC SOLIDS

Practicals:	Determination of total difference of solids.	B.Sc. (Hons.) Chemistry III Year	CHEMISTRY PRACTICAL - DSE LAB: NOVEL INORGANIC SOLIDS
	(iv) Estimation of free alkali present in different soaps/detergents (C) Oxidation-Reduction Titrimetry Principles of oxidation-reduction titrations (electrode potentials) to be discussed. (i) Estimation of Fe(II) and oxalic acid using standardized KMnO4 solution Section B: Organic Chemistry I. Purification of OC by crystallisation (from water and alcohol) and distillation.	B.Sc. (Hons.) Chemistry I Year	Practical C – I Lab
	Estimation of Fe(II) with K2Cr2O7 using internal indicator (diphenylamine, Estimation of Cu(II) mions iodometrically Purification of organic compounds by crystallization	B.Sc. (P) Life Science I year	Chemistry Lab
Tutorials:	NA	NA	NA
Assignment :	NOVEL INORGANIC SOLIDS	B.Sc. (Hons.) Chemistry III Year	CHEMISTRY-DSE 1: NOVEL INORGANIC SOLIDS

NOVEMBER	**Theory:**	Composite materials: Introduction, limitations of conventional engineering materials, role of matrix in composites, classification, matrix materials, reinforcements, metal-matrix composites, polymer-matrix composites, fibre-reinforced composites, environmental effects on composites, applications of composites. Speciality polymers: Conducting polymers - Introduction, conduction mechanism, polyacetylene, polyparaphenylene and polypyrole,	B.Sc. (Hons.) Chemistry III Year	CHEMISTRY-DSE 1: NOVEL INORGANIC SOLIDS
	Practicals:	Synthesis of hydrogel by co-precipitation method.	B.Sc. (Hons.) Chemistry III Year	CHEMISTRY PRACTICAL - DSE LAB: NOVEL INORGANIC SOLIDS
		(ii) Estimation of oxalic acid and sodium oxalate in a given mixture	B.Sc. (Hons.) Chemistry I Year	Practical C – I Lab
		Criteria of purity: Determination of M.pt/b.pt., Detection of extra elements (N, S, Br, I) in organic compounds	B.Sc. (P) Life Science I year	Chemistry Lab
	Tutorials:	NA	NA	NA
	Test	NOVEL INORGANIC SOLIDS	B.Sc. (Hons.) Chemistry III Year	CHEMISTRY-DSE 1: NOVEL INORGANIC SOLIDS
DECEMBER	**Theory:**	Applications of conducting polymers, Ion-exchange resins and their applications. Ceramic & Refractory: Introduction, classification, properties,	B.Sc. (Hons.) Chemistry III Year	CHEMISTRY-DSE 1: NOVEL INORGANIC SOLIDS
	Practicals:	Synthesis of gold metal nanoparticles	B.Sc. (Hons.) Chemistry III Year	CHEMISTRY PRACTICAL - DSE LAB: NOVEL INORGANIC SOLIDS

		(iii) Estimation of Fe(II) with K2Cr2O7 using internal indicator (diphenylamine, Nphenylanthranilic acid) and discussion of external	B.Sc. (Hons.) Chemistry I Year	Practical C – I Lab
		Double Titrations	B.Sc. (P) Life Science I year	Chemistry Lab
	Tutorials:	NA	NA	NA

SEMESTER WISE TEACHING PLAN
SRI VENKATESWARA COLLEGE-2020-21 (Odd)

Name of the Faculty: Dr. POOJA   Department: CHEMISTRY

Semester: I/III/V

Month		Topics	Course	Paper Code/Name
JULY	**Theory**	**Lipids:** Introduction to oils and fats; common fatty acids present in oils and fats,	B.Sc. CHEMISTRY (Hons.) III Year, Semester V	CHEMISTRY - C XI: ORGANIC CHEMISTRY IV
	Practicals	Isolation and characterization of DNA from onion/ cauliflower/peas.	B.Sc. CHEMISTRY (Hons.) III Year, Semester V	CHEMISTRY - C XI: ORGANIC CHEMISTRY IV
		Preparation and characterization of biodiesel from vegetable oil/ waste cooking oil.	B.Sc. CHEMISTRY (Hons.) III Year, Semester V	CHEMISTRY PRACTICAL - DSE LAB: GREEN CHEMISTRY
		Determination of pH of soil samples.	B.Sc. (P) Life Science III year, Semester V	SEC: ANALYTICAL METHODS IN CHEMISTRY
AUGUST	**Theory:**	Hydrogenation of fats and oils, Saponification value, acid value, iodine number. Reversion and rancidity.	B.Sc. CHEMISTRY (Hons.) III Year, Semester V	CHEMISTRY - C XI: ORGANIC CHEMISTRY IV

	Practicals:	Study of the titration curve of glycine. Estimation of glycine by Sorenson's formalin method. Estimation of Protein by Lowry's method	B.Sc. CHEMISTRY (Hons.) III Year, Semester V	CHEMISTRY - C XI: ORGANIC CHEMISTRY IV
		Mechanochemical solvent free synthesis of azomethines. Benzoin condensation using Thiamine Hydrochloride as a catalyst instead of cyanide. Photoreduction of benzophenone to benzopinacol in the presence of sunlight.	B.Sc. CHEMISTRY (Hons.) III Year, Semester V	CHEMISTRY PRACTICAL - DSE LAB: GREEN CHEMISTRY
		Estimation of Calcium and Magnesium ions as Calcium carbonate by complexometric titration	B.Sc. life science (prog.) III Year, Semester V	SEC: ANALYTICAL METHODS IN CHEMISTRY
SEPTEMBER	**Theory:**	Pharmaceutical Compounds: Structure and Importance: Classification. Structure and Importance: structure and therapeutic uses of antipyretics: Paracetamol (with synthesis), Analgesics: Ibuprofen (with synthesis),	B.Sc. CHEMISTRY (Hons.) III Year, Semester V	CHEMISTRY - C XI: ORGANIC CHEMISTRY IV

Practicals:	Study of the action of salivary amylase on starch at optimum conditions. Effect of temperature on the action of salivary amylase. Saponification value of an oil or a fat.	B.Sc. CHEMISTRY (Hons.) III Year, Semester V	CHEMISTRY - C XI: ORGANIC CHEMISTRY IV
	Preparation and characterization of nano particles of gold using tea leaves. Principle of atom economy. Use of molecular model kit to stimulate the reaction to investigate how the atom economy can illustrate Green Chemistry. Preparation of propene by two methods can be studied (I) Triethylamine ion + OH- → propene + trimethylpropene + water	B.Sc. CHEMISTRY (Hons.) III Year, Semester V	CHEMISTRY PRACTICAL - DSE LAB: GREEN CHEMISTRY
	Determination of pH, acidity and alkalinity of a water sample. Determination of dissolved oxygen (DO) of a water sample.	B.Sc. life science (prog.) III Year, Semester V	SEC: ANALYTICAL METHODS IN CHEMISTRY
Assignment :	Pharmaceutical Compounds: Structure and Importance:	B.Sc. CHEMISTRY (Hons.) III Year, Semester V	CHEMISTRY - C XI: ORGANIC CHEMISTRY IV

OCTOBER	**Theory:**	Pharmaceutical Compounds: Structure and Importance: Antimalarials: Chloroquine (with synthesis). An elementary treatment of Antibiotics and detailed study of chloramphenicol,	B.Sc. CHEMISTRY (Hons.) III Year, Semester V	CHEMISTRY - C XI: ORGANIC CHEMISTRY IV
		Carbohydrates: Classification, and General Properties, Glucose and Fructose (open chain and cyclic structure), Determination of configuration of monosaccharides, absolute configuration of Glucose and Fructose.	B.Sc. Life Sciences, II Year, Semester III	SOLUTIONS, PHASE EQUILIBRIUM….. & FUNCTIONAL GROUP ORGANIC CHEMISTRY-II
	Practicals:	Saponification value of an oil or a fat. Determination of Iodine number of an oil/ fat.	B.Sc. CHEMISTRY (Hons.) III Year, Semester V	CHEMISTRY - C XI: ORGANIC CHEMISTRY IV
		Extraction of D-limonene from orange peel using liquid CO_2 prepared from dry ice. Solvent free, microwave assisted one pot synthesis of phthalocyanine complex of copper (II).	B.Sc. CHEMISTRY (Hons.) III Year, Semester V	CHEMISTRY PRACTICAL - DSE LAB: GREEN CHEMISTRY
		Paper chromatographic separation of mixture of metal ion (Ni^{2+} and Co^{2+}). Spectrophotometric determination of Iron in Vitamin / Dietary Tablets. Determination of ion exchange capacity of anion /cation exchange resin (using batch procedure if use of column is not feasible).	B.Sc. life science (prog.) III Year, Semester V	SEC: ANALYTICAL METHODS IN CHEMISTRY
	Test	Pharmaceutical Compounds: Structure and Importance: Antimalarials: Chloroquine (with synthesis).	B.Sc. CHEMISTRY (Hons.) III Year, Semester V	CHEMISTRY - C XI: ORGANIC CHEMISTRY IV

NOVEMBER	Theory:	Pharmaceutical Compounds: Structure and Importance: Medicinal values of curcumin (haldi), azadirachtin (neem), vitamin C and antacid (ranitidine).	B.Sc. CHEMISTRY (Hons.) III Year, Semester V	CHEMISTRY - C XI: ORGANIC CHEMISTRY IV
		Unit 3: Fundamentals of Organic Chemistry: Hybridization in organic compounds, Chemistry: cleavage of covalent bond, homolysis and heterolysis, Electronic effects: Electronic effects and their applications – inductive, resonance and hyperconjugation effects,	B.Sc. Bioloical Sciences, I Year, Semester I	BS-C1: CHEMISTRY ORGANIC CHEMISTRY
	Practicals:	Determination of Iodine number of an oil/ fat. Any pending work	B.Sc. CHEMISTRY (Hons.) III Year, Semester V	CHEMISTRY - C XI: ORGANIC CHEMISTRY IV
		Practice Exercise	B.Sc. CHEMISTRY (Hons.) III Year, Semester V	CHEMISTRY PRACTICAL - DSE LAB: GREEN CHEMISTRY
		To study the use of phenolphthalein in trap cases. To carry out analysis of gasoline.	B.Sc. life science (prog.) III Year, Semester V	ANALYTICAL METHODS IN CHEMISTRY
		Determination of enthalpy of neutralization of hydrochloric acid with sodium hydroxide Determination of basicity of a diprotic acid by the thermochemical method in terms of the changes of temperatures observed in the graph of temperature versus time for different additions of a base. Also calculate the enthalpy of neutralization of the first step.	B.Sc. Bioloical Sciences, I Year, Semester I	CHEMISTRY LAB
DECEMBER	Theory:	Unit 3: Fundamentals of Organic Structure and relative stability of reactive carbon species – carbocations, carbanions, free radicals and carbenes, Molecular Forces: types of intermolecular and intra-molecular forces and their characteristics: dipole-dipole, dipoleinduced dipole and dispersion (London) forces, Hydrogen bond (both intramolecular	B.Sc. Biological sciences, I Year, Semester I	BS-C1: CHEMISTRY ORGANIC CHEMISTRY

		and intermolecular), Effect of inter/intramolecular forces on physical properties such as solubility, vapour pressure, melting and boiling points of different compounds.		
JANUARY	**Practicals:**	Determination of integral enthalpy (endothermic and exothermic) solution of salts Determination of melting and boiling points of organic compounds	B.Sc. Biological science, I Year, Semester I	CHEMISTRY LAB
	Theory:	Unit 3: Fundamentals of Organic Chemistry: Aromaticity. Unit 4: Stereochemistry: Stereochemistry and its importance. Geometrical isomerism, cis-trans and E/Z nomenclature Optical isomerism – optical activity, plane polarized light, enantiomerism, chirality, specific molar rotation.	B.Sc. Biological sciences, I Year, Semester I	BS-C1: CHEMISTRY ORGANIC CHEMISTRY
	Practicals:	Mechano-Chemical solvent free synthesis of azomethine Acetylation of amines using green approach Qualitative functional group tests for alcohols, aldehydes, ketones, carboxylic acids, esters, amines and amides	B.Sc. Biological science, I Year, Semester I	CHEMISTRY LAB
	Assignment :	Unit 3: Fundamentals of Organic Chemistry: Aromaticity	B.Sc. Biological sciences, I Year, Semester I	BS-C1: CHEMISTRY ORGANIC CHEMISTRY
FEBRUARY	**Theory:**	Stereoisomerism with two chiral centrers : Diastereomers, mesoisomers, Resolution of racemic modification. Unit 4: Stereochemistry: Projection diagrams of stereoisomers: Fischer, Newman and Sawhorse projections. Relative Configuration: D/L designation. Absolute Configuration: R/S designation of chiral centres.	B.Sc. Biological sciences, I Year, Semester I	BS-C1: CHEMISTRY ORGANIC CHEMISTRY

	Practicals:	Estimation of sodium carbonate and sodium hydrogen carbonate present in a mixture Estimation of Mohr"s salt by titrating it with $KMnO_4$. Synthesis and characterization of silver nanoparticles using UV-Visible spectrophotometer	B.Sc. Biological science, I Year, Semester I	CHEMISTRY LAB
	Test	Stereoisomerism with two chiral centrers : Diastereomers, mesoisomers, Resolution of racemic modification. Unit 4: Stereochemistry: Projection diagrams of stereoisomers: Fischer, Newman and Sawhorse projections.	B.Sc. Biological sciences, I Year, Semester I	BS-C1: CHEMISTRY ORGANIC CHEMISTRY
MARCH	**Theory:**	Conformational isomerism – ethane, butane and cyclohexane, diagrams and relative stability of conformers.	B.Sc. Biological sciences, I Year, Semester I	BS-C1: CHEMISTRY ORGANIC CHEMISTRY
	Practicals:	Practice Exercise	B.Sc. Biological science, I Year, Semester I	CHEMISTRY LAB

SEMESTER WISE TEACHING PLAN
SRIVENKATESWARA COLLEGE

Name of the Faculty: **Dr. Deepti Sharma**

Department: Chemistry   **Semester : I/III/V**

Month		Topics	Course	Paper Code/Name
August	**Theory**	Carboxylic Acid: Preparation and reactions	B. Sc (P) Life Science Semester III	Solution Phase Equilibrium, Conductance, Electrochemistry and Functional Group Organic Chemistry-II
		Carbonyl Compounds: Structure, reactivity, preparation and properties; reactions	B.Sc (H) Chemistry Semester-III	Organic Chemistry-II
	Practicals	Benzoin condensation using Thiamine Hydrochloride as a catalyst instead of cyanide.	B.Sc (H) Chemistry Semester-V	DSE: Green Chemistry
		Systematic qualitative analysis of organic compounds possessing monofunctional groups (Alcohols, Phenols, Carbonyl, -COOH). (Including Derivative Preparation).	B.Sc Life Science Semester-III	Solution Phase Equilibrium, Conductance, Electrochemistry and Functional Group Organic Chemistry-II
		1. Determination of pH of soil samples. 2. Estimation of Calcium and Magnesium ions as Calcium carbonate by complexometric titration. 3. Determination of pH, acidity and alkalinity of a water sample.	B.Sc Life Science Semester-III (SEC)	Basic Analytical Chemistry
	Tutorials	NA	NA	NA
September	**Theory:**	Carboxylic Acid Derivatives: contd. Amines and Diazonium Salts: Preparation	B. Sc (P) Life Science Semester III	Solution Phase Equilibrium, Conductance, Electrochemistry and Functional Group Organic Chemistry-II
		Carbonyl Compounds contd.	B.Sc (H) Chemistry Semester-III	Organic Chemistry-II

	Practicals:	1. Mechanochemical solvent free synthesis of azomethines. 2. Photoreduction of benzophenone to benzopinacol in the presence of sunlight. 3. Preparation and characterization of biodiesel from vegetable oil/ waste cooking oil	B.Sc (H) Chemistry Semester-V	DSE: Green Chemistry
		Practiced systematic qualitative analysis of organic compounds possessing monofunctional groups (Alcohols, Phenols, Carbonyl, -COOH). (Including Derivative Preparation).	B.Sc Life Science Semester-III	Solution Phase Equilibrium, Conductance, Electrochemistry and Functional Group Organic Chemistry-II
		1. Determination of dissolved oxygen (DO) of a water sample. 2. Paper chromatographic separation of mixture of metal ion (Ni2+ and Co2+). 3. To study the use of phenolphthalein in trap cases.	B.Sc Life Science Semester-III (SEC)	Basic Analytical Chemistry
	Tutorials:	NA	NA	NA
OCTOBER	**Theory:**	Amino Acids, Peptides and Proteins:	B. Sc (P) Life Science Semester III	Solution Phase Equilibrium, Conductance, Electrochemistry and Functional Group Organic Chemistry-II
		Carboxylic acid and derivatives started	B.Sc (H) Chemistry Semester-III	Organic Chemistry-II

	Practicals:	Preparation and characterization of nano particles of gold using tea leaves. Principle of atom economy. Use of molecular model kit to stimulate the reaction to investigate how the atom economy can illustrate Green Chemistry. Preparation of propene by two methods can be studied (I) Triethylamine ion + OH- → propene + trimethylpropene + water	B.Sc (H) Chemistry Semester-V	DSE: Green Chemistry
		Practiced systematic qualitative analysis of organic compounds possessing monofunctional groups (Alcohols, Phenols, Carbonyl, -COOH). (Including Derivative Preparation).	B.Sc Life Science Semester-III	Solution Phase Equilibrium, Conductance, Electrochemistry and Functional Group Organic Chemistry-II
		1. To analyze arson accelerants. 2. To carry out analysis of gasoline. 3. Estimation of macro-nutrients: Potassium, calcium and magnesium in soil samples by	B.Sc Life Science Semester-III (SEC)	Basic Analytical Chemistry
	Tutorials:	NA	NA	NA

	Assignment :	Carboxylic Acid, Carboxylic Acid Derivatives, Amines and Diazonium Salts	B. Sc (P) Life Science Semester III	Solution Phase Equilibrium, Conductance, Electrochemistry and Functional Group Organic Chemistry-II
		Carbonyl Compounds complete syllabus	B.Sc (H) Chemistry Semester-III	Organic Chemistry-II
November	**Theory:**	Carbohydrates	B. Sc (P) Life Science Semester III	Solution Phase Equilibrium, Conductance, Electrochemistry and Functional Group Organic Chemistry-II
		Carboxylic Acid and derivatives completed.	B.Sc (H) Chemistry Semester-III	Organic Chemistry-II
	Practicals:	Extraction of D-limonene from orange peel using liquid CO_2 prepared from dry ice. Solvent free, microwave assisted one pot synthesis of phthalocyanine complex of copper (II).	B.Sc (H) Chemistry Semester-V	DSE: Green Chemistry
		MOCK TESTS	B.Sc Life Science Semester-III	Solution Phase Equilibrium, Conductance, Electrochemistry and Functional Group Organic Chemistry-II
		1. Spectrophotometric determination of Iron in vitamin / dietary tablets. 2. Spectrophotometric identification and determination of caffeine and benzoic	B.Sc Life Science Semester-III (SEC)	Basic Analytical Chemistry
	Tutorials:	NA	NA	NA
	Test	Amino Acids, Peptides and Proteins and Carbohydrates	B. Sc (P) Life Science Semester III	Solution Phase Equilibrium, Conductance, Electrochemistry and Functional Group Organic Chemistry-II
		Carbonyl Compounds complete and Carboxylic acid and derivatives	B.Sc (H) Chemistry Semester-III	Organic Chemistry-II

December	**Theory:**	Revision	B. Sc (P) Life Science Semester III	Solution Phase Equilibrium, Conductance, Electrochemistry and Functional Group Organic Chemistry-II
		Revision	B.Sc (H) Chemistry Semester-III	Organic Chemistry-II
	Practicals:	Online Practical Exam	B.Sc (H) Chemistry Semester-V	DSE: Green Chemistry
		Online Practical Exam	B.Sc Life Science Semester-III	Solution Phase Equilibrium, Conductance, Electrochemistry and Functional Group Organic Chemistry-II
		Online Practical Exam	B.Sc (H) Chemistry Semester-III	Organic Chemistry-II
	Tutorials:	NA	NA	NA

Name of the Faculty: Ms. Laishram Saya Devi   **Department: CHEMISTRY**

Semester: I/III/V

Month		Topics	Course	Paper Code/Name
AUGUST	**Theory**	**FCH session started late in November due to pandemic.**		
	Practical	Determination of the Critical Solution temperature and composition of the phenol water system. Determination of the Critical Solution temperature and composition of the phenol water system and study the effect of impurities on it	B.Sc. CHEMISTRY (Hons.) II Year, Semester III **(Batch 1)**	CHEMISTRY – C VII; PHYSICAL CHEMISTRY III
		Determination of the Critical Solution temperature and composition of the phenol water system. Determination of the Critical Solution temperature and composition of the phenol water system and study the effect of impurities on it	B.Sc. CHEMISTRY (Hons.) II Year, Semester III **(Batch 2)**	CHEMISTRY – C VII; PHYSICAL CHEMISTRY III
SEPTEMBER	**Theory**	**FCH session started late in November due to pandemic.**		
	Practical	Construction of the phase diagram using cooling curves method for simple eutectic systems. (different systems)	B.Sc. CHEMISTRY (Hons.) II Year, Semester III **(Batch 1)**	CHEMISTRY – C VII; PHYSICAL CHEMISTRY III
		Construction of the phase diagram using cooling curves method for simple eutectic systems. (different systems)	B.Sc. CHEMISTRY (Hons.) II Year, Semester III **(Batch 2)**	CHEMISTRY – C VII; PHYSICAL CHEMISTRY III
OCTOBER	**Theory**	**FCH session started late in November due to pandemic.**		
	Practical	Determination of the Critical Solution temperature and composition of the phenol water system and study the effect of impurities on it Construction of the phase diagram using cooling curves method for congruently melting systems.	B.Sc. CHEMISTRY (Hons.) II Year, Semester III **(Batch 1)**	CHEMISTRY – C VII; PHYSICAL CHEMISTRY III
		Determination of the Critical Solution temperature and composition of the phenol water system and study the effect of impurities on it Construction of the phase diagram using cooling curves method for congruently melting systems.	B.Sc. CHEMISTRY (Hons.) II Year, Semester III **(Batch 2)**	CHEMISTRY – C VII; PHYSICAL CHEMISTRY III
NOVEMBER	**Theory**	**GASEOUS STATE:** Kinetic molecular model of a gas: postulates and derivation of the kinetic gas Equation.	B.Sc.(H) CHEMISTRY Semester I **(Sec: A)**	C II: PHYSICAL CHEMISTRY I
		GASEOUS STATE: Kinetic molecular model of a gas: postulates and derivation of the kinetic gas Equation.	B.Sc.(H) CHEMISTRY Semester I **(Sec: B)**	C II: PHYSICAL CHEMISTRY I

	Practical	**Revision Exercises along with Viva**	B.Sc. CHEMISTRY (Hons.) II Year, Semester III **(Batch 1)**	CHEMISTRY – C VII; PHYSICAL CHEMISTRY III
		Revision Exercises along with Viva	B.Sc. CHEMISTRY (Hons.) II Year, Semester III **(Batch 2)**	CHEMISTRY – C VII; PHYSICAL CHEMISTRY III
		Determine the surface tension of aqueous solutions by (i) drop number (ii) drop weight method.	B.Sc. CHEMISTRY (Hons.) II Year, Semester III **(Batch 1)**	C II: PHYSICAL CHEMISTRY I LAB
DECEMBER	**Theory**	**GASEOUS STATE:** Behaviour of real gases: Deviations from ideal gas behaviour, compressibility factor, Z, and its variation with pressure and Temperature for different gases. Causes of deviation from ideal behaviour. van der Waals equation of state, its derivation and application in explaining real gas behaviour, calculation of Boyle temperature.	B.Sc.(H) CHEMISTRY Semester I **(Sec: A)**	C II: PHYSICAL CHEMISTRY I
		GASEOUS STATE: Behaviour of real gases: Deviations from ideal gas behaviour, compressibility factor, Z, and its variation with pressure and Temperature for different gases. Causes of deviation from ideal behaviour. van der Waals equation of state, its derivation and application in explaining real gas behaviour, calculation of Boyle temperature	B.Sc.(H) CHEMISTRY Semester I **(Sec: B)**	C II: PHYSICAL CHEMISTRY I
	Practical	1**. Surface tension measurements using Stalagmometer:** Study the variation of surface tension with different concentration of detergent solutions. Determine CMC. **Viscosity measurement using Ostwald's viscometer:** **(**i) Determination of co-efficient of viscosity of an unknown aqueous solution. (different unknown solutions)	B.Sc. CHEMISTRY (Hons.) II Year, Semester III **(Batch 1)**	C II: PHYSICAL CHEMISTRY I LAB
JANUARY	**Theory**	**GASEOUS STATE:** Isotherms of real gases and their comparison with van der Waals isotherms, continuity of states, critical state, relation between critical constants and van der Waals constants, law of corresponding states.	B.Sc.(H) CHEMISTRY Semester I **(Sec: A)**	C II: PHYSICAL CHEMISTRY I
		GASEOUS STATE: Isotherms of real gases and their comparison with van der Waals isotherms, continuity of states, critical state, relation between critical constants and van der Waals constants, law of corresponding states.	B.Sc.(H) CHEMISTRY Semester I **(Sec: B)**	C II: PHYSICAL CHEMISTRY I
	Practical	Study the variation of co-efficient of viscosity with different concentration of Poly Vinyl Alcohol (PVA) and determine molar mass of PVA. Study the variation of viscosity with different concentration of sugar solutions.	B.Sc. CHEMISTRY (Hons.) II Year, Semester III **(Batch 1)**	C II: PHYSICAL CHEMISTRY I LAB
FEBRUARY	**Theory**	**SOLID STATE:** Nature of the solid state, law of constancy of interfacial angles, law of rational indices, Miller indices, elementary ideas of symmetry,	B.Sc.(H) CHEMISTRY Semester I **(Sec: A)**	C II: PHYSICAL CHEMISTRY I

		symmetry elements and symmetry operations. qualitative idea of point and space groups, seven crystal systems and fourteen Bravais lattices; X-ray diffraction, Bragg's law. **SOLID STATE:** Nature of the solid state, law of constancy of interfacial angles, law of rational indices, Miller indices, elementary ideas of symmetry, symmetry elements and symmetry operations. qualitative idea of point and space groups, seven crystal systems and fourteen Bravais lattices; X-ray diffraction, Bragg's law. **ASSIGENMNET TO BOTH CLASSES**	B.Sc.(H) CHEMISTRY Semester I (Sec: B)	C II: PHYSICAL CHEMISTRY I
	Practical	Preparation of buffer solutions of different pH values: (a) Sodium acetate-acetic acid (b)Ammonium chloride-ammonium hydroxide Study the effect of addition of HCl/NaOH on pH to the solutions of acetic acid, sodium acetate and their mixtures.	B.Sc. CHEMISTRY (Hons.) II Year, Semester III (Batch 1)	C II: PHYSICAL CHEMISTRY I LAB
MARCH	Theory	**SOLID STATE:** A simple account of rotating crystal method and powder pattern method. Analysis of powder diffraction patterns of NaCl, CsCl and KCl. **SOLID STATE:** A simple account of rotating crystal method and powder pattern method. Analysis of powder diffraction patterns of NaCl, CsCl and KCl.	B.Sc.(H) CHEMISTRY Semester I (Sec: A) B.Sc.(H) CHEMISTRY Semester I (Sec: B)	C II: PHYSICAL CHEMISTRY I C II: PHYSICAL CHEMISTRY I
	Practical	**Revision exercises along with viva**	B.Sc. CHEMISTRY (Hons.) II Year, Semester III (Batch 1)	C II: PHYSICAL CHEMISTRY I LAB

Name of the Faculty: Dr. Rekha Yadav   **Department: CHEMISTRY**
Semester: I/III/V

Month		Topic	Course	Paper
August	**Theory:**	Fundamentals, mathematical functions, polynomial expressions, logarithms, the exponential function, units of a measurement, interconversion of units, constants and variables, equation of a straight line, plotting graphs. Uncertainty in experimental techniques.	B. Sc. (H) Chemistry II year, Semester III	SEC: IT SKILLS FOR CHEMISTS
		Phases, components and degrees of freedom of a system, criteria of phase equilibrium. Gibbs Phase Rule and its thermodynamic derivation. Derivation of Clausius – Clapeyron equation and its importance in phase equilibria.	B.Sc. (P) Life Sciences II year, Semester III (section A & B)	CHEMISTRY –Core Paper-3 Solutions, Phase Equilibrium, Conductance, Electrochemistry and Functional Group Organic Chemistry-II
	Practicals:	Introduction to word processor. Incorporating chemical structures, chemical equations, expressions from chemistry (e.g. Maxwell-Boltzmann distribution law, Bragg's law, van der Waals equation, etc.) into word processing documents. Incorporating tables and graphs into word processing documents.	B. Sc. (H) Chemistry II year, Semester III	SEC: IT SKILLS FOR CHEMISTS
		Perform the following potentiometric titrations: i.Strong acid vs. strong base	B. Sc. Life Sciences II year, Semester III	CHEMISTRY LAB: CHEMISTRY –Core Paper-3 Solutions, Phase Equilibrium, Conductance, Electrochemistry and

				Functional Group Organic Chemistry-II
	Tutorials:	NA	NA	NA
September	Theory:	Uncertainty in measurement. Statistical treatment. Data reduction and the propagation of errors. Graphical and numerical data reduction. Numerical curve fitting: the method of least squares (regression).	B. Sc. (H) Chemistry II year, Semester III	SEC: IT SKILLS FOR CHEMISTS
		Phase diagrams of one-component systems (water and sulphur) Phase diagram two component systems involving eutectics, congruent (leadsilver, $FeCl_3$-H_2O. Phase diagram-incongruent melting points.	B.Sc. (P) Life Sciences II year, Semester III	CHEMISTRY –Core Paper-3 Solutions, Phase Equilibrium, Conductance, Electrochemistry and Functional Group Organic Chemistry-II
	Practicals:	Handling numeric data: Spreadsheet software (Excel), creating a spreadsheet, entering and formatting information, basic functions and formulae, creating charts, tables and graphs. Simple calculations, plotting graphs using a spreadsheet. Graphical solution of equations. Numeric modelling	B. Sc. (H) Chemistry II year, Semester III	SEC: IT SKILLS FOR CHEMISTS
		Determination of CST of phenol-water system. Effect of impurities on CST of phenol-water system. Potentiometric titrations ii. Weak acid vs. strong base Functional group determination.	B. Sc. Life Sciences II year, Semester III	CHEMISTRY LAB: CHEMISTRY –Core Paper-3 Solutions, Phase Equilibrium, Conductance, Electrochemistry and Functional Group Organic Chemistry-II
	Tutorials:	NA	NA	NA

October	Theory:	Algebraic operations on real scalar. Roots of quadratic equations analytically and iteratively Numerical methods of finding roots. Differential calculus: The tangent line and the derivative of a function, numerical differentiation.	B. Sc. (H) Chemistry II year, Semester III	SEC: IT SKILLS FOR CHEMISTS
		Conductivity, equivalent and molar conductivity and their variation with dilution for weak and strong electrolytes, Kohlrausch Law of independent migration of ions, transference number and its experimental determination using Hittorf and moving boundary methods	B.Sc. (P) Life Sciences II year, Semester III	CHEMISTRY –Core Paper-3 Solutions, Phase Equilibrium, Conductance, Electrochemistry and Functional Group Organic Chemistry-II
	Practicals:	Numerical curve fitting, linear regression numerical differentiation integration	B. Sc. (H) Chemistry II year, Semester III	SEC: IT SKILLS FOR CHEMISTS
		Conductometric titrations of strong acid vs strong base, Functional group analysis Cooling curves	B. Sc. Life Sciences II year, Semester III	CHEMISTRY LAB: CHEMISTRY –Core Paper-3 Solutions, Phase Equilibrium, Conductance, Electrochemistry and Functional Group Organic Chemistry-II
	Tutorials:	NA	NA	NA
	Assignment	Molecular Spectroscopy	B. Sc. (H) Chemistry II year, Semester III	SEC: IT SKILLS FOR CHEMISTS
	Assignment	Assignment-I	B. Sc. (P) Life Sciences II year, Semester III	CHEMISTRY –Core Paper-3 Solutions, Phase Equilibrium, Conductance, Electrochemistry and Functional Group Organic Chemistry-II
November	Theory:	Numerical integration (Trapezoidal and Simpson's rule). Numerical integration	B. Sc. (H) Chemistry II year, Semester III	SEC: IT SKILLS FOR CHEMISTS

		applications e.g. entropy/enthalpy change from heat capacity data.		
		Ionic mobility, applications of conductance measurements: determination of degree of ionization of weak electrolytes, solubility and solubility products of sparingly soluble salts, ionic product of water, hydrolysis constant of a salt. Conductometric titrations (only acid-base).	B.Sc. (P) Life Sciences II year, Semester III	CHEMISTRY –Core Paper-3 Solutions, Phase Equilibrium, Conductance, Electrochemistry and Functional Group Organic Chemistry-II
	Practicals:	Statistical analysis: Gaussian distribution and Errors in measurements and their effect on data sets. Descriptive statistics using Excel. Statistical significance testing: The t test. The Ftest.	B. Sc. (H) Chemistry II year, Semester III	SEC: IT SKILLS FOR CHEMISTS
		Determination of the concentration of glycine solution by formylation method Action of salivary amylase on starch Differentiation between a reducing and non-reducing sugar	B. Sc. Life Sciences II year, Semester III	CHEMISTRY LAB: CHEMISTRY –Core Paper-3 Solutions, Phase Equilibrium, Conductance, Electrochemistry and Functional Group Organic Chemistry-II
		1. Surface tension measurements using Stalagmometer. i. Determine the surface tension of aqueous solutions by (i) drop number	B. Sc. (H) Chemistry I year, Semester I	Practical Course Code: CHEMISTRY - C II: PHYSICAL CHEMISTRY - I Course Title: States of Matter & Ionic Equilibrium
	Tutorials:	NA	NA	NA
December	**Theory:**			
	Practicals:	2. Determine the surface tension of aqueous solutions by (ii) drop weight method. 3. Study the variation of surface tension with different concentration of detergent solutions. Determine CMC.	B. Sc. (H) Chemistry I year, Semester I	Practical Course Code: CHEMISTRY - C II: PHYSICAL CHEMISTRY - I Course Title: States of Matter & Ionic Equilibrium

		4. Determination of co-efficient of viscosity of an unknown aqueous solution. 5. Study the variation of co-efficient of viscosity with different concentration of Poly Vinyl Alcohol (PVA) and determine molar mass of PVA.		
January	**Theory:**			
	Practicals:	6. Study the variation of viscosity with different concentration of sugar solutions. 7. Study the effect of addition of HCl/NaOH on pH to the solutions of acetic acid, sodium acetate and their mixtures 8.Preparation of buffer solutions of different pH values (a) Sodium acetate-acetic acid 9. (b) Ammonium chloride-ammonium hydroxide	B. Sc. (H) Chemistry I year, Semester I	Practical Course Code: CHEMISTRY - C II: PHYSICAL CHEMISTRY - I Course Title: States of Matter & Ionic Equilibrium
February	**Theory:**			
	Practicals:	10. pH metric titration of (i) strong acid with strong base, 11. (ii) weak acid with strong base and 12. determination of dissociation constant of a weak acid. 13. Determination of molecular weight of a volatile compound using Victor Meyer's method.	B. Sc. (H) Chemistry I year, Semester I	Practical Course Code: CHEMISTRY - C II: PHYSICAL CHEMISTRY - I Course Title: States of Matter & Ionic Equilibrium
March	**Theory:**			
	Practicals:	14. Indexing of a given powder diffraction pattern of a cubic crystalline system.	B. Sc. (H) Chemistry I year, Semester I	Practical Course Code: CHEMISTRY - C II: PHYSICAL CHEMISTRY - I Course Title: States of Matter & Ionic Equilibrium
	Tutorials:	NA	NA	NA

SEMESTER WISE TEACHING
PLAN 2020-2021 ODD SEMESTER

SRI VENKATESWARA COLLEGE

Name of the Faculty: Dr. Rangarajan T. M.

Department: Chemistry   **Semester: I /III/V**

Month		Topic	Course	Paper
August	**Theory:**	Green Chemistry: The perfect toolbox to prevent waste, Twelve Principles of Green Chemistry UN sustainable development goals: How can Green Chemistry Contribute? Special Emphasis on Prevention of Waste	B.Sc (H) Generic Elective-II Year Semester-III	Green Chemistry: Designing Chemistry for Human Health and Environment
	Practicals:	Acetylation Of Aniline And 2-Naphthol By Green And Conventional Methods	B.Sc. (H) Chemistry, II Year (SCH), Semester – III	CHEMISTRY - C VI: ORGANIC CHEMISTRY-II Lab
	Practicals:	Introduction- Green Chemistry experiments need to be designed with the help of the three magic R's- Reduce, Reuse and Recycle. While designing and practising green chemistry experiments, special emphasis should be made on utilizing the maximum tenets (principles) of Green Chemistry. Synthesis of biodiesel from waste cooking oil	B.Sc (H) Generic Elective-II Year Semester-III	Green Chemistry: Designing Chemistry for Human Health and Environment-Lab
	Practicals:			
	Practicals:			
	Tutorials:	NA	NA	NA
September	**Theory:**	Green Catalysts General Introduction to Catalysis Types of Catalysts Green Catalyst Nanocatalyst	B.Sc (H) Generic Elective-II Year Semester-III	Green Chemistry: Designing Chemistry for Human Health and Environment
	Practicals:	Benzoylation of aniline and 2-naphthol, Oxidation of ethanol/ isopropanol (Iodoform reaction).	B.Sc. (H) Chemistry, II Year (SCH), Semester – III	CHEMISTRY - C VI: ORGANIC CHEMISTRY-II Lab
		Making green plastics from corn starch. Greener approach to the synthesis of Gold/Silver Nanoparticles: Green synthesis of gold/silver nanoparticles	B.Sc (H) Generic Elective-II Year Semester-III	Green Chemistry: Designing Chemistry for Human Health and Environment-Lab
	Tutorials:	NA	NA	NA

October	**Theory:**	Green Solvents Problems associated with traditional solvents Water as a green solvent Ionic Liquids Bio-based Solvents Supercritical CO_2.	B.Sc (H) Generic Elective-II Year Semester-III	Green Chemistry: Designing Chemistry for Human Health and Environment
	Practicals:	Selective reduction of meta dinitrobenzene to m-nitroaniline. Hydrolysis of amides and esters	B.Sc. (H) Chemistry, II Year (SCH), Semester – III	CHEMISTRY - C VI: ORGANIC CHEMISTRY-II Lab
		Catalytic degradation of dyes using nanoparticles (can be any)	B.Sc (H) Generic Elective-II Year Semester-III	Green Chemistry: Designing Chemistry for Human Health and Environment-Lab
	Tutorials:	NA	NA	NA
	Assignment	**Assignment-I**	B.Sc (H) Generic Elective-II Year Semester-III	Green Chemistry: Designing Chemistry for Human Health and Environment
November	**Theory:**	Green Energy Global Warming (Climate Change) Renewable energy Microwave Assisted Synthesis Ultrasound Assisted Synthesis.	B.Sc (H) Generic Elective-II Year Semester-III	Green Chemistry: Designing Chemistry for Human Health and Environment
	Practicals:	Semicarbazone of any one of the following compounds: cyclohex-anone, and benzaldehyde. Aldol condensation using either conventional or green method.	B.Sc. (H) Chemistry, II Year (SCH), Semester – III	CHEMISTRY - C VI: ORGANIC CHEMISTRY-II Lab
		Green Synthesis Microwave assisted synthesis of copper phthalocyanine complex Preparation of Fe(III)AcAc Complex using a greener approach	B.Sc (H) Generic Elective-II Year Semester-III	Green Chemistry: Designing Chemistry for Human Health and Environment-Lab
	Tutorials:	NA	NA	NA
	Test			
December	**Theory:**	New Directions from Academia Innovations stemming from academia Academia Being Recognized: US Presidential Green Challenge Awards.	B.Sc (H) Generic Elective-II Year Semester-III	Green Chemistry: Designing Chemistry for Human Health and Environment
	Practicals:	S-Benzylisothiouronium salt of one each of water soluble and water insoluble acids benzoic acid	B.Sc. (H) Chemistry, II Year (SCH), Semester – III	CHEMISTRY - C VI: ORGANIC CHEMISTRY-II Lab

		Revision- Practice experiment and Mock test	B.Sc (H) Generic Elective-II Year Semester-III	Green Chemistry: Designing Chemistry for Human Health and Environment-Lab
	Tutorials:	NA	NA	NA

Month		Topic	Course	Paper
November	**Theory:**	Electronic displacements: Inductive effect, electromeric effect, resonance, hyperconjugation. Cleavage of bonds: homolysis and heterolysis. Reaction intermediates: carbocations, carbanions and free radicals. Electrophiles and nucleophiles, Aromaticity: benzenoids and Hückel's rule.	B. Sc. (P) Life Science-I year (FLS-A), Semester-I	Atomic Structure, Bonding, General Organic Chemistry (Section B: Organic Chemistry -1)
	Practicals:	Introductory class	B.Sc (H) Generic Elective-I Year Semester-I	CHEMISTRY PRACTICALS: Atomic Structure, Bonding, General Organic Chemistry
	Practicals:			
	Tutorials:	NA	NA	NA
December	**Theory:**	Conformations with respect to ethane, butane and cyclohexane, inter-conversion of Wedge Formula, Newmann, Sawhorse and Fischer representations, concept of chirality (upto two carbon atoms). configuration: geometrical and optical isomerism; enantiomerism, diastereomerism.	B. Sc. (P) Life Science-I year (FLS-A), Semester-I	Atomic Structure, Bonding, General Organic Chemistry (Section B: Organic Chemistry -1)
	Practicals:	Determination of melting and boiling points of organic compounds Purification of organic compounds by crystallization	B.Sc (H) Generic Elective-I Year Semester-I	CHEMISTRY PRACTICALS: Atomic Structure, Bonding, General Organic Chemistry
	Tutorials:	NA	NA	NA
January	**Theory:**	Meso compounds). Threo and erythro; D and L; cis - trans nomenclature; CIP Rules: R/ S (for upto 2 chiral carbon atoms) and E / Z nomenclature (for upto two C=C systems). Preparation: catalytic hydrogenation, Wurtz reaction, Kolbe's synthesis, Grignard reagent. Reactions: Free radical substitution: Halogenation	B. Sc. (P) Life Science-I year (FLS-A), Semester-I	Atomic Structure, Bonding, General Organic Chemistry (Section B: Organic Chemistry -1)

	Practicals:	Titrimetric estimation of oxalic acid against KMnO$_4$. Titrimetric estimation of Mohr's salt against KMnO$_4$.	B.Sc (H) Generic Elective-I Year Semester-I	CHEMISTRY PRACTICALS: Atomic Structure, Bonding, General Organic Chemistry
	Tutorials:	NA	NA	NA
	Assignment	**Assignment-I**	B. Sc. (P) Life Science-I year (FLS-A), Semester-I	Atomic Structure, Bonding, General Organic Chemistry (Section B: Organic Chemistry -1)
February	**Theory:**	Alkenes: Preparation: Elimination reactions: Dehydration of alcohols and dehydro-halogenation of alkyl halides (Saytzeff's rule); cis alkenes (Partial catalytic hydrogenation) and trans alkenes (Birch reduction). Reactions: cis-addition (alk. KMnO4) and trans-addition (bromine), addition of HX (Markownikoff's and anti-Markownikoff's addition), Hydration, Ozonolysis, oxymecuration-demercuration, Hydroborationoxidation.	B. Sc. (P) Life Science-I year (FLS-A), Semester-I	Atomic Structure, Bonding, General Organic Chemistry (Section B: Organic Chemistry -1)
	Practicals:	Titrimetric estimation of ferrous ions against K$_2$Cr$_2$O$_7$, Paper chromatographic separation of mixture of amino acids	B.Sc (H) Generic Elective-I Year Semester-I	CHEMISTRY PRACTICALS: Atomic Structure, Bonding, General Organic Chemistry
	Tutorials:	NA	NA	NA
	Test	Test - I	B. Sc. Life Science-I year And B.Sc (H) Generic Elective Semester-I	Atomic Structure, Bonding, General Organic Chemistry (Section B: Organic Chemistry -1)
March	**Theory:**	Alkynes: Preparation: Acetylene from CaC2 and conversion into higher alkynes; by dehaloge-nation of tetrahalides and dehydrohalogenation of vicinal-dihalides. Reactions: formation of metal acetylides and acidity of alkynes, addition of bromine and alkaline KMnO4, ozonolysis and oxidation with hot alk. KMnO4. Hydration to form carbonyl compounds	B. Sc. (P) Life Science-I year (FLS-A), Semester-I	Atomic Structure, Bonding, General Organic Chemistry (Section B: Organic Chemistry -1)

	Practicals:	Paper chromatographic separation of mixture of Sugars Practice exercises	B.Sc (H) Generic Elective-I Year Semester-I	CHEMISTRY PRACTICALS: Atomic Structure, Bonding, General Organic Chemistry
	Tutorials:	NA	NA	NA

SEMESTER WISE
TEACHING PLAN (2020-2021)
odd semester

SRI VENKATESWARA COLLEGE

Name of the Faculty: Dr Devendra Kumar Verma

Department: Chemistry **Semester: III/V/VII**

Month		Topic	Course	Paper
August (10/8/2020)	**Theory:**	Introduction: Introduction to Analytical Chemistry and its interdisciplinary nature. Concept of sampling. Importance of accuracy, precision and sources of error in analytical measurements. Presentation of experimental data and results, from the point of view of significant figures.	B.Sc.(P) Life Science III year (V semester)	SEC paper Basic Analytical Chemistry
		Unit 3. Conductance Conductivity, equivalent and molar conductivity and their variation with dilution for weak and strong electrolytes. Kohlrausch law of independent migration of ions. Transference number and its experimental determination using Hittorf and Moving boundary methods. Ionic mobility.	BSc. (P) Life Science II Year (III semester)	(Solutions, Conductance, Electrochemistry and Functional Group Chemistry-2
	Practicals:	Section B: Physical Chemistry (I) Potentiometric measurements (a) Strong acid with strong base (b) Weak acid with strong base (c) Mohr's salt with potassium dichromate	B.Sc.(P) Life Science III year (V semester)	Chemistry of d-block elements, Quantum Chemistry and Spectroscopy
		Colorimetry : I. Verify Lambert-Beer's law and determine the concentration of $CuSO_4/KMnO_4/K_2Cr_2O_7$ in a solution of unknown concentration II. Determine the concentrations of $KMnO_4$ and $K_2Cr_2O_7$ in a mixture. III. Study the kinetics of iodination of propanone in acidic medium. IV. Determine the amount of iron present in a sample using 1, 10-phenathroline	B.Sc.(H) Chemistry III year (V semester)	- C XII:Physical chemistry V
	Tutorials:			
September	**Theory:**	Analysis of soil: Composition of soil, Concept of pH and pH measurement, Complexometric	B.Sc.(P) Life Science III year (V semester)	SEC paper Basic Analytical Chemistry

		titrations, Chelation, Chelating agents, use of indicators a. Determination of pH of soil samples. b. Estimation of Calcium and Magnesium ions as Calcium carbonate by complexometric titration		
		Applications of conductance measurements: determination of degree of ionization of weak electrolyte, solubility and solubility products of sparingly soluble salts, ionic product of water, hydrolysis constant of a salt. Conductometric titrations (only acid-base).	BSc. (P) Life Science II Year (III semester)	(Solutions, Conductance, Electrochemistry and Functional Group Chemistry-2
	Practicals:	(II) Conductometric measurements. (a) Determination of the cell constant. (b) Study of the variation of molar conductivity of a strong electrolyte (KCl) and of a weak electrolyte (acetic acid) with concentration. (c) Conductometric titrations for the following systems (i) strong acid - strong base (ii) weak acid - strong base	B.Sc.(P) Life Science III year (V semester)	Chemistry of d-block elements, Quantum Chemistry and Spectroscopy
		Determine the dissociation constant of an indicator (phenolphthalein). VI. Study the kinetics of interaction of crystal violet/ phenolphthalein with sodium hydroxide. VII. Analysis of the given vibration-rotation spectrum of HCl(g)	B.Sc.(H) Chemistry III year (V semester)	- C XII:Physical chemistry V
October	**Theory:**	Analysis of water: Definition of pure water, sources responsible for contaminating water, water sampling methods, water purification methods.	B.Sc.(P) Life Science III year (V semester)	SEC paper Basic Analytical Chemistry
		Unit 4. Electrochemistry Reversible and irreversible cells. Concept of EMF of a cell. Measurement of EMF of a cell. Nernst equation and its importance. Types of electrodes. Standard electrode potential. Electrochemical series. Thermodynamics of a reversible cell, calculation of thermodynamic properties: ΔG, ΔH and ΔS from EMF data.	BSc. (P) Life Science II Year (III semester)	(Solutions, Conductance, Electrochemistry and Functional Group Chemistry-2

	Practicals:	(III) Kinetic studies Study of the kinetics of the following reactions by integrated rate method: a. Acid hydrolysis of methyl acetate with hydrochloric acid, volumetrically or conductometrically	B.Sc.(P) Life Science III year (V semester)	Chemistry of d-block elements, Quantum Chemistry and Spectroscopy
		Adsorption VIII. Verify the Freundlich and Langmuir isotherms for adsorption of acetic acid on activated charcoal. UV/Visible spectroscopy: I. Study the 200-500 nm absorbance spectra of $KMnO_4$ and $K_2Cr_2O_7$ (in 0.1 M H_2SO_4) and determine the λmax values. Calculate the energies of the two transitions in different units (J molecule-1 , kJ mol-1 , cm-1 , eV).	B.Sc.(H) Chemistry III year (V semester)	- C XII:Physical chemistry V
	Tutorials:			
November 28 /11/ 2020	**Theory:**	a. Determination of pH, acidity and alkalinity of a water sample. b. Determination of dissolved oxygen (DO) of a water sample. Suggested Applications (Any one): a. To study the use of phenolphthalein in trap cases. b. To analyze arson accelerants. c. To carry out analysis of gasoline. Suggested Instrumental demonstrations: a. Estimation of macro nutrients: Potassium, Calcium, Magnesium in soil samples by flame photometry. b. Spectrophotometric determination of Iron in Vitamin / Dietary Tablets. c. Spectrophotometric Identification and Determination of Caffeine and Benzoic Acid in Soft Drink.	B.Sc.(P) Life Science III year (V semester)	SEC paper Basic Analytical Chemistry
		Calculation of equilibrium constant from EMF data. Concentration cells with transference and without transference. Liquid junction potential and salt bridge. pH determination using hydrogen electrode and quinhydrone electrode. Potentiometric titrations - qualitative treatment (acid-base and oxidation-reduction only).	BSc. (P) Life Science II Year (III semester)	(Solutions, Conductance, Electrochemistry and Functional Group Chemistry-2

Practicals:	b. Iodide-persulphate reaction.	B.Sc.(P) Life Science III year (V semester)	Chemistry of d-block elements, Quantum Chemistry and Spectroscopy
	Study the pH-dependence of the UV-Vis spectrum (200-500 nm) of K2Cr2O7. III. Record the 200-350 nm UV spectra of the given compounds (acetone, acetaldehyde, 2- propanol, acetic acid) in water. Comment on the effect of structure on the UV spectra of organic compounds.	B.Sc.(H) Chemistry III year (V semester)	- C XII:Physical chemistry V
Tutorials:			

Name of the Faculty: Dr. Komal Aggarwal   **Department: Chemistry**

Semester: I/III/V

Month		Topics	Course	Paper Code/Name
July	**Theory**		B.Sc. (H) Chemistry 2nd Year, Semester-III	CHEMISTRY - CVI: ORGANIC CHEMISTRY – II Halogenated Hydrocarbons and Oxygen Containing Functional Groups
	Theory		B.Sc.(P) Life Sciences 2nd year, Semester-III	CHEMISTRY –Core Paper-3 Solutions, Phase Equilibrium, Conductance, Electrochemistry and Functional Group Organic Chemistry-II
	Practicals		B.Sc. (H) Chemistry 3rd Year, Semester-V	CHEMISTRY - CXI: ORGANIC CHEMISTRY – IV Biomolecules
	Practicals		B.Sc.(P) Life Sciences 2nd year, Semester-III **(Batch 1 and 2)**	CHEMISTRY –Core Paper-3 Solutions, Phase Equilibrium, Conductance, Electrochemistry and
	Tutorials			
August	**Theory:**	**Alkyl halides:** Methods of preparation and properties, nucleophilic substitution reactions – SN1, SN2 and SNi mechanisms with stereochemical aspects and effect of solvent; nucleophilic substitution vs. elimination.	B.Sc. (H) Chemistry 2nd Year, Semester-III	CHEMISTRY - CVI: ORGANIC CHEMISTRY – II Halogenated Hydrocarbons and Oxygen Containing Functional Groups

	Theory:	**Amines (aliphatic & aromatic) and Diazonium Salts:** Amines Preparation: from alkyl halides, Gabriel's Phthalimide synthesis, Hofmann Bromamide reaction. Reactions: Hofmann vs Saytzeff elimination, carbylamine test, Hinsberg test, reaction with HNO2, Schotten-Baumann reaction.	B.Sc.(P) Life Sciences 2nd year, Semester-III	CHEMISTRY –Core Paper-3 Solutions, Phase Equilibrium, Conductance, Electrochemistry and Functional Group Organic Chemistry-II
	Practicals:	1. Isolation and estimation of DNA using cauliflower/onion. 2. Saponification value of the given oil or fat.	B.Sc. (H) Chemistry 3rdYear, Semester-V	CHEMISTRY - CXI: ORGANIC CHEMISTRY – IV Biomolecules
	Practicals:	Systematic qualitative analysis of organic compounds possessing monofunctional groups (Alcohols, Phenols, Carbonyl, -COOH). (Including Derivative Preparation).	B.Sc.(P) Life Sciences 2nd year, Semester-III **(Batch 1 and 2)**	CHEMISTRY –Core Paper-3 Solutions, Phase Equilibrium, Conductance, Electrochemistry and Functional Group Organic Chemistry-II
	Tutorials:			
	Assignment:			
September	**Theory:**	**Aryl halides:** Preparation (including preparation from diazonium salts) and properties, nucleophilic aromatic substitution; SNAr, Benzyne mechanism. Relative reactivity of alkyl, allyl, benzyl, vinyl and aryl halides towards nucleophilic substitution reactions **Alcohols:** preparations	B.Sc. (H) Chemistry 2ndYear, Semester-III	CHEMISTRY - CVI: ORGANIC CHEMISTRY – II Halogenated Hydrocarbons and Oxygen Containing Functional Groups

Theory:	**Amines:** Electrophilic substitution (case aniline): nitration, bromination, sulphonation, basicity of amines. Diazonium salt Preparation: from aromatic amines. Reactions: conversion to benzene, phenol and dyes. **Carboxylic acids and their derivatives** (aliphatic and aromatic) Preparation: Acidic and alkaline hydrolysis of esters. Reactions: Hell-Volhard Zelinsky reaction, acidity of carboxylic acids, effect of substitution on acid strength. Carboxylic acid derivatives (aliphatic).	B.Sc.(P) Life Sciences 2nd year, Semester-III	CHEMISTRY –Core Paper-3 Solutions, Phase Equilibrium, Conductance, Electrochemistry and Functional Group Organic Chemistry-II
Practicals:	**3. MCQ Quiz:** Saponification value of the given oil. **4.** Determination of Iodine number of the given oil. **5.** Estimation of proteins by Lowry's method. **6. MCQ Quiz:** Estimation of proteins by Lowry's method. **7.** Study of the action of salivary amylase on starch under optimum conditions.	B.Sc. (H) Chemistry 3rdYear, Semester-V	CHEMISTRY - CXI: ORGANIC CHEMISTRY – IV Biomolecules
Practicals:	Systematic qualitative analysis of organic compounds possessing monofunctional groups (Alcohols, Phenols, Carbonyl, -COOH). (Including Derivative Preparation). **MCQ QUIZ:** Alcohols	B.Sc.(P) Life Sciences 2nd year, Semester-III **(Batch 1 and 2)**	CHEMISTRY –Core Paper-3 Solutions, Phase Equilibrium, Conductance, Electrochemistry and Functional Group Organic Chemistry-II
Tutorials:			
Test	MCQ QUIZ: **Amines aliphatic & aromatic**	B.Sc.(P) Life Sciences 2nd year, Semester-III	CHEMISTRY –Core Paper-3 Solutions, Phase Equilibrium, Conductance, Electrochemistry and Functional Group Organic Chemistry-II

October	**Theory:**	**Alcohols:** Properties and relative reactivity of 1°, 2°, 3° alcohols, Bouveault–Blanc Reduction; Oxidation of diols by periodic acid and lead tetraacetate, Pinacol-Pinacolone rearrangement. Revision Class Phenols: Preparation and properties; Acidity and affecting factors, Ring substitution reactions,	B.Sc. (H) Chemistry 2ndYear, Semester-III	CHEMISTRY - CVI: ORGANIC CHEMISTRY – II Halogenated Hydrocarbons and Oxygen Containing Functional Groups
	Theory:	**Carboxylic acid derivatives (aliphatic):** Preparation, Acid chlorides, anhydrides, esters and amides from acids and their interconversion, Claisen condensation. Reactions: Relative reactivities of acid derivatives towards nucleophiles, Reformatsky reaction, Perkin condensation. **Carbohydrates** Classification, and general properties, glucose and fructose (open chain and cyclic structure), determination of configuration of monosaccharides, absolute configuration of glucose and fructose, mutarotation, ascending and descending in monosaccharides	B.Sc.(P) Life Sciences 2nd year, Semester-III	CHEMISTRY –Core Paper-3 Solutions, Phase Equilibrium, Conductance, Electrochemistry and Functional Group Organic Chemistry-II
	Practicals:	**8.** Study of the action of salivary amylase on starch under optimum conditions. **9.** Effect of temperature on the action of salivary amylase. **10.** Estimation of glucose by Fehling's solution.	B.Sc. (H) Chemistry 3rdYear, Semester-V	CHEMISTRY - CXI: ORGANIC CHEMISTRY – IV Biomolecules

	Practicals:	Systematic qualitative analysis of organic compounds possessing monofunctional groups (Alcohols, Phenols, Carbonyl, -COOH). (Including Derivative Preparation). **MCQ QUIZ:** Organic Analysis	B.Sc.(P) Life Sciences 2nd year, Semester-III **(Batch 1 and 2)**	CHEMISTRY –Core Paper-3 Solutions, Phase Equilibrium, Conductance, Electrochemistry and Functional Group Organic Chemistry-II
	Assignment:	Alkyl halides, aryl halides and Alcohols	B.Sc. (H) Chemistry 2ndYear, Semester-III	CHEMISTRY - CVI: ORGANIC CHEMISTRY – II Halogenated Hydrocarbons and Oxygen Containing Functional Groups
	Assignment:	Amines and Carboxylic Acids.	B.Sc.(P) Life Sciences 2nd year, Semester-III	CHEMISTRY –Core Paper-3 Solutions, Phase Equilibrium, Conductance, Electrochemistry and Functional Group Organic Chemistry-II
	Test:	Amines and Carboxylic Acids and their derivatives	B.Sc.(P) Life Sciences 2nd year, Semester-III	CHEMISTRY –Core Paper-3 Solutions, Phase Equilibrium, Conductance, Electrochemistry and Functional Group Organic Chemistry-II
November	**Theory:**	Phenols: Reimer-Tiemann and Kolbe's–Schmidt Reactions, Fries and Claisen rearrangements and their mechanism. Ethers and Epoxides: Preparation and reactions with acids. Reactions of epoxides with alcohols, ammonia and LiAlH4.	B.Sc. (H) Chemistry 2ndYear, Semester-III	CHEMISTRY - CVI: ORGANIC CHEMISTRY – II Halogenated Hydrocarbons and Oxygen Containing Functional Groups

Theory:	**Carbohydrates:** Structure of disaccharides (sucrose, cellobiose, maltose, lactose) and polysaccharides (starch and cellulose) excluding their structure elucidation. **Amino Acids,** Peptides and Proteins Zwitterion, isoelectric point and electrophoresis Preparation of amino acids: Strecker synthesis and using Gabriel's phthalimide synthesis. Reactions of amino acids: ester of –COOH group, acetylation of –NH_2 group, complexation with Cu^{2+} ions, ninhydrin test. Overview of Primary, Secondary, Tertiary and Quaternary Structure of proteins. Determination of primary structure of peptides by degradation Edmann degradation (N- terminal) and C–terminal (thiohydantoin and with carboxypeptidase enzyme). Synthesis of simple peptides (upto dipeptides) by N-protection (t-butyloxycarbonyl and phthaloyl) & C-activating groups and Merrifield solid-phase synthesis.	B.Sc.(P) Life Sciences 2nd year, Semester-III	CHEMISTRY –Core Paper-3 Solutions, Phase Equilibrium, Conductance, Electrochemistry and Functional Group Organic Chemistry-II
Practicals:	**11.** Study of the titration curve of glycine. **12.** MCQ QUIZ: Maltose Standard Curve and Amylase Activity. **13.** MCQ QUIZ: Study of the titration curve of glycine.	B.Sc. (H) Chemistry 3rdYear, Semester-V	CHEMISTRY - CXI: ORGANIC CHEMISTRY – IV Biomolecules
Practicals:	Assignment	B.Sc.(P) Life Sciences 2nd year, Semester-III **(Batch 1 and 2)**	CHEMISTRY –Core Paper-3 Solutions, Phase Equilibrium, Conductance, Electrochemistry and Functional Group Organic Chemistry-II

Name of the Faculty: Dr. Balendra   **Department: Chemistry**

Semester: I/III/V

Month		Topic	Course	Paper Code/Name
August	**Theory**	Introductory class Water Pollution and root causes Catalytic Degradation of organic water pollutants Photo-oxidation technologies	GE-III	Green Chemistry: Designing Chemistry for Human Health and Environment
	Practicals	(i) Acetanilide Preparation (ii) Preparation of Acetanilide by Green Method	B.Sc.(H) Chemistry Sem-III	CHEMISTRY - CVI: Halogenated Hydrocarbons and Oxygen Containing Functional Groups
September	**Theory:**	Removal of heavy metals (inorganic pollutants) via new adsorption technology	GE-III	Green Chemistry: Designing Chemistry for Human Health and Environment
	Practical	(i) Preparation of semicarbazone from carbonyl compounds (ii) Selective Reduction of meta-Dinitrobenzene to meta-nitroaniline	B.Sc.(H) Chemistry Sem-III	CHEMISTRY - CVI: Halogenated Hydrocarbons and Oxygen Containing Functional Groups
	Tutorials:	NA	NA	NA
October	**Theory:**	Industrial Case Studies *Ranitidine* *Celecoxib*	GE-III	
	Practicals	(i) Hydrolysis of esters and amides (ii) Revision Practical Class (iii) Synthesis of S-benzylthiouronium chloride	B.Sc.(H) Chemistry Sem-III	CHEMISTRY - CVI: Halogenated Hydrocarbons and Oxygen Containing Functional Groups
	Tutorials:	NA	NA	NA
	Assignment	Assignment-1		Green Chemistry
November	**Theory:**	Industrial Case Studies *Ibuprofen* *Sertraline* Electronic displacements: Inductive effect, electromeric effect, resonance, hyperconjugation. Cleavage of bonds: homolysis and heterolysis. Reaction intermediates: carbocations, carbanions and free radicals.	GE-III GE-1	Green Chemistry: Designing Chemistry for Human Health and Environment Atomic Structure, Bonding, General Organic Chemistry & Aliphatic Hydrocarbons
	Practicals:	(i) Aldol Condensation (ii) Functional group tests for alcohols, phenols, carbonyl and carboxylic acid group	B.Sc.(H) Chemistry Sem-III	CHEMISTRY - CVI: Halogenated Hydrocarbons and

		(iii) qualitative tests of oxygen containing functional Groups		Oxygen Containing Functional Groups
		(i) Introductory class (ii) Purification of organic compounds by crystallization	B.Sc (P) Life Sciences Sem-I (B-I)	Atomic Structure, Bonding, General Organic Chemistry & Aliphatic Hydrocarbons
		(ii) Purification of organic compounds by crystallization	B.Sc (P) Life Sciences Sem-I (B-III)	Atomic Structure, Bonding, General Organic Chemistry & Aliphatic Hydrocarbons
	Tutorials:	Test-1	GE-III	Green Chemistry:
December	**Theory:**	(i) Special Recognition: US Presidential Green Challenge Awards (ii) Class revision	GE-III	Green Chemistry: Designing Chemistry for Human Health and Environment
		Electrophiles and nucleophiles, Aromaticity: benzenoids and Hückel's rule. Stereochemistry Conformations with respect to ethane, butane and cyclohexane	GE-1	Atomic Structure, Bonding, General Organic Chemistry & Aliphatic Hydrocarbons
	Practicals	(i) Melting point determination of organic compound (ii) Boiling point determination of given organic compounds	B.Sc (P) Life Sciences Sem-I (B-I)	Atomic Structure, Bonding, General Organic Chemistry & Aliphatic Hydrocarbons
		(i) Melting point determination of organic compound (ii) Boiling point determination of given organic compounds	B.Sc (P) Life Sciences Sem-I (B-III)	Atomic Structure, Bonding, General Organic Chemistry & Aliphatic Hydrocarbons
	Tutorials:	NA	NA	NA
January	**Theory**	Enantiomerism, diastereomerism and mesocompounds). Threo and erythro; D and L; cis - trans nomenclature; CIP Rules: R/ S (for upto 2 chiral carbon atoms) and E / Z nomenclature (for upto two C=C systems).	GE-1	Atomic Structure, Bonding, General Organic Chemistry & Aliphatic Hydrocarbons
	Practicals	(i) Separation of Two Amino Acids Mixture by Paper Chromatography (ii) Copper sulphate determination by iodometrically (iii) Estimation of oxalic acid by titrating it with KMnO4. (iv) (i) Estimation of Mohr's salt by titrating it with KMnO4	B.Sc (P) Life Sciences Sem-I (B-I)	Atomic Structure, Bonding, General Organic Chemistry & Aliphatic Hydrocarbons
		(i) Separation of Two Amino Acids Mixture by Paper Chromatography (ii) Copper sulphate determination by iodometrically	B.Sc (P) Life Sciences Sem-I (B-III)	Atomic Structure, Bonding, General Organic Chemistry & Aliphatic Hydrocarbons

		(iii) Estimation of oxalic acid by titrating it with KMnO4. (iv) (i) Estimation of Mohr's salt by titrating it with KMnO4		
	Tutorials:	NA	NA	NA
	Test:	Test-1	GE-1	
February	**Theory**	Functional group approach for the following reactions: preparations, physical property & chemical reactions to be studied with mechanism in context to their structure. Preparation: catalytic hydrogenation, Wurtz reaction, Kolbe's synthesis, Grignard reagent. Reactions: Free radical substitution: Halogenation. Preparation: Elimination reactions: Dehydration of alcohols and dehydrohalogenation of alkyl halides (Saytzeff's rule); cis alkenes (Partial catalytic hydrogenation) and trans alkenes (Birch reduction).	GE-1	Atomic Structure, Bonding, General Organic Chemistry & Aliphatic Hydrocarbons
	Practicals:	(ii) Estimation of Fe (II) ions by titrating it with K2Cr2O7 using internal indicator (iii) Identify and separate the sugars present in the given mixture by radial/ascending paper chromatography.	B.Sc (P) Life Sciences Sem-I (B-I)	Atomic Structure, Bonding, General Organic Chemistry & Aliphatic Hydrocarbons
		(ii) Estimation of Fe (II) ions by titrating it with K2Cr2O7 using internal indicator (iii) Identify and separate the sugars present in the given mixture by radial/ascending paper chromatography.	B.Sc (P) Life Sciences Sem-I (B-III)	Atomic Structure, Bonding, General Organic Chemistry & Aliphatic Hydrocarbons
March	**Theory**	Reactions: formation of metal acetylides and acidity of alkynes, addition of bromine and alkaline KMnO4, ozonolysis and oxidation with hot alk. KMnO4. Hydration to form carbonyl compounds.	GE-1	Atomic Structure, Bonding, General Organic Chemistry & Aliphatic Hydrocarbons
	Practicals		B.Sc (P) Life Sciences Sem-I (B-III)	Atomic Structure, Bonding, General Organic Chemistry & Aliphatic Hydrocarbons

SEMESTER WISE TEACHING PLAN 2020-2021 (Odd Sem)
SRI VENKATESWARA COLLEGE

Name of the Faculty: Dr. Chandra Sekhar Tekuri   **Department: Chemistry**

Semester: I

Month		Topics	Course	Paper Code/Name
December	**Theory**	**Fundamentals of Organic chemistry** Electronic Displacements; Inductive effect, electrometric effect, resonance, hyper conjugation, Cleavage of bonds: homolysis and heterolysis. Reaction intermediates; carbocations, carbanions and free radicals. Electrophiles and nucleophiles. Aromaticity; benzenoids and Hackel's rule.	B.Sc. Life Science, I Year, I Semester	Atomic Structure, Bonding, General Organic Chemistry & Aliphatic Hydrocarbons
		Chemical Bonding and Introduction to Nanomaterials. Lattice energy and solvation energy, Born-Haber cycle and its applications, polarizing power and polarizability, Fajan's rules, ionic character in covalent compounds, Covalent Bonding: VB Approach, Lewis theory	B.Sc. (Hons) Biological Science, I Year, I Semester	Chemistry (BS C-1), Chemical Bonding and Introduction to Nanomaterial's.
	Practicals	Basics of Volumetric Analysis, Estimation of oxalic acid by titrating it with $KMnO_4$, Estimation of Mohr's salt by titrating it with $KMnO_4$, Purification of organic compound by crystallisation (from water and alcohol) and distillation.	B.Sc. Life Science, I Year, I Semester	Chemistry-Core Paper-1, Atomic Structure, Bonding, General Organic Chemistry & Aliphatic Hydrocarbons
	Practicals	Determination of melting and boiling points of organic compounds Purification of organic compounds by crystallisation	B.Sc (H) Generic Elective-I Year Semester-I	CHEMISTRY PRACTICALS: Atomic Structure, Bonding, General Organic Chemistry
January	**Theory**	**Stereochemistry** Conformations with respect to ethane, butane and cyclohexane, interconversion of Wedge Formule, Newmann, Sawhorse and Fischer representations, concept of chirality (upto two carbon atoms). Configuration : geometrical and optical isomerism; enantiomerism, diastereomerism and meso	B.Sc. Life Science, I Year, I Semester	Chemistry-Core Paper-1, Atomic Structure, Bonding, General Organic Chemistry &

		compounds, threo and erythro ; D and L ; cis-trans nomenclature; CIP Rules; R/S (for upto 2 chiral carbon atoms) and E/Z nomenclature (for upto two C=C systems)		Aliphatic Hydrocarbons
		VSEPR theory to explain the shapes of molecules, salient features of the Valence bond (VB) theory and the concept of hybridization, MO Approach: limitations of the VB approach, salient features of the MO theory. Rules for the LCAO method.	B.Sc. (Hons) Biological Science, I Year, I Semester	Chemistry (BS C-1), Chemical Bonding and Introduction to Nanomaterial's.
	Practicals	Estimation of water of crystallization in Mohr's salt by titrating with $KMnO_4$, Estimation of Fe (II) ions by titrating it with $K_2Cr_2O_7$ using internal indicator, Criteria of purity: Determination of M.P./B.P	B.Sc. Life Science, I Year, I Semester	Chemistry-Core Paper-1 Atomic Structure, Bonding, General Organic Chemistry & Aliphatic Hydrocarbons
	Practicals	Titrimetric estimation of oxalic acid against $KMnO_4$. Titrimetric estimation of Mohr's salt against $KMnO_4$.	B.Sc (H) Generic Elective-I Year Semester-I	CHEMISTRY PRACTICALS: Atomic Structure, Bonding, General Organic Chemistry
	Assignment	**Assignment-I**	B.Sc (H) Generic Elective-II Year Semester-III	Green Chemistry: Designing Chemistry for Human Health and Environment
			B. Sc. (P) Life Science-I year (FLS-B), Semester-I	Atomic Structure, Bonding, General Organic Chemistry (Section B: Organic Chemistry -1)

February	Theory	**Aliphatic Hydrocarbons** Functional group approach for the following reactions: preparations, physical property & chemical reactions to be studied with mechanism in context to their structure **Alkanes** Preparation: catalytic hydrogenation, Wurtz reaction, Kolbe's synthesis, Grignard reagent Reactions: Free radical substitution: Halogenation. **Alkenes.** Preparation: Elimination reactions: Dehydration of alcohols and dehydrohalogenation of alkyl halides (Saytzeffs rule); cis alkenes (Partial catalytic hydrogenation) and trans alkenes (Birch reduction) Reactions: cis-addition (alk.$KMnO_4$) and trans-addition (bromine), addition of HX (Markownikoffs and anti-Markownikoffs addition) Hydration, Ozonolysis, oxymecuration-demercuration, Hydroboration-Oxidation. **Alkynes** Preparation: Acetylene from CaC_2 and conversion into higher alkyne; by dehalogenation of tetra halides and dehydrohalogenation of vicinal-dihalides	B.Sc. Life Science, I Year, I Semester	Chemistry-Core Paper-1 Atomic Structure, Bonding, General Organic Chemistry & Aliphatic Hydrocarbons
	Theory	MO treatment of homonuclear diatomic molecules such as C_2, O_2 and N_2. Heteronuclear diatomic molecules such as CO. An overview of nanomaterials and classification, bioinorganic nanomaterials, DNA & nanomaterials	B.Sc. (Hons) Biological Science, I Year, I Semester	Chemistry (BS C-1), Chemical Bonding and Introduction to Nanomaterial's.
	Practicals	Estimation of Cu(II) ions iodometrically using $Na_2S_2O_3$, Separation of mixtures by chromatography: Measure the Rf value in each case (combination of two compounds to be given). Identify and separate the components of a given mixture of 2 amino acids (glycine, aspartic acid, glutamic acid, tyrosine or any other amino acid) by radial/ascending paper chromatography. Identify and separate the sugars present in the given mixture by radial/ascending paper chromatography.	B.Sc. Life Science, I Year, I Semester	Chemistry-Core Paper-1
	Practicals	Titrimetric estimation of ferrous ions against $K_2Cr_2O_7$, Paper chromatographic separation of mixture of amino acids	B.Sc (H) Generic Elective-I Year Semester-I	CHEMISTRY PRACTICALS: Atomic Structure, Bonding, General

				Organic Chemistry
	Assignment		B.Sc. Life Science, I Year, I Semester	Chemistry-Core Paper-1
March	**Theory**	. Reactions: formation of metal acetylides and acidity of alkynes, addition of bromine and alkaline $KMnO_4$, ozonolysis and oxidation with hot alk.KMnO4. Hydration to form carbonyl compounds	B.Sc. Life Science, I Year, I Semester	Chemistry-Core Paper-1
	Theory	Natural and artificial nanomaterials, bio-nanocomposites	B.Sc. (Hons) Biological Science, I Year, I Semester	Chemistry (BS C-1), Chemical Bonding and Introduction to Nanomaterial's.
	Practicals	Paper chromatographic separation of mixture of Sugars Practice exercises	B.Sc (H) Generic Elective-I Year Semester-I	CHEMISTRY PRACTICALS: Atomic Structure, Bonding, General Organic Chemistry

Name of the Faculty: Dr. Manoj Trivedi   **Department: Chemistry**

Semester: I/IV

Month		Topics	Course	Paper Code/Name
November	Theory	Basic introduction of atomic structure	B.Sc. Life Science, I Year, I Semester	Chemistry-Core Paper-1
December	Theory	Bohr's theory and its limitations, Heisenberg uncertainty principle, Dual behaviour of matter and radiation, De-Broglie's relation, Hydrogen atom spectra, need of a new approach to atomic structure. What is Quantum mechanics? Time independent Schrodinger equation and meaning of various terms in it. Significance of ψ and $\psi 2$, Schrödinger equation for hydrogen atom, radial and angular parts of the hydogenic wave functions (atomic orbitals) and their variations for 1s, 2s, 2p, 3s, 3p and 3d orbitals (Only graphical representation), radial and angular nodes and their significance, radial distribution functions and the concept of the most probable distance with special reference to 1s and 2s atomic orbitals.	B.Sc. Life Science, I Year, I Semester	Chemistry-Core Paper-1
	Practicals	Basics of Volumetric Analysis, Estimation of oxalic acid by titrating it with $KMnO_4$, Estimation of Mohr's salt by titrating it with $KMnO_4$, Purification of organic compound by crystallisation (from water and alcohol) and distillation.	B.Sc. Life Science, I Year, I Semester	Chemistry-Core Paper-1
January	Theory	Significance of quantum numbers, orbital angular momentum and quantum numbers ml and ms. Shapes of s, p and d atomic orbitals, nodal planes, discovery of spin, spin quantum number (s) and magnetic spin quantum number (ms). Rules for filling electrons in various orbitals, electronic configurations of the atoms, stability of half-filled and completely filled orbitals, concept of exchange energy, relative energies of atomic orbitals, anomalous electronic configurations.	B.Sc. Life Science, I Year, I Semester	Chemistry-Core Paper-1
	Practicals	Estimation of water of crystallization in Mohr's salt by titrating with $KMnO_4$, Estimation of Fe (II) ions by titrating it with $K_2Cr_2O_7$ using internal indicator,	B.Sc. Life Science, I Year, I Semester	Chemistry-Core Paper-1

		Criteria of purity: Determination of M.P./B.P		
February	Theory	Ionic Bonding: General characteristics of ionic bonding, energy considerations in ionic bonding, lattice energy and solvation energy and their importance in the context of stability and solubility of ionic compounds, statement of Born-Landé equation for calculation of lattice energy (no derivation), Born-Haber cycle and its applications, covalent character in ionic compounds, polarizing power and polarizability, Fajan's rules. Ionic character in covalent compounds, bond moment, dipole moment and percentage ionic character. Covalent bonding: VB Approach: Shapes of some inorganic molecules and ions on the basis of VSEPR (H_2O, NH_3, PCl_5, SF_6, ClF_3, SF_4) and hybridization with suitable examples of linear, trigonal planar, square planar, tetrahedral, trigonal bipyramidal and octahedral arrangements. Concept of resonance and resonating structures in various inorganic and organic compounds.	B.Sc. Life Science, I Year, I Semester	Chemistry-Core Paper-1
	Practicals	Estimation of Cu(II) ions iodometrically using $Na_2S_2O_3$, Separation of mixtures by chromatography: Measure the Rf value in each case (combination of two compounds to be given). Identify and separate the components of a given mixture of 2 amino acids (glycine, aspartic acid, glutamic acid, tyrosine or any other amino acid) by radial/ascending paper chromatography. Identify and separate the sugars present in the given mixture by radial/ascending paper chromatography.	B.Sc. Life Science, I Year, I Semester	Chemistry-Core Paper-1
	Assignment		B.Sc. Life Science, I Year, I Semester	Chemistry-Core Paper-1
March	Theory	MO Approach: Rules for the LCAO method, bonding and antibonding MOs and their characteristics for s-s, s-p and p-p combinations of atomic orbitals, nonbonding combination of orbitals, MO treatment of homonuclear diatomic molecules of 1st and 2nd periods (including idea of s-p mixing) and heteronuclear diatomic molecules such as CO, NO and NO^+.	B.Sc. Life Science, I Year, I Semester	Chemistry-Core Paper-1

SEMESTER WISE TEACHING PLAN (2020-2021)
SRI VENKATESWARA COLLEGE

Name of the Faculty: Dr. Aditi Gupta   **Department: Chemistry**

Semester : I/III/V

Month		Topics	Course	Paper Code/Name
NOVEMBER	**Theory**	Introduction, Recapitulation of Bohr's theory, its limitations and atomic spectrum of hydrogen atom. Numericals	B.Sc. Chem (H)-Sem I	C I: INORGANIC CHEMISTRY - I
		Introduction, Recapitulation of Bohr's theory, its limitations and atomic spectrum of hydrogen atom. De-Broglie's relation, Hydrogen atom spectra, need of a new approach to atomic structure. What is Quantum mechanics? Time independent Schrodinger equation and meaning of various terms in it. Significance of ψ and $\psi2$	GE-I	Atomic Structure, Bonding, General Organic Chemistry & Aliphatic Hydrocarbons
	Practicals	Section A: Inorganic Chemistry - Volumetric Analysis 1) Introduction to titrimetry 2) Estimation of oxalic acid by titrating it with KMnO4.	GE-I	Atomic Structure, Bonding, General Organic Chemistry & Aliphatic Hydrocarbons
		1) Introduction to titrimetry 2) Estimation of sodium carbonate by titrating with HCl	BioSciences- Sem I	Chemistry (BS C-1)

DECEMBER	**Theory:**	Wave mechanics: de Broglie, Heisenberg's Uncertainty Principle and its significance. Schrödinger's wave equation, significance of ψ and $\psi2$. Quantum mechanical treatment of H- atom.	B.Sc. Chem (H)-Sem I	C I: INORGANIC CHEMISTRY - I
		Schrödinger equation for hydrogen atom, radial and angular parts of the hydogenic wave functions (atomic orbitals) and their variations for 1s, 2s, 2p, 3s, 3p and 3d orbitals (Only graphical representation), radial and angular nodes and their significance, radial distribution functions and the concept of the most probable distance with special reference to 1s and 2s atomic orbitals. Significance of quantum numbers, orbital angular momentum and quantum numbers ml and ms. Shapes of s, p and d atomic orbitals, nodal planes, discovery of spin, spin quantum number (s) and magnetic spin quantum number (ms).	GE-I	Atomic Structure, Bonding, General Organic Chemistry & Aliphatic Hydrocarbons

Practicals:	1) Estimation of Mohr's salt by titrating it with KMnO4, 2) Estimation of water of crystallization in Mohr's salt by titrating with KMnO4, 3) Purification of organic compound by crystallisation (from water and alcohol) and distillation.	GE-I	Atomic Structure, Bonding, General Organic Chemistry & Aliphatic Hydrocarbons
	1) Estimation of sodium carbonate and sodium hydrogen carbonate present in a mixture 2) Determination of water equivalent of calorimeter. 3) Determination of melting and boiling points of organic compounds	BioSciences- Sem I	Chemistry (BS C-1)

JANUARY	**Theory:**	Quantum numbers and their significance. Normalized and orthogonal wave functions. Sign of wave functions. Radial and angular wave functions for hydrogen atom. Radial and angular distribution curves. Shapes of s, p, and d orbitals, Relative energies of orbitals. Pauli's Exclusion Principle, Hund's rule of maximum spin multiplicity, Aufbau principle and its limitations.	B.Sc. Chem (H)-Sem I	C I: INORGANIC CHEMISTRY - I
		Rules for filling electrons in various orbitals, electronic configurations of the atoms, stability of half-filled and completely filled orbitals, concept of exchange energy, relative energies of atomic orbitals, anomalous electronic configurations. Ionic Bonding: General characteristics of ionic bonding, energy considerations in ionic bonding, lattice energy and solvation energy and their importance in the context of stability and solubility of ionic compounds, statement of Born-Landé equation for calculation of lattice energy (no derivation),	GE-I	Atomic Structure, Bonding, General Organic Chemistry & Aliphatic Hydrocarbons

Practicals:	1) Criteria of purity: Determination of M.P./B.P. 2) Estimation of Fe (II) ions by titrating it with K2Cr2O7 using internal indicator, 3)Quiz	GE-I	Atomic Structure, Bonding, General Organic Chemistry & Aliphatic Hydrocarbons
	1) Estimation of Mohr''s salt by titrating it with KMnO4 2) Determination of enthalpy of neutralization of hydrochloric acid with sodium hydroxide 3) Mechano-Chemical solvent free synthesis of azomethine	BioSciences- Sem I	Chemistry (BS C-1)
Test	Atomic Structure – complete unit	B.Sc. Chem (H)-Sem I	C I: INORGANIC CHEMISTRY - I
	Atomic Structure – complete unit	GE-I	Atomic Structure, Bonding, General Organic Chemistry & Aliphatic Hydrocarbons

FEBRUARY	**Theory:**	Pauli's Exclusion Principle, Hund's rule of maximum spin multiplicity, Aufbau principle and its limitations. Internal Assessment, Periodicity of Elements: Brief discussion of the following properties of the elements, with reference to s- & p-block and the trends shown: (a) Effective nuclear charge, shielding or screening effect, Slater rules, variation of effective nuclear charge in periodic table. (b) Atomic and ionic radii	B.Sc. Chem (H)-Sem I	C I: INORGANIC CHEMISTRY - I
		Covalent bonding: VB Approach: Shapes of some inorganic molecules and ions on the basis of VSEPR (H_2O, NH_3, PCl_5, SF_6, ClF_3, SF_4) and hybridization with suitable examples of linear, trigonal planar, square planar, tetrahedral, trigonal bipyramidal and octahedral arrangements. Concept of resonance and resonating structures in various inorganic and organic compounds.	GE-I	Atomic Structure, Bonding, General Organic Chemistry & Aliphatic Hydrocarbons
		Periodicity of Elements: Brief discussion of the following properties of the elements, with reference to s- & p-block and the trends shown: (a) Effective nuclear charge, shielding or screening effect, Slater rules, variation of effective nuclear charge in periodic table. (b) Atomic and ionic radii		

Practicals:	1) Separation of mixtures by chromatography: Measure the Rf value in each case (combination of two compounds to be given) Identify and separate the components of a given mixture of 2 amino acids (glycine, aspartic acid, glutamic acid, tyrosine or any other amino acid) by radial/ascending paper chromatography. 2) Estimation of Cu (II) ions iodometrically using Na2S2O3.	GE-I	Atomic Structure, Bonding, General Organic Chemistry & Aliphatic Hydrocarbons	
	1) Synthesis and characterization of silver nanoparticles using UV-Visible spectrophotometer 2) Determination of basicity of a diprotic acid by the thermochemical method in terms of the changes of temperatures observed in the graph of temperature versus time for different additions of a base. Also calculate the enthalpy of neutralization of the first step. 3) Acetylation of amines using green approach 4) Qualitative functional group tests for alcohols, aldehydes, ketones, carboxylic acids, esters, amines and amides	BioSciences- Sem I	Chemistry (BS C-1)	
Assignment:	Questions of Atomic structure and periodicity	B.Sc. Chem (H)-Sem I	C I: INORGANIC CHEMISTRY – I	
	Hybridization and VSEPR theory	GE-I	Atomic Structure, Bonding, General Organic Chemistry & Aliphatic Hydrocarbons	

MARCH	**Theory:**	Ionization enthalpy, Successive ionization enthalpies and factors affecting ionization enthalpy and trends in groups and periods. (d) Electron gain enthalpy and trends in groups and periods. (e) Electronegativity, Pauling's/ Allred Rochow's scales. Variation of electronegativity with bond order, partial charge, hybridization, group electronegativity. Practise questions, previous year question papers,	B.Sc. Chem (H)-Sem I	C I: INORGANIC CHEMISTRY - I
		MO Approach: Rules for the LCAO method, bonding and antibonding MOs and their characteristics for ss, s-p and p-p combinations of atomic orbitals, nonbonding combination of orbitals, MO treatment of homonuclear diatomic molecules of 1st and 2nd periods (including idea of s-p mixing) and heteronuclear diatomic molecules such as CO, NO and NO+ . Practise questions, previous year question papers	GE-I	Atomic Structure, Bonding, General Organic Chemistry & Aliphatic Hydrocarbons

Practicals:	1) Identify and separate the sugars present in the given mixture by radial/ascending paper chromatography. 2) Quiz 3) Mock Test	GE-I		Atomic Structure, Bonding, General Organic Chemistry & Aliphatic Hydrocarbons
	1) Determination of integral enthalpy (endothermic and exothermic) solution of salts 2) Qualitative functional group tests for alcohols, aldehydes, ketones, carboxylic acids, esters, amines and amides 3) Quiz 4)Mock test	BioSciences- Sem I		Chemistry (BS C-1)
Test:	Periodicity of Elements	B.Sc. Chem (H)-Sem I	C I: INORGANIC CHEMISTRY - I	
	Chemical Bonding	GE-I		Atomic Structure, Bonding, General Organic Chemistry & Aliphatic Hydrocarbons

SEMESTER WISE TEACHING PLAN

SRI VENKATESWARA COLLEGE

Name of the Faculty: Dr. Akanksha Gupta

Department: Chemistry　　　　　　　　　　　　　　**Semester : I/III/V**

Month		Topics	Course	Paper Code/Name
AUGUST	**Theory**	Chemistry of *s*-Block Elements General characteristics: melting point, flame colour, reducing nature, diagonal relationships and anomalous behavior of first member of each group.	B.Sc. (H) Chemistry IInd Year, Semester-III	CHEMISTRY - CV: INORGANIC CHEMISTRY – II *s*- and *p*-Block Elements
	Practicals	Inorganic preparations (i) Cuprous Chloride, Cu_2Cl_2	B.Sc. (Hons.) Chemistry IInd Year, Sem III	CHEMISTRY - CV: INORGANIC CHEMISTRY – II *s*- and *p*-Block Elements
		Synthesis of silver nanoparticles using different reagents	B.Sc. (Hons.) Chemistry IIIrd Year Sem V	DSE LAB: NOVEL INORGANIC SOLIDS
		Estimation of Zn^{2+} by complexometric titrations using EDTA.	B.Sc. (P) Life Science IIIrd year, Sem V	Chemistry of d-block elements, quantum chemistry & spectroscopy
	Tutorials			
SEPTEMBER	**Theory**	Reactions of alkali and alkaline earth metals with oxygen, hydrogen, nitrogen and water. Common features such as ease of formation, thermal stability and solubility of the following alkali and alkaline earth metal compounds: hydrides, oxides, peroxides, superoxides, carbonates, nitrates, sulphates.	B.Sc. (H) Chemistry IInd Year, Semester-III	CHEMISTRY - CV: INORGANIC CHEMISTRY – II *s*- and *p*-Block Elements
	Practicals:	Preparations: (ii) Manganese(III) phosphate, MnPO4.H2O (iii) Aluminium potassium sulphate $KAl(SO_4)_2.12H_2O$ (Potash alum) Estimation of Zn^{2+} Complexometric titrations using disodium salt of EDTA	B.Sc. (Hons.) Chemistry IInd Year	CHEMISTRY - CV: INORGANIC CHEMISTRY – II *s*- and *p*-Block Elements
		Synthesis of lead sulphide, zinc sulphide, copper sulphide,manganese sulphide, nickel sulphide, cadmium sulphide	B.Sc. (Hons.) Chemistry III Year	DSE : NOVEL INORGANIC SOLIDS
		Estimation of Mg^{2+} by complexometric titrations using EDTA. Estimation of total hardness of a given water by complexometric titrations using EDTA.	B.Sc. (P) Life Science III year	Chemistry of d-block elements, quantum chemistry & spectroscopy
	Tutorials:			

OCTOBER		Complex formation tendency of *s*-block elements; structure of the following complexes: crown ethers and cryptates of Group I; basic beryllium acetate, beryllium nitrate, EDTA complexes of calcium and magnesium. Solutions of alkali metals in liquid ammonia and their properties	B.Sc. (H) Chemistry IInd Year, Semester-III	CHEMISTRY - CV: INORGANIC CHEMISTRY – II *s*- and *p*-Block Elements

	Practicals:	Estimation of Mg^{2+} Complexometric titrations using disodium salt of EDTA Estimation of Ca^{2+} Complexometric titrations using disodium salt of EDTA	B.Sc. (Hons.) Chemistry IInd Year	CHEMISTRY - CV: INORGANIC CHEMISTRY – II s- and p-Block Elements
		Preparation of polyaniline Intercalation of hydrogen in tungsten trioxide Preparation of zeolite	B.Sc. (Hons.) Chemistry III Year	DSE LAB: NOVEL INORGANIC SOLIDS
		Estimation of the amount of nickel present in a given solution as bis(dimethylglyoximato) nickel(II) or in a given solution gravitmetrically Study the 200-500 nm absorbance spectra of $KMnO_4$ and $K_2Cr_2O_7$ (in 0.1 M H_2SO_4) and determine the λ_{max} values. Calculate the energies of the two transitions in different	B.Sc. (P) Life Science III year	Chemistry of d-block elements, quantum chemistry & spectroscopy
	Assignment	Chemistry of s and p block elements	B.Sc. (Hons.) Chemistry IInd Year	CHEMISTRY - CV: INORGANIC CHEMISTRY – II s- and p-Block Elements
	Tutorials:			
NOVEMBER	**Theory:**	Atomic Structure: Recapitulation of Bohr's theory, its limitations and atomic spectrum of hydrogen atom. Wave mechanics: de Broglie equation, Heisenberg's Uncertainty Principle and its significance. Schrödinger's wave equation, significance of ψ and ψ^2. Quantum mechanical treatment of H-atom, Quantum numbers and their significance.	B.Sc. (Hons.) Chemistry IInd Year	CHEMISTRY - CV: INORGANIC CHEMISTRY – II s- and p-Block Elements
		Preparation, properties, structure and uses of the following compounds: • Borazine • Silicates, silicones, • Phosphonitrilic halides {$(PNCl_2)n$ where n = 3 and 4}	B.Sc. (H) Chemistry IInd Year, Semester-III	CHEMISTRY - CV: INORGANIC CHEMISTRY – II s- and p-Block Elements
	Practicals:	Estimation of Cu(II) and K2Cr2O7 using sodium thiosulphate solution (Iodometrically)	B.Sc. (H) Chemistry IInd Year, Semester-III	CHEMISTRY - CV: INORGANIC CHEMISTRY – II s- and p-Block Elements
		Synthesis of Inorganic pigments-Prussian blue, malachite green, chrome yellow, chromium oxide,	B.Sc. (Hons.) Chemistry III Year	DSE LAB: NOVEL INORGANIC SOLIDS

		Verify Lambert-Beer's law and determine the concentration of $CuSO_4$/$KMnO_4$/$K_2Cr_2O_7$ in a solution of unknown concentration. Determination of the composition of the Fe^{3+}-salicylic acid complex in solution by Job's method.	B.Sc. (P) Life Science I year	Chemistry of d-block elements, quantum chemistry & spectroscopy
	Tutorials:			
	Test	Chemistry of s and p block elements	B.Sc. (Hons.) Chemistry IInd Year	CHEMISTRY - CV: INORGANIC CHEMISTRY – II s- and p-Block Elements
DECEMBER	**Theory:**	Normalized and orthogonal wave functions. Sign of wave functions. Radial and angular wave functions for hydrogen atom. Radial and angular distribution curves. Shapes of s, p, and d orbitals, Relative energies of orbitals. Pauli's Exclusion Principle, Hund's rule of maximum spin multiplicity, Aufbau principle and its limitations. Periodicity of Elements: Brief discussion of the following properties of the elements, with reference to s & p-block and the trends shown: (a) Effective nuclear charge, shielding or screening effect, Slater rules, variation of effective nuclear charge in periodic table. (b) Atomic and ionic radii ·(c) Ionization enthalpy, Successive ionization enthalpies and factors affecting ionization enthalpy and trends in groups and periods.	B.Sc. (Hons.) Chemistry I Year	CHEMISTRY - C I: INORGANIC CHEMISTRY-I
		• Interhalogen and pseudohalogen compounds • Clathrate compounds of noble gases, xenon fluorides (MO treatment of XeF_2)	B.Sc. (H) Chemistry IInd Year, Semester-III	CHEMISTRY - CV: INORGANIC CHEMISTRY – II s- and p-Block Elements
	Practicals:	Estimation of antimony in tartar-emetic iodimetrically	B.Sc. (Hons.) Chemistry IInd Year	CHEMISTRY - CV: INORGANIC CHEMISTRY – II s- and p-Block Elements
		Determination of total difference of solids.	B.Sc. (Hons.) Chemistry III Year	DSE LAB: NOVEL INORGANIC SOLIDS
		Study the pH-dependence of the UV-Vis spectrum (200-500 nm) of $K_2Cr_2O_7$.	B.Sc. (P) Life Science III year	Chemistry of d-block elements, quantum chemistry & spectroscopy
	Tutorials:			

JANUARY	**Theory**	(d) Electron gain enthalpy and trends in groups and periods. (e) Electronegativity, P auling's/ Allred Rochow's scales. Variation of electronegativity with bond order, partial charge, hybridization, group electronegativity. Chemical Bonding: Ionic bond: General characteristics, types of ions, size effects, radius ratio rule and its limitations. Packing of ions in crystals. Born-Landé equation with derivation and importance of Kapustinskii expression for lattice energy.	B.Sc. (Hons.) Chemistry I Year	CHEMISTRY - C I: INORGANIC CHEMISTRY-I
FEBRUARY	**Theory**	Covalent bond: Madelung constant, Born-Haber cycle and its application, Solvation energy. Covalent character in ionic compounds, polarizing power and polarizability. Fajan's rules and consequences of polarization. Valence Bond theory (Heitler-London approach). Energetics of hybridization, equivalent and non-equivalent hybrid orbitals. Bent's rule, Resonance and resonance energy. Ionic character in covalent compounds: Bond moment and dipole moment. Percentage ionic character from dipole moment and electronegativity difference.	B.Sc. (Hons.) Chemistry I Year	CHEMISTRY - C I: INORGANIC CHEMISTRY-I
	Assignment	Atomic Structure and Chemical Bonding	B.Sc. (Hons.) Chemistry I Year	CHEMISTRY - C I: INORGANIC CHEMISTRY-I
MARCH	**Theory**	Molecular orbital theory. Molecular orbital diagrams of diatomic Lewis structure, Valence shell electron pair repulsion theory (VSEPR), shapes of the following simple molecules and ions containing lone pairs and bond pairs of electrons: H_2O, NH_3, PCl_3, PCl_5, SF_6, ClF_3, I^{3-}, BrF_2^+, PCl_6^-, ICl_2^- ICl_4^-, and SO_4^{2-}.	B.Sc. (Hons.) Chemistry I Year	CHEMISTRY - C I: INORGANIC CHEMISTRY-I

Name of the Faculty: Dr. Sunita Jain

Department: Electronics

Semester: V (2020-21)

Month		Topics	Course	Paper Code/Name
AUGUST	**Theory**	Introduction to microprocessor, Different types of controllers, Difference between microprocessor and microcontroller, Introduction to 8085 microprocessors. Basic architecture of 8085 microprocessors, Block diagram, Instruction set, Addressing modes,	B.Sc. (H)	Core Course-XI Microprocessor and microcontrollers
	Practical	Program for addition and subtraction using 8085 microprocessors. Program for multibyte addition and subtraction, Program for block movement of data, Program for ascending and descending order	B.Sc. (H)	Core Course-XI Microprocessor and microcontrollers
SEPTEMBER	**Theory**	Memory mapping & I/O mapping. Interrupt structure of 8085 microprocessors, Various interrupts, Latency and response time, Concept of interfacing of various devices with 8085 microprocessors using interrupt Introduction to microcontrollers, Different types of microcontrollers, CISC & RISC architecture, Introduction to PIC16F887 microcontroller.	B.Sc. (H)	Core Course-XI Microprocessor and microcontrollers
	Practical	Program for Square & Square root, Generation of Fibonacci series, multibyte multiplication & Division	B.Sc. (H)	Core Course-XI Microprocessor and microcontroller

	Assignment	Programs based on 8085 microprocessors	B.Sc. (H)	Core Course-XI Microprocessor and microcontrollers
OCTOBER	**Theory**	Instruction set of PIC16F887 microcontrollers, I/O ports, Timer and interrupts, Addressing modes and Introduction to interfacing	B.Sc. (H)	Core Course-XI Microprocessor and microcontrollers
	Practical	Program for addition, subtraction, multiplication, division and block data transfer using PIC	B.Sc. (H)	Core Course-XI Microprocessor and microcontrollers
	Mid Term Test	Complete 8085 microprocessors, Introduction to PIC microcontroller	B.Sc. (H)	Core Course-XI Microprocessor and microcontrollers
NOVEMBER	**Theory**	Interfacing of LED, Stepper motor, keyboard, switch etc. I/O devices with PIC microcontroller	B.Sc. (H)	Core Course-XI Microprocessor and microcontrollers
	Practical	Interfacing of PIC microcontroller with LEDs, Stepper motor, Generation of waveforms	B.Sc. (H)	Core Course-XI Microprocessor and microcontrollers

SEMESTER-WISE TEACHING PLAN
SRI VENKATESWARA COLLEGE
July-November, 2020

Name of the Faculty: Dr. Neeru Kumar

Department: Electronics

Semester: Third

Month		Topics	Course	Paper Code/Name
JULY	**Theory:**	Number System and Codes	**B.Sc. Electronics**	CC VI/ Digital Electronics and VHDL
	Practicals:	**Sem III:** To verify and design AND, OR, NOT and XOR gates using NAND gates. Introduction to Virtual Lab Logic Simulator Pro on Mobile Multi Sim on Laptop		**CC VI**/ Digital Electronics and VHDL Lab
	Tutorials:			
AUGUST	**Theory:**	Logic Gates and Boolean algebra Combinational Logic Analysis and Design	**B.Sc. Electronics**	CC VI/ Digital Electronics and VHDL
	Practicals:	**Sem III:** 1.To convert a Boolean expression into logic gate circuit and assemble it using logic gate IC's. 2.Design a Half and Full Adder. 3.Design a Half and Full Subtractor.		**CC VI**/ Digital Electronics and VHDL Lab
	Tutorials:			
SEPTEMBER	**Theory:**	Sequential logic design Programmable Logic Devices	**B.Sc. Electronics**	CC VI/ Digital Electronics and VHDL
	Practicals:	**Sem III:** 1.Design a seven segment display driver. 2. Design a 4 X 1 Multiplexer using gates 3. To build a Flip- Flop Circuits using elementary gates. (RS, Clocked RS, D-type).		**CC VI**/ Digital Electronics and VHDL Lab

	Assignment			
	Tutorials:			
OCTOBER	**Theory**	Introduction to VHDL Behavioral Modeling Sequential Processing	**B.Sc. Electronics**	CC VI/ Digital Electronics and VHDL
	Practicals:	**Sem III**: 1.Design a counter using D/T/JK Flip-Flop. 2.Design a shift register and study Serial and parallel shifting of data.		**CC VI/ Digital Electronics and VHDL Lab**
	Tutorials:			
	Mid Term Test			
NOVEMBER	**Theory:**	Data types of VHDL	**B.Sc. Electronics**	CC VI/ Digital Electronics and VHDL
	Practicals:	**Sem III:** To implement all the experiments in VHDL software.		**CC VI/ Digital Electronics and VHDL Lab**
	Tutorials:			

Name of the Faculty: Dr. Lalita Josyula   **Department: Electronics**

Semester: III

Month		Topics	Course	Paper
AUGUST	**Theory**	Introduction to IoT: Architectural Overview, Design principles and needed capabilities, IoT Applications, Sensing, Actuation, Basics of Networking, M2M and IoT Technology. Fundamentals- Devices and gateways, Data management, Business processes in IoT, Everything as a Service (XaaS), Role of Cloud in IoT, Security aspects in IoT Elements of IoT: Hardware Components- Computing (Arduino, Raspberry Pi), Communication, Sensing, Actuation, I/O interfaces	B.Sc.(H) Electronics, Sem III	GE-3/ Internet of Things
	Practicals	Programs based on Theory taught Software Components Programming API's (using Python/Node.js/Arduino) for Communication Protocols-MQTT, ZigBee, Bluetooth, CoAP, UDP, TCP.	B.Sc.(H) Electronics, Sem III	GE-3/ Internet of Things
	Tutorials	NA		
SEPTEMBER	**Theory:**	Classification of transducers: Active, Passive, Mechanical, Electrical and their comparison. Selection of Transducers, Principle and working of following types: Displacement transducers Resistive (Potentiometric, Strain Gauges – Types, Gauge Factor, semiconductor strain gauge) Capacitive, Inductive (LVDT-Principle and characteristics, Piezoelectric, light (photoconductive, photo emissive, photo voltaic, semiconductor, LDR), Temperature (electrical and non-electrical), load cell.	B.Sc.(H) Electronics, Sem III	GE-3/ Internet of Things
	Practicals	Programs based on Theory taught	B.Sc.(H) Electronics, Sem III	GE-3/ Internet of Things
	Tutorials:	NA		
	Assignment:	Based on Unit I and II		

OCTOBER	Theory:	IoT Application Development: Solution framework for IoT applications- Implementation of Device integration, Data acquisition and integration, Device data storage Unstructured data storage on cloud/local server, Authentication, authorization of devices.	B.Sc.(H) Electronics, Sem III	GE-3/ Internet of Things
	Practicals	Programs based on Theory taught	B.Sc.(H) Electronics, Sem III	GE-3/ Internet of Things
	Test	Written Test for 10 Marks -IA After Semester Break !!		
NOVEMBER	Theory:	Sensor: Contact and Proximity, Position, Velocity, Force, Tactile etc. Introduction to Cameras: Camera calibration, Geometry of Image formation, Euclidean/Similarity/Affine/Projective transformations IoT Case Studies: IoT case studies and mini projects based on Industrial automation, Transportation, Agriculture, Healthcare, Home Automation	B.Sc.(H) Electronics, Sem III	GE-3/ Internet of Things
	Practicals	Programs based on Theory taught	B.Sc.(H) Electronics, Sem III	GE-3/ Internet of Things
DECEMBER	Theory:	Final Exams	B.Sc.(H) Electronics, Sem III	GE-3/ Internet of Things
	Practicals	Submit Project Work ! Final Exams	B.Sc.(H) Electronics, Sem III	GE-3/ Internet of Things

Name of the Faculty: Dr. Rakhi Narang

Department: Electronics   **Semester: I/III/V**

Month		Topics	Course	Paper Code/Name
AUGUST	**Theory**	**Sem V:** Discrete sequences**,** linear coefficient difference equation, Representation of DTS, LSI Systems. Stability and causality, frequency domain representations and Fourier transform of DT sequences	B. Sc. Electronics	DSE- Digital Signal Processing
	Practicals	**Sem V:** Generation of unit sample sequence, unit step, ramp function, discrete time sequence, real sinusoidal sequence. Generate and plot sequences over an interval.	B. Sc. Electronics	DSE- Digital Signal Processing Lab
	Tutorials			
SEPTEMBER	**Theory:**	**Sem V:**, Z transform and its properties, Inverse Z transform, signal flow graph, its use in representation and analysis of Discrete Time Systems. Techniques of representations. Matrix generation and solution for DTS evaluations.	B. Sc. Electronics	DSE- Digital Signal Processing
	Practicals:	**Sem V:** Convolution, deconvolution Linear Constant Coefficient Difference equations Z-transform: Given x[n], write program to find X[z].	BSc Electronics	DSE- Digital Signal Processing Lab
SEPTEMBER	**Theory:**	**Sem V: System Function**: DFT assumptions and Inverse DFT. Matrix relations, relationship with FT and its inverse, circular convolution, DFT theorems, DCT. Computation of DFT.	BSc Electronics	DSE- Digital Signal Processing
	Practicals:	**Sem V:** Fourier Transform, Discrete Fourier Transform and Fast Fourier Transform	BSc Electronics	DSE- Digital Signal Processing Lab
	Assignment	**Sem V:** Assignment based on Unit-I and II		

OCTOBER	Theory:	**Sem V:** FFT Algorithms and processing gain, Discrimination, interpolation and extrapolation. Gibbs phenomena. FFT of real functions interleaving and resolution improvement. Word length effects. **Digital Filters**: Analog filter review. System function for IIR and FIR filters, network representation. Canonical and decomposition networks.	BSc Electronics	DSE- Digital Signal Processing
	Practicals:	**Sem V:** Design of a Butterworth analog filter for low pass and high pass.	B.Sc. Electronics	DSE- Digital Signal Processing Lab
	Mid term Test	Sem V: Test based on Unit II and III for DSE		
NOVEMBER	Theory:	**Sem V:** IIR filter realization methods and their limitations. FIR filter realization techniques. Discrete correlation and convolution; Properties and limitations	B. Sc. Electronics	DSE- Digital Signal Processing Lab
	Practicals:	**Sem V:** Design of IIR and FIR digital filters	B.Sc. Electronics	DSE- Digital Signal Processing Lab
DECEMBER	Theory:	**Sem I:** Concept of Data Science, Traits of Big data, Linear Algebra: Vectors, Matrices; Statistics: Describing a Single Set of Data, Correlation, Simpson's Paradox, Correlation and Causation; Probability: Dependence and Independence, Conditional Probability, Bayes's Theorem.	B. Sc. Electronics	GE I: Data Sciences
	Practicals:	**Sem I:** Basic programs in introduction to python. Program in python on strings	B.Sc. Electronics	GE I: Data Sciences Processing Lab
JANUARY	Theory:	**Sem I:** Random Variables, Continuous Distributions The Normal Distribution, The Central Limit Theorem ; Hypothesis and Inference: Statistical Hypothesis Testing, Confidence Intervals, Phacking, Bayesian Inference	B. Sc. Electronics	GE I: Data Sciences
	Practicals:	**Sem I:** Programs in python on lists and dictionaries and introduction to object oriented programing. Programs in python on linraries for Data Science: Matplotlib, NumPy, Scikit-learn.	B.Sc. Electronics	GE I: Data Sciences Processing Lab
	Assignment	**Sem I: Based on Unit-II**		
FEBRUARY	Theory:	Overview of Machine learning concepts – Over fitting and train/test splits. Types of Machine learning – Supervised, Unsupervised, Reinforced learning, Introduction to Bayes Theorem, Linear Regression- model assumptions, regularization (lasso, ridge, elastic net), Classification and Regression algorithms- Naïve Bayes, K-Nearest Neighbors, logistic regression, Support vector machines (SVM)	B.Sc. Electronics	GE I: Data Sciences

	Practicals:	Sem I: Write a program in Python to predict the class of the flower based on available attributes using KNN. Write a program in Python to predict the class of the flower based on available attributes using decision tree Write a program in Python to predict if a loan will get approved or not. (logistic regression) Write a program in Python to identify the tweets which are hate tweets and which are not. (Naïve Bayes)	B.Sc. Electronics	GE I: Data Sciences
	Mid Term Test:	Sem I: Assessment based on Machine learning algorithms (Unit-III)		
MARCH	**Theory:**	Overview of Deep Learning	B.Sc. Electronics	GE I: Data Sciences
	Practicals:	Revision	B.Sc. Electronics	GE I: Data Sciences

Academic Session 2020-2021 (Odd Semester)

Name of the Faculty	:	**Mr. Hari Singh**
Department	:	**Electronics**

Semester:	Theory	:	**B.Sc(H) Electronics, Semester I**
			B.Sc(H) Electronics, Semester III
			B.Sc(H) Electronics, Semester V
	Practical	:	**B.Sc(H) Electronics, Semester I**
			B.Sc(H) Electronics, Semester III
			B.Sc(H) Electronics, Semester V

Month		Topics	Course	Paper Code/ Name
Aug	**Theory**	Data Link Layer: Design issues, Data Link Control and Protocols: Flow and Error Control, Stop-and-wait ARQ. Sliding window protocol, Go-Back-N ARQ, Selective Repeat ARQ, HDLC, Point-to –Point Access: PPP Point –to- Point Protocol, PPP Stack	B.Sc.(Hons) Electronics, Semester V	Discipline-Specific-Elective-Course-I/ Computer Networks
	Practical	♣ Introduction to Computer Network laboratory: Introduction to Discrete Event Simulation Discrete Event Simulation Tools-ns2/ns3, Omnet++, Introduction to Cisco Packet Tracer- Installation, Interface, Components, Saving and Execution. ♣ Connect two computers with an Ethernet cable and assign the IP address. Check the connection established whether they are communicating using ping command. ♣ Network simulation of TELNET (Remote Access) and FTP server between 3 sources - 3 sinks	B.Sc.(Hons) Electronics, Semester V	Discipline-Specific-Elective-Course-I/ Computer Networks Lab
		♣ Generate the Fibonacci series up to the given limit N and also print the number of elements in the series. ♣ Find minimum and maximum of N numbers. ♣ Find the GCD of two integer numbers. ♣ Calculate factorial of a given number. ♣ Find all the roots of a quadratic equation: $Ax2 + Bx + C = 0$ for non – zero coefficients A, B and C. Else report error. ♣ Calculate the value of sin (x) and cos (x) using the series. Also print sin (x) and cos (x) value using library function.	B.Sc.(Hons) Electronics, Semester III	Core-Course-VII/ C-Programming and Data Structure Lab
Sep	**Theory**	Medium Access Sub layer: Channel allocation problem, Controlled Access, Channelization, multiple access protocols, IEEE standard 802.3 & 802.11 for LANS and WLAN, high-speed LANs, Token ring, Token Bus, FDDI based LAN, Network Devices-repeaters, hubs, switches bridges.	B.Sc.(Hons) Electronics, Semester V	Discipline-Specific-Elective-Course-I/ Computer Networks
	Assignment	As per the syllabus covered		
	Practical	♣ Network simulation of various Topologies: a) Mesh Topology b) Star Topology c) Bus Topology d) Ring Topology ♣ Simulation to show the difference between Hub, Switch, and a Bridge	B.Sc.(Hons) Electronics, Semester V	Discipline-Specific-Elective-Course-I/ Computer Networks Lab

		🔸 Simulation to configure Router-Assigning IP address, Host name, and Password, IP Routing between two routers.		
		🔸 Generate and print prime numbers up to an integer N. 🔸 Sort given N numbers in ascending order. 🔸 Find the sum & difference of two matrices of order MxN and PxQ. 🔸 Find the product of two matrices of order MxN and PxQ. 🔸 Find the transpose of given MxN matrix. 🔸 Find the sum of principle and secondary diagonal elements of the given MxN matrix.	B.Sc.(Hons) Electronics, Semester III	Core-Course-VII/ C-Programming and Data Structure Lab
Oct	Theory	Transport Layer: Process to Process Delivery: UDP; TCP, congestion control and Quality of service.	B.Sc.(Hons) Electronics, Semester V	Discipline-Specific-Elective-Course-I/ Computer Networks
	Practical	🔸 Simulation for Web Server and E-mail Server Configuration. 🔸 Network simulation for DBMS access in networks. 🔸 Network simulation to study effect of VLAN on network performance– a) Multiple VLANs and single router. b) Multiple VLANs with separate multiple routers. 🔸 Network simulation to study the performance of wireless networks- Wireless Network Configuration.	B.Sc.(Hons) Electronics, Semester V	Discipline-Specific-Elective-Course-I/ Computer Networks Lab
		🔸 Calculate the subject wise and student wise totals and store them as a part of the structure. 🔸 Maintain an account of a customer using classes. 🔸 Implement linear and circular linked lists using single and double pointers. 🔸 Create a stack and perform Pop, Push, Traverse operations on the stack using Linear Linked list 🔸 Create circular linked list having information about a college and perform Insertion at front, Deletion at end. 🔸 Create a Linear Queue using Linked List and implement different operations such as Insert, Delete, and Display the queue elements.	B.Sc.(Hons) Electronics, Semester III	Core-Course-VII/ C-Programming and Data Structure Lab
	Mid Term Test	As per the syllabus covered		
Nov	Theory	Application Layer: Client Server Model, Socket Interface, Domain Name System (DNS): Electronic Mail (SMTP), file transfer (FTP), HTTP and WWW.	B.Sc.(Hons) Electronics, Semester V	Discipline-Specific-Elective-Course-I/ Computer Networks
		Basic Circuit Concepts: Voltage and Current Sources, V- I characteristics of ideal voltage and ideal current sources, various types of controlled sources, passive circuit components, V-I characteristics and ratings of different types of R, L, C elements.	B.Sc.(Hons) Electronics, Semester I	Core-Course-I/ Basic Circuit Theory and Network Analysis
	Practical	🔸 C program to find parity code for given 7-bit code data. 🔸 C program to find hamming code for a given data. 🔸 C program to detect and correct the hamming code on the receiver's side	B.Sc.(Hons) Electronics, Semester V	Discipline-Specific-Elective-Course-I/ Computer Networks Lab

				B.Sc.(Hons) Electronics, Semester III	Core-Course-VII/ C-Programming and Data Structure Lab
		✦ Implement polynomial addition and subtraction using linked lists. ✦ Implement sparse matrices using arrays and linked lists. ✦ Create a Binary Tree to perform Tree traversals (Preorder, Postorder, Inorder) using the concept of recursion. ✦ Implement binary search tree using linked lists. Compare its time complexity over that of linear search. ✦ Implement Insertion sort, Merge sort, Bubble sort, Selection sort.			
		✦ Familiarization with a) Resistance in series, parallel and series – Parallel. b) Capacitors & Inductors in series & Parallel. c) Multimeter – Checking of components. d) Voltage sources in combination		B.Sc.(Hons) Electronics, Semester I	Core-Course-I/ Basic Circuit Theory and Network Analysis
Dec	**Theory**	Circuit Analysis: Kirchhoff's Current Law (KCL), Kirchhoff's Voltage Law (KVL), Node Analysis, Mesh Analysis, Star-Delta Conversion. Network Theorems: Principal of Duality, Superposition Theorem,		B.Sc.(Hons) Electronics, Semester I	Core-Course-I/ Basic Circuit Theory and Network Analysis
	Practical	✦ Verification of Kirchoff's Law. ✦ Verification of Superposition Theorem. ✦ Verification of Thevenin's Theorem.		B.Sc.(Hons) Electronics, Semester I	Core-Course-I/ Basic Circuit Theory and Network Analysis Lab
Jan	**Theory**	Thevenin's Theorem, Norton's Theorem, Reciprocity Theorem, Millman's Theorem, Maximum Power Transfer Theorem. AC circuit analysis using Network theorems. Two Port Networks: Impedance (Z) Parameters, Admittance (Y) Parameters, Transmission (ABCD) Parameters, h parameters.		B.Sc.(Hons) Electronics, Semester I	Core-Course-I/ Basic Circuit Theory and Network Analysis
	Practical	✦ Verification of the Maximum Power Transfer Theorem ✦ Verification of Norton's theorem. ✦ Study of the Frequency Response of a Series LCR Circuit and determination of its (a) Resonant Frequency (b) Impedance at Resonance (c) Quality Factor Q (d) Band Width.		B.Sc.(Hons) Electronics, Semester I	Core-Course-I/ Basic Circuit Theory and Network Analysis Lab
	Assignment	As per the syllabus covered			
Feb	**Theory**	AC Circuit Analysis: Sinusoidal Voltage and Current, Definition of Instantaneous, Peak, Peak to Peak, Root Mean Square and Average Values. Phasor, Complex Impedance, Power in AC Circuits: Instantaneous Power, Average Power, Reactive Power, Power Factor. Sinusoidal Circuit Analysis for RL, RC and RLC Circuits. Resonance in Series and Parallel RLC Circuits, Frequency Response of Series and Parallel RLC Circuits, Quality (Q) Factor and Bandwidth.		B.Sc.(Hons) Electronics, Semester I	Core-Course-I/ Basic Circuit Theory and Network Analysis
	Practical	✦ Measurement of Amplitude, Frequency & Phase difference using CRO. ✦ RC Circuits: Time Constant, Differentiator, Integrator.		B.Sc.(Hons) Electronics, Semester I	Core-Course-I/ Basic Circuit Theory and Network Analysis Lab
	Mid Term Test	As per the syllabus covered			
Mar	**Theory**	Passive Filters: Low Pass, High Pass, Band Pass and Band Stop. DC Transient Analysis: RC Circuit- Charging and discharging with initial charge, RL Circuit with Initial Current, Time Constant, RL and RC Circuits With Sources, DC Response of Series RLC Circuits.		B.Sc.(Hons) Electronics, Semester I	Core-Course-I/ Basic Circuit Theory and Network Analysis

	Practical	♣ Designing of a Low Pass RC Filter and study of its Frequency Response. ♣ Designing of a High Pass RC Filter and study of its Frequency Response	B.Sc.(Hons) Electronics, Semester I	Core-Course-I/ Basic Circuit Theory and Network Analysis Lab

Name of the Faculty	:	**Dr. Neha Verma**
Department	:	**Electronics**

Semester:	Theory	:	**B.Sc.(H) Electronics, Sem I**
			B.Sc.(H) Electronics, Sem III
			B.Sc.(H) Electronics, Sem V
	Practical	:	**B.Sc.(H) Electronics, Sem I**
			B.Sc.(H) Electronics, Sem V

Month		Topics	Course	Paper Code/Name
AUGUST	**Theory**	Unit-1 : C Programming Language: Introduction, Importance of C, Character set, Tokens, keywords, identifier, constants, basic data types, variables: declaration & assigning values. Structure of C program, Arithmetic operators, relational operators, logical operators, assignment operators, increment and decrement operators, conditional operators, bit wise operators, expressions and evaluation of expressions, type cast operator, implicit conversions, precedence of operators. Arrays-concepts, declaration, accessing elements, storing elements, two-dimensional and multi-dimensional arrays. Input output statement and library functions (math and string related functions).	B.Sc.(Hons) Electronics, Sem III	CC-VII/ C Programming and Data Structures
		Unit- I: Data Communications : Components, protocols and standards, Network and Protocol Architecture, Reference Model ISO-OSI, TCP/IP-Overview, topology.	B.Sc.(Hons) Electronics, Sem V	DSE/Computer Networks
	Practicals	Introduction to Computer Network laboratory: Introduction to Discrete Event Simulation Discrete Event Simulation Tools-ns2/ns3, Omnet++, Introduction to Cisco Packet Tracer- Installation, Interface, Components, Saving and Execution. Connect two computers with an Ethernet cable and assign the IP address. Check the connection established whether they are communicating using ping command.	B.Sc.(Hons) Electronics, Sem V	DSE/Computer Networks Lab

		Network simulation of TELNET (Remote Access) and FTP server between 3 sources - 3 sinks		
SEPTEMBER	**Theory**	Unit-2: Decision making, branching & looping: Decision making, branching and looping: if, if-else, else-if, switch statement, break, for loop, while loop and do loop. Functions: Defining functions, function arguments and passing, returning values from functions. Structures: defining and declaring a structure variables, accessing structure members, initializing a structure, copying and comparing structure variables, array of structures, arrays within structures, structures within structures, structures and functions. Pointers. Introduction to C++: Object oriented programming, characteristics of an object-oriented language.	B.Sc.(Hons) Electronics, Sem III	CC-VII/ C Programming and Data Structures
		digital signals, digital to digital encoding, digital data transmission, DTE-DCE interface, interface standards, modems, cable modem, transmission media- guided and unguided, transmission impairment, Performance, wavelength and Shannon capacity. Review of Error Detection and Correction codes.	B.Sc.(Hons) Electronics, Sem V	DSE/Computer Networks
	Practicals	Network simulation of various Topologies: a. Mesh Topology b. Star Topology c. Bus Topology d. Ring Topology Simulation to show the difference between Hub, Switch, and a Bridge Simulation to configure Router-Assigning IP address, Host name, and Password, IP Routing between two routers.	B.Sc.(Hons) Electronics, Sem V	DSE/Computer Networks Lab
OCTOBER	**Theory**	Unit-3: Data Structures: Definition of stack, array implementation of stack, conversion of infix expression to prefix, postfix expressions, evaluation of postfix expression. Definition of Queue, Circular queues, Array implementation of queues. Linked List and its implementation, Link list implementation of stack and queue, Circular and doubly linked list.	B.Sc.(Hons) Electronics, Sem III	CC-VII/ C Programming and Data Structures
		Switching: Circuit switching (space-division, time division and space-time division), packet switching (virtual circuit and Datagram approach), message switching.	B.Sc.(Hons) Electronics, Sem V	DSE/Computer Networks

		Unit-3: Network Layer: Design issues, Routing algorithms, Congestion control algorithms,		
	Practicals	Simulation for Web Server and E-mail Server Configuration. Network simulation for DBMS access in networks. Network simulation to study effect of VLAN on network performance – a.multiple VLANs and single router. b. multiple VLANs with separate multiple routers. Network simulation to study the performance of wireless networks-Wireless Network Configuration.	B.Sc.(Hons) Electronics, Sem V	CC/Computer Networks Lab
	Assignment	Assignment: Questions based on topics covered.	B.Sc.(Hons) Electronics, Sem III	CC-VII/ C Programming and Data Structures
NOVEMBER	**Theory**	Unit-1: First Order Ordinary Differentia Equations: Basic Concepts and Definitions, Variables Separable, Homogenous Equations-reduction to Separable form. Non Homogenous Equations reducible to Homogenous form, Exact DE. Reduction of Non-exact DE: using Integrating factors, Linear Ordinary DE, Linear DE of Second Order: Linear Independence and Dependence, Linear DE of second order with variable coefficients, second order with constant coefficients:	B.Sc.(Hons) Electronics, Sem I	Core-Course-II/ Mathematics Foundation for Electronics
		Unit-4: Searching and sorting: Insertion sort, selection sort, bubble sort, merge sort, linear Search, binary search. Trees : Introduction to trees, Binary search tree, Insertion and searching in a BST, preorder, postorder and inorder traversal (recursive)	B.Sc.(Hons) Electronics, Sem III	CC-VII/ C Programming and Data Structures
		Host to Host Delivery: Internetworking, addressing and routing, IP addressing (class full & Classless), Subnet, Network Layer Protocols: ARP, IPV4, ICMP, IPV6, ICMPV6.	B.Sc.(Hons) Electronics, Sem V	DSE/Computer Networks
	Practicals	Starting with MATLAB, arithmetic operations with scalars, order of precedence, display formats, elementary built in functions, defining scalar variables, example questions. Creating arrays: Creating a 1D array (vector), 2D array(matrix), array addressing, built in functions for handling arrays, mathematical operations with arrays, script files.	B.Sc.(Hons) Electronics, Sem I	Core-Course-II/ Mathematics Foundation for Electronics Lab

		Programs on arrays and matrices		
		C program to find parity code for given 7 bit code data.	B.Sc.(Hons) Electronics, Sem V	DSE/Computer Networks Lab
		C program to find hamming code for a given data.		
		C program to detect and correct the hamming code on the receiver's side.		
	Tutorials	NA	NA	NA
	Mid Term Test	Test: As per the covered topics.	B.Sc.(Hons) Electronics, Sem III	CC/ C Programming and Data Structures
DECEMBER	**Theory**	Homogenous and Non-homogenous Equations, Series Solution of DE and Special functions: Classification of Singularities, Power series solution, Frobenius Method, Bessel's equation and Bessel's functions of first and second kind, Error functions and Gamma function. Unit-2: Matrices: Introduction to Matrices, Types of Matrices, Rank of a Matrix, System of Algebraic Equations, Gaussian Elimination Method, Gauss-Seidel Method, LU decomposition, Solution of Linear System by LU decomposition. Eigen values and Eigen Vectors, Cayley-Hamiltonian Theorm, Diagonalization, Powers of a Matrix, Real and Complex Matrices,	B.Sc.(Hons) Electronics, Sem I	Core-Course-II/ Mathematics Foundation for Electronics
	Practicals	Solution of First Order Differential Equations Solution of Second Order homogeneous Differential Equations. Solution of Second Order non-homogeneous Differential Equations	B.Sc.(Hons) Electronics, Sem I	Core-Course-II/ Mathematics Foundation for Electronics Lab
JANUARY	**Theory**	Symmetric, skew symmetric, Orthogonal Quadratic form, Hermitian, Skew Hermitian, Unitary matrices. Unit-3: Sequence and Series: Sequences, Limit of Limit of a sequence, Convergence, Divergence and Oscillation of a sequence, Infinite series, Necessary condition for Convergence. Cauchy's Integral Test, D'Alembert's Ratio Test, Cauchy's nth Root Test, Alternating Series, Leibnitz's Theorem, Absolute Convergence and Conditional Convergence, Power Series. Cauchy-Riemann (C- R) Equations, Harmonic and Conjugate Harmonic Functions, Exponential Function, Trigonometric Functions, Hyperbolic Functions. Line Integral in Complex Plane, Cauchy's Integral Theorem,	B.Sc.(Hons) Electronics, Sem I	Core-Course-II/ Mathematics Foundation for Electronics

		Cauchy's Integral Formula, Derivative of Analytic Functions. Sequences, Series and Power Series,		
	Practical	Functions and function files, programming in matlab: conditional statements(if-end, if-else-end, if-elseif-else-end), switch case, loops(for-end and while-end), break and continue commands. Programs on Loops, creating user defined Function files. Convergence of a given series. Divergence of a given series.	B.Sc.(Hons) Electronics, Sem I	Core-Course-II/ Mathematics Foundation for Electronics Lab
	Assignment	Assignment: Questions based on topics covered.	B.Sc.(Hons) Electronics, Sem I	Core-Course-II/ Mathematics Foundation for Electronics
FEBRUARY	**Theory**	Unit4: Complex Variables and Functions: Complex Variable, Complex Function, Continuity, Differentiability, Analyticity.	B.Sc.(Hons) Electronics, Sem I	Core-Course-II/ Mathematics Foundation for Electronics
	Practical	Solution of linear system of equations using Gauss Elimination method. Solution of linear system of equations using Gauss – Seidel method.	B.Sc.(Hons) Electronics, Sem I	Core-Course-II/ Mathematics Foundation for Electronics
	Mid Term Test	Test: As per the covered topics.		
MARCH	**Theory**	Taylor's Series, Laurent Series, Zeroes and Poles. Residue integration method, Residue integration of real Integrals.	B.Sc.(Hons) Electronics, Sem I	Core-Course-II/ Mathematics Foundation for Electronics
	Practical	Solution of linear system of equations using L-U decomposition method.	B.Sc.(Hons) Electronics, Sem I	Core-Course-II/ Mathematics Foundation for Electronics Lab

Name of the Faculty: Shubhra Gupta   **Department: Electronics**

Semester : I/III/V

Month		Topics	Course	Paper Code/Name
August	**Theory**	**Diode Circuits**: Ideal diode, piecewise linear equivalent circuit, dc load line analysis, Quiescent (Q) point. Clipping and clamping circuits. Rectifiers: HWR, FWR (center tapped and bridge). Circuit diagrams, working and waveforms, ripple factor & efficiency, comparison. Filters: types, circuit diagram and explanation of shunt capacitor filter with waveforms. Zener diode regulator circuit diagramand explanation for load and line regulation, disadvantages of Zener diode regulator.	B.Sc(hons) Electronics Sem III	CC V
	Practicals	1. Study of the half wave rectifier and Full wave rectifier. 2. Study of power supply using C filter and Zener diode. 3. Designing and testing of 5V/9 V DC regulated power supply and find its load-regulation	B.Sc(hons) Electronics Sem III	CC V
	Tutorials			

September	Theory:	**Bipolar Junction Transistor**: Review of CE, CB Characteristics and regions of operation. Hybrid parameters. Transistor biasing, DC load line, operating point, thermal runaway, stability and stability factor, Fixed bias without and with RE, collector to base bias, voltage divider bias and emitter bias (+VCC and –VEE bias), circuit diagrams and their working. Transistor as a switch, circuit and working, Darlington pair and its applications. BJT amplifier (CE), dc and ac load line analysis, hybrid model of CE configuration, Quantitative study of the frequency response of a CE amplifier, Effect on gain and bandwidth for Cascaded CE amplifiers (RC coupled).	B.Sc(hons) Electronics Sem III	CC V
	Practicals:	4. Study of clipping and clamping circuits. 5. Study of Fixed Bias, Voltage divider and Collector-to-Base bias Feedback configuration fortransistors. 6. Designing of a Single Stage CE amplifier.	B.Sc(hons) Electronics Sem III	CC V
	Tutorials:			

	Assignment :	Based on Unit 1 and unit 2		
October	**Theory:**	**Feedback Amplifiers:** Concept of feedback, negative and positive feedback, advantages and disadvantages of negative feedback, voltage (series and shunt), current (series and shunt) feedback amplifiers, gain, input and output impedances . Barkhausen criteria for oscillations, Study of phase shift oscillator, Colpitts oscillator and Hartley oscillator.	B.Sc(hons) Electronics Sem III	CC V
	Practicals:	7. Study of Class A, B and C Power Amplifier. 8. Study of the Colpitt's Oscillator. 9. Study of the Hartley's Oscillator.	B.Sc(hons) Electronics Sem III	CC V
	Tutorials:			
	Test	Based on unit 2 and unit 3		

November	**Theory:**	**MOSFET Circuits**: Review of Depletion and Enhancement MOSFET, Biasing of MOSFETs, Small Signal Parameters, Common Source amplifier circuit analysis, CMOS circuits.**Power Amplifiers:** Difference between voltage and power amplifier, classification of power amplifiers,Class A, Class B, Class C and their comparisons. Operation of a Class A single ended power amplifier.Operation of Transformer coupled Class A power amplifier, overall efficiency. Circuit operation of complementary symmetry Class B push pull power amplifier, crossover distortion, heat sinks. **Single tuned amplifiers**: Circuit diagram, Working and Frequency Response for each, Limitations of single tuned amplifier, Applications of tuned amplifiers in communication circuits.	B.Sc(hons) Electronics Sem III	CC V
	Practicals:	10. Study of the Phase Shift Oscillator 11. Study of the frequency response of Common Source FET amplifier.	B.Sc(hons) Electronics Sem III	CC V
	Tutorials:			

Name of the Faculty: Dr. Basant Saini   **Department: Electronics**

Semester: I

Theory   :   B.Sc (H) Electronics, Sem I (CBCS)

Practical   :   B.Sc (H) Electronics, Sem I (CBCS)

Month		Topics	Course	Paper
DECEMBER	**Theory**	Structure of a Python Program, Elements of Python, Python Interpreter, Using Python as calculator, Python shell, Indentation. Atoms, Identifiers and keywords, Literals, Strings, Operators(Arithmetic operator, Relational operator, Logical or Boolean operator, Assignment, Operator, Ternary operator, Bit wise operator, Increment or Decrement operator), Input and Output Statements, Control statements(Branching, Looping, Conditional Statement, Exit function, Difference between break, continue and pass.), Defining Functions, default arguments, Errors and Exceptions.	B.Sc.(H) Electronics, Sem I	GE-1/ Data Science
	Practicals	Basic programs in introduction to python. Program in python on strings.	B.Sc.(H) Electronics, Sem I	GE-1/ Data Science
	Tutorials	NA		
JANUARY	**Theory:**	Conditional execution, Alternative execution, Nested conditionals, The return statement, Recursion, Stack diagrams for recursive functions, Multiple assignment, The while statement, Tables, Two-dimensional tables, String as a compound data type, Length, Traversal and the for loop, String slices, String comparison, A find function, Looping and counting, List values, Accessing elements, List length, List membership, Lists and for loops, List operations, List deletion. Cloning lists, Nested lists	B.Sc.(H) Electronics, Sem I	GE-1/ Data Science
	Practicals	Programs in python on lists and dictionaries and introduction to object oriented programing. Programs in python on linraries for Data Science: Matplotlib, NumPy, Scikit-learn.	B.Sc.(H) Electronics, Sem I	GE-1/ Data Science
	Tutorials:	NA		

	Assignment:	Based on Unit II		
FEBRUARY	**Theory:**	Toolkits using Python: Matplotlib, NumPy, Scikit-learn, NLTK; Visualizing Data: Bar Charts, Line Charts, Scatterplots; Working with data: Reading Files, Scraping the Web, Using APIs (Example: Using the Twitter APIs), Cleaning and Munging, Manipulating Data, Rescaling, Dimensionality Reduction Classification and Regression algorithms-logistic regression, decision trees	B.Sc.(H) Electronics, Sem I	GE-1/ Data Science
	Practicals	Write a program in Python to predict the class of the flower based on available attributes using KNN Write a program in Python to predict the class of the flower based on available attributes using decision tree Write a program in Python to predict if a loan will get approved or not. (logistic regression) Write a program in Python to identify the tweets which are hate tweets and which are not. (naïve Bayes)	B.Sc.(H) Electronics, Sem I	GE-1/ Data Science
	Test	Based on Machine learning algorithms (Unit-III)		
MARCH	**Theory:**	Revision of Machine Learning Algorithms	B.Sc.(H) Electronics, Sem I	GE-1/ Data Science
	Practicals	Revision	B.Sc.(H) Electronics, Sem I	GE-1/ Data Science

SEMESTER WISE TEACHING PLAN (2020-2021)
SRI VENKATESWARA COLLEGE

Name of the Faculty: Dr. Anita Verma   **Department: Zoology**

Semester: I/III/V

Month		Topics	Course	Paper Code/Name
AUGUST	**Theory**	**Unit 3: Nervous System:** Structure of neuron, resting membrane potential, Origin of action potential and its propagation across the myelinated and unmyelinated nerve fibers; Types of synapse, Synaptic transmission, Neuromuscular junction; Reflex action and its types - reflex arc; Physiology of hearing and vision.	B.Sc. (Hons) Zoology, Semester-III	Animal Physiology: Controlling and Coordinating Systems (CC VI)
	Practicals	Syllabus overview, general instructions and maintenance of lab record. .	B.Sc. (Hons) Zoology, Semester-III	Animal Physiology: Controlling and Coordinating Systems (CC VI)
		Introduction to Mendelian Genetics, Instructions for maintaining records, Exercise No. 5: Study of human karyotype, Exercise No. 6: Pedigree analysis of some human inherited traits.	B.Sc. (Hons) Zoology, Semester-V	CC-XII/Principles of Genetics
		ABO blood group determination. To measure the blood pressure using Sphygmomanometer. To determine the blood clotting and bleeding time.	B.Sc. Life Sciences, Semester-III SEC	Medical diagnostics
SEPTEMBER	**Theory:**	**Unit 4: Muscle:** Histology of different types of muscle.	B.Sc. (Hons) Zoology, Semester-III	Animal Physiology: Controlling and Coordinating Systems (CC VI)

	Practicals:	Demonstration of the unconditioned reflex action (Deep tendon reflex such as knee jerk reflex). Preparation of temporary mounts: Squamous epithelium, Striated muscle fibres and nerve cells.	B.Sc. (Hons) Zoology, Semester-III	Animal Physiology: Controlling and Coordinating Systems (CC VI)
		Exercise No. 1: To study the Mendelian laws and gene interactions. Exercise No. 2: Chi-square analyses using seeds/beads/Drosophila. Exercise No. 4: Linkage maps based on data from *Drosophila* crosses.	B.Sc. (Hons) Zoology, Semester-V	CC-XII/Principles of Genetics
		To estimate the blood glucose level by GOD-POD method. To calculate the blood cells count by DLC method.	B.Sc. Life Sciences, Semester-III SEC	Medical diagnostics

OCTOBER	**Theory:**	**Unit 4: Muscle:** Ultra structure of skeletal muscle; Molecular and chemical basis of muscle contraction; Characteristics of muscle twitch.	B.Sc. (Hons) Zoology, Semester-III	Animal Physiology: Controlling and Coordinating Systems (CC VI)
	Practicals:	Recording of simple muscle twitch with electrical stimulation. Study of permanent slides of Mammalian skin, Cartilage, Bone, Spinal cord, Nerve cell, Pituitary, Pancreas, Testis, Ovary, Adrenal, Thyroid and Parathyroid.	B.Sc. (Hons) Zoology, Semester-III	Animal Physiology: Controlling and Coordinating Systems (CC VI)
		Exercise No. 3: Linkage maps based on data from conjugation, transformation and transduction.	B.Sc. (Hons) Zoology, Semester-V	CC-XII/Principles of Genetics
		To determine the different abnormal constituents of urine. To study the different medical techniques: CT-SCAN, MRI, X-RAY, ULTRASOUND.	B.Sc. Life Sciences, Semester-III SEC	Medical diagnostics
	Test:	Mid-term test.	B.Sc. (Hons) Zoology, Semester-III	Animal Physiology: Controlling and Coordinating Systems (CC VI)

NOVEMBER	**Theory:**	**Unit 4: Muscle:** Motor unit, summation and tetanus.	B.Sc. (Hons) Zoology, Semester-III	Animal Physiology: Controlling and Coordinating Systems (CC VI)
	Practicals:	Microtomy: Preparation of permanent slide of any five mammalian (Goat/white rat) tissues. Evaluation of students on their performance in practical and Record.	B.Sc. (Hons) Zoology, Semester-III	Animal Physiology: Controlling and Coordinating Systems (CC VI)
		Revision exercises, viva for practical exams.	B.Sc. (Hons) Zoology, Semester-V	CC-XII/Principles of Genetics
		Revision and Mock test.	B.Sc. Life Sciences, Semester-III SEC	Medical diagnostics

SEMESTER WISE TEACHING PLAN (2020-2021)
SRI VENKATESWARA COLLEGE

Name of the Faculty: Dr. Anita Verma   **Department: Zoology**

Semester: I

Month		Topics	Course	Paper Code/Name
DECEMBER (2020)	**Practicals**	Study of different kinds of mouth parts of insects through slides or specimens, Study of insect vector- bed bug through permanent slide or photograph and study of different diseases transmitted by above insect vector.	**GE I:** Zoology	Insect vector & diseases **(32235908-OC)**
JANUARY (2021)	**Practicals:**	Study of insect vectors- house fly, sand fly and lice (head, body and pubic) through permanent slides or photographs and study of different diseases transmitted by above insect vectors.	**GE I:** Zoology	Insect vector & diseases **(32235908-OC)**
	Assignment:	Project report on Diseases transmitted by insect vector.	**GE I:** Zoology	Insect vector & diseases **(32235908-OC)**

FEBRUARY (2021)	**Practicals:**	Study of insect vectors- *Aeded, Culex* and *Anopheles* through permanent slides or photographs and study of different diseases transmitted by above insect vectors.	**GE I:** Zoology	Insect vector & diseases **(32235908-OC)**
	Test	Mock test (full syllabus).	**GE I:** Zoology	Insect vector & diseases **(32235908-OC)**
	Assignment	Exercise: Household Insecticides Survey: What is being used at home?	**GE I:** Zoology	Insect vector & diseases **(32235908-OC)**

Name of the Faculty: Dr. Om Prakash
Department: Zoology
Semester: I/III/V

Month			Topics	Course	Paper Code/Name
JULY	**Theory**		**Immunology** **Unit 1: Overview of Immune System** 10 Historical perspective of Immunology, Early theories of Immunology, Cells and organs of the Immune system.	B.Sc. (Hons.) Zoology Sem V TZH	DSE 9
			Ecology Exponential and logistic growth, equation and patterns,	B.Sc. (Hons.) Zoology Sem I FZH	CC II
		Practicals	Immunology Demonstration of lymphoid organs.	B.Sc. (Hons.) Zoology Sem V TZH	DSE 9
			Ecology Study of life tables and plotting of survivorship curves of different types from the hypothetical/real data provided	B.Sc. (Hons.) Zoology Sem I FZH	CC II
			FUNDAMENTALS OF BIOCHEMISTRY Qualitative tests of functional groups in carbohydrates Qualitative tests of functional groups in proteins Qualitative tests of functional groups in lipids.	B.Sc. (Hons.) Zoology Sem III SZH	CC VII
AUGUST	**Theory**		**Unit 2: Innate and Adaptive Immunity** 10 Anatomical barriers, Inflammation, Cell and molecules involved in innate immunity, Adaptive immunity (Cell mediated and humoral), Passive: Artificial and natural Immunity, Active: Artificial and natural Immunity, Immune dysfunctions (brief account of autoimmunity with reference to Rheumatoid Arthritis and tolerance, AIDS). And masking	B.Sc. (Hons.) Zoology Sem V TZH	DSE-2
			Ecology **Ecology** r and K strategies Population regulation	B.Sc. (Hons.) Zoology Sem I FZH	CC II
		Practicals	**Immunology** Histological study of spleen, thymus and lymph nodes through slides/ photographs Preparation of stained blood film to study various types of blood cells. Repetition of these experiments	B.Sc. (Hons.) Zoology Sem V TZH	DSE-2

		Ecology Determination of population density in a natural/hypothetical community by quadrate method and calculation of Shannon-Weiner diversity index for the same community	B.Sc. (Hons.) Zoology Sem I FZH	CC II
		FUNDAMENTALS OF BIOCHEMISTRY Paper chromatography of amino acids. Action of salivary amylase under optimum conditions Repeated Action of salivary amylase under optimum conditions	B.Sc. (Hons.) Zoology Sem III SZH	CC VII
SEPTEMBER	**Theory**	**Immunology** **Unit 3: Antigens** 8 Antigenicity and immunogenicity, Immunogens, Adjuvants and haptens, Factors influencing immunogenicity, B and T-Cell epitopes	B.Sc. (Hons.) Zoology Sem V TZH	DSE 9
		Ecology density-dependent and independent factors Population interactions, Gause's Principle with laboratory and field examples	B.Sc. (Hons.) Zoology Sem I FZH	CC II
	Practicals	**Ecology** Study of an aquatic ecosystem: Phytoplankton and zooplankton, Measurement of area, temperature, turbidity/penetration of light, determination of pH	B.Sc. (Hons.) Zoology Sem I FZH	CC II
		FUNDAMENTALS OF BIOCHEMISTRY Effect of pH on the action of salivary amylase. Effect of temperature on the action of salivary amylase Repetition of above experiments	B.Sc. (Hons.) Zoology Sem III SZH	CC VII
OCTOBER	**Theory**	**Immunology** **Unit 4: Immunoglobulins** 10 Structure and functions of different classes of immunoglobulins, Antigen-antibody interactions, Immunoassays (ELISA and RIA), Polyclonal sera, Hybridoma technology: Monoclonal antibodies in therapeutics and diagnosis **Unit 5: Major Histocompatibility Complex** 6 Structure and functions of MHC molecules. Endogenous and exogenous pathways of antigen processing and presentation	B.Sc. (Hons.) Zoology Sem V TZH	DSE 9
		Ecology Lotka-Volterra equation for competition and Predation, functional and numerical responses	B.Sc. (Hons.) Zoology Sem I FZH	CC II

	Practicals	Immunology Ouchterlony's double immuno-diffusion method. ABO blood group determination. Cell counting and viability test from splenocytes of farm bred animals/cell lines. Repetition of these practicals	B.Sc. (Hons.) Zoology Sem V TZH	DSE 9
		Ecology Dissolved Oxygen content (Winkler's method), Chemical Oxygen Demand and free CO_2	B.Sc. (Hons.) Zoology Sem I FZH	CC II
		FUNDAMENTALS OF BIOCHEMISTRY Effect of inhibitors on the action of salivary amylase Repetition of effect of temperature on the action of salivary amylase	B.Sc. (Hons.) Zoology Sem III SZH	CC VII
Mid Term Test		**Test of Immunology** From all units taught	B.Sc. (Hons.) Zoology Sem V TZH	DSE 9
		Test of Ecology From all units taught	B.Sc. (Hons.) Zoology Sem I FZH	CC II
NOVEMBER	**Theory**	**Immunology** **Unit 9: Vaccines** 5 Various types of vaccines.	B.Sc. (Hons.) Zoology Sem V TZH	DSE 9
		Ecology Class discussion and revision of all the topics studied.	B.Sc. (Hons.) Zoology Sem I FZH	CC II
	Practicals:	**Immunology** Demonstration of a. ELISA b. Immunoelectrophoresis Repetition of these practicals Repetition of all practicals, and finalization of continuous assessment. Conduct of Mock examination.	B.Sc. (Hons.) Zoology Sem V TZH	DSE 9
		Ecology Report on a visit to National Park/Biodiversity Park/Wild life sanctuary Repetition of all experiments Conduct of Mock examination.	B.Sc. (Hons.) Zoology Sem I FZH	CC II
		FUNDAMENTALS OF BIOCHEMISTRY Demonstration of proteins separation by SDS-PAGE Repetition of all experiments Conduct of Mock examination	B.Sc. (Hons.) Zoology Sem III SZH	CC VII

SEMESTER WISE TEACHING PLAN

SRI VENKATESWARA COLLEGE
AUG-DEC, 2020-2021 (Odd Semester)

Name of the Faculty: Dr. Vartika Mathur
Department: Zoology
 Semester: I/III/V
- **Theory & Practical:**
  B.Sc. (H) Biological Sciences Sem V (Wildlife Conservation and management)
  B.Sc. (H) Zoology Sem V (Animal behavior & chronobiology)
- **Practical: B.Sc. (H) Zoology Sem III (Diversity of Chordata)**

Month		Topics	Course	Paper Code/Name
AUGUST	Theory	• Introduction, Values and ethics of wildlife conservation; importance of conservation, • Faecal analysis of ungulates and carnivores: Faecal samples, slide preparation, Hair identification, Pug marks and census method.	B.Sc. (H) Biological Sciences Sem V TBS	Wildlife Conservation and management DSE-IV
		• Introduction, Origin and history of Ethology; Reflexes: Types of reflexes, reflex path, characteristics of reflexes (latency, after discharge, summation, fatigue, inhibition) and its comparison with complex behavior. Orientation: Primary and secondary orientation; kinesis-orthokinesis, klinokinesis; taxis-tropotaxis and klinotaxis, menotaxis (light compass orientation).	B.Sc. (Hons.) Zoology Sem V TZH	Animal behavior & chronobiology (DSE I)
	Practicals	• Identification and Study of any five endangered mammalian fauna, avian fauna, herpetofauna; Demonstration of basic equipment needed in wildlife studies use, care and maintenance (Compass, Binoculars, Spotting scope, Range Finders, Global Positioning System, Various types of Cameras and lenses) • Familiarization and study of animal evidences in the field; Identification of animals through pug marks, hoof marks, scats, pellet groups, nest, antlers etc.	B.Sc. (H) Biological Sciences Sem V TBS	Wildlife Conservation and management DSE-IV

			Protochordata *Balanoglossus, Herdmania, Branchiostoma,* Colonial Urochordata, Sections of *Balanoglossus* through proboscis and branchiogenital regions, Sections of *Amphioxus* through pharyngeal, intestinal and caudal regions. Permanent slide of *Herdmania* spicules	B.Sc. (Hons.) Zoology Sem III SZH	Diversity of Chordata CC-V
			• To study different types of animal behavior such as habituation, social life, courtship behavior in insects, and parental care • To study nests and nesting habits of the birds and social insects.	B.Sc. (Hons.) Zoology Sem V TZH	Animal behavior & chronobiology (DSE I)
SEPTEMBER	**Theory**		• Setting back succession; Grazing logging; Mechanical treatment; Advancing the successional process; Cover construction; Preservation of general genetic diversity.	B.Sc. (H) Biological Sciences Sem V TBS	Wildlife Conservation and management DSE-IV
			• Insects' society; Honey bee: Society organization, polyethism, foraging, round dance, waggledance, Experiments to prove distance and direction component of dance, earning ability in honey bee, formation of new hive/queen	B.Sc. (Hons.) Zoology Sem V TZH	Animal behavior & chronobiology (DSE I)
	Practicals:		• Demonstration of different field techniques for flora and fauna PCQ, Ten tree method, Circular, Square & rectangular plots, Parker's 2 Step and other methods for ground cover assessment, Tree canopy cover assessment, Shrub cover assessment.	B.Sc. (H) Biological Sciences Sem V TBS	Wildlife Conservation and management DSE-IV
			• To study the behavioral responses of wood lice to dry condition & humid condition • To study geotaxis behavior in earthworm.	B.Sc. (Hons.) Zoology Sem V TZH	Animal behavior & chronobiology (DSE I)
			Agnatha • *Petromyzon, Myxine* **Fishes** • *Scoliodon, Sphyrna, Pristis, Torpedo, Chimaera, Mystus, Heteropneustes, Labeo, Exocoetus, Echeneis, Anguilla, Hippocampus, Tetrodon/ Diodon, Anabas,* Flat fish	B.Sc. (Hons.) Zoology Sem III SZH	Diversity of Chordata CC-V
OCTOBER	**Theory**		• National parks & sanctuaries, Community reserve; Important features of protected areas in India; Tiger conservation - Tiger reserves in India; Management challenges in Tiger reserve.	B.Sc. (H) Biological Sciences Sem V TBS	Wildlife Conservation and management DSE-IV
			• Learning: Associative learning, classical and operant conditioning, Habituation, Imprinting	B.Sc. (Hons.) Zoology Sem V TZH	Animal behavior & chronobiology (DSE I)

	Practical	• Field study to Corbett National Park • Trail / transect monitoring for abundance and diversity estimation of mammals and bird (direct and indirect evidences)	B.Sc. (H) Biological Sciences Sem V TBS	Wildlife Conservation and management DSE-IV
		• To study the phototaxis behavior in insect larvae. • Study and actogram construction of locomotor activity of suitable animal models. • Study of circadian functions in humans (daily eating, sleep and temperature patterns).	B.Sc. (Hons.) Zoology Sem V TZH	Animal behavior & chronobiology (DSE I)
		Amphibia • *Ichthyophis/Ureotyphlus, Necturus, Bufo, Hyla, Alytes, Salamandra* **Reptilia** • *Chelone, Trionyx, Hemidactylus, Varanus, Uromastix, Chamaeleon, Ophiosaurus, Draco, Bungarus, Vipera, Naja, Hydrophis, Zamenis, Crocodylus* • Key for Identification of poisonous and non-poisonous snakes	B.Sc. (Hons.) Zoology Sem III SZH	Diversity of Chordata CC-V
	<u>**Assignment**</u>	**WILD LIFE CONSERVATION AND MANAGEMENT** Concept of climax persistence/ Ecology of perturbence.	B.Sc. (H) Biological Sciences Sem V TBS	Wildlife Conservation and management DSE-IV
		Animal behavior and chronobiology Topic: Animal behavior related concepts	B.Sc. (Hons.) Zoology Sem V TZH	Animal behavior & chronobiology (DSE I)
	<u>**Mid Term Test**</u>	**Animal behavior and chronobiology** Test will include all the topics covered	B.Sc. (Hons.) Zoology Sem V TZH	Animal behavior & chronobiology (DSE I)
		Test will include all the topics covered	B.Sc. (H) Biological Sciences Sem V TBS	Wildlife Conservation and management DSE-IV
NOVEMBER	**Theory:**	• Revision • Submission of project report	B.Sc. (H) Biological Sciences Sem V TBS	Wildlife Conservation and management DSE-IV
		• Revision	B.Sc. (Hons.) Zoology Sem V TZH	Animal behavior & chronobiology (DSE I)
	Practicals:	Submission of project report Revision/ mock exam	B.Sc. (H) Biological Sciences Sem V TBS	Wildlife Conservation and management DSE-IV

SEMESTER WISE TEACHING PLAN
SRI VENKATESWARA COLLEGE
Academic Planner: Odd Semester 2020 (July – November)

Name of the Faculty: Dr. Ajaib Singh
Department: Zoology
Semester: I/III/V

Month		Topics	Course	Paper Code/Name
August	**Theory**	Unit 2: Porifera. General characteristics, classification, canal system in sycon. Unit 3: Cnidaria. General characteristics, classification, polymorphism in hydrozoa.	B.Sc Life Sciences Sem I	LS Core I/ Animal Diversity
		Unit 7: Carbohydrates metabolism: glycolysis, Krebs cycle, Penrose phosphate pathway	B. Sc Life Sciences Sem III	CC III/ Physiology and Biochemistry
		Mendel's laws of inheritance	B. Sc Zoology Sem V	CC-XII/Principles of Genetics
	Practicals	Syllabus overview, general instructions and maintenance of lab record I. Study of the following specimens: *Amoeba, Euglena, Paramecium,* *With continuous evaluation* Evaluation of students on their performance in practical and Record	B. Sc Life Sciences Sem I	Animal Diversity
		To perform Ouchterlony double immunodiffusion assay. ABO blood group determination	B. Sc Zoology Sem V	Immunology
September	**Theory**	Unit 4: Platyhelminthes - General characteristics, classification, life cycle of Taenia solium. Parasitic adaptations. Unit 5: Nemathelminthes,General characteristics, classification, life cycle of Ascaris lumbricoides. Parasitic adaptations. Unit 6: Annelida, General characteristics, classification, metamerism.	B. Sc Life Sciences Sem I	LS Core I/ Animal Diversity
		Unit 7: Gluconeogenesis, glycogen metabolism, electron transport chain.	B. Sc Life Sciences Sem III	CC III/ Physiology and Biochemistry
		Exception to Mendel's law, Co-dominance, Incomplete dominance	B. Sc Zoology Sem V	CC-XII/Principles of Genetics
	Practicals:	Study of the following specimens: Evaluation of students on their performance in practical and Record *Sycon, Hyalonema, Euplectella, Obelia, Physalia, Aurelia, Tubipora, Metridium, Taeniasolium,* Male and female*Ascarislumbricoides, :Aphrodite, Nereis, Heteronereis, Chaetopterus, Pheretima, Hirudinaria, Palaemon, Cancer, Limulus, Palamnaeus, Scolopendra, Julus, Periplaneta, Chiton, Dentalium, Pila, Unio, Sepia, Octopus, Pentaceros, Ophiothrix, Echinus, Cucumaria, Antedon*	B. Sc Life Sciences Sem I	Animal Diversity

		Cell counting and viability of splenocytes.	B. Sc Zoology Sem V	Immunology
		ELISA		
		Immunoelectrophoresis		
October	**Theory**	Unit 7: Arthropoda, General characteristics, classification, vision, metamorphosis in insects. Unit 8: Mollusca, General characteristics, classification, torsion and detorsion in gastropoda, pearl formation.	B. Sc Life Sciences Sem I	LS Core I/ Animal Diversity
		Unit 8: Lipid metabolism, biosynthesis and beta oxidation of palmitic acid.	B. Sc Life Sciences Sem III	CC III/ Physiology and Biochemistry
		Multiple alleles, lethal alleles, sex lethals	B. Sc Zoology Sem V	CC-XII/Principles of Genetics
	Practicals	*Study of :* Study of the following specimens:*Balanoglossus, Herdmania, Branchiostoma, Petromyzon, Sphyrna, Pristis, Torpedo, Labeo, Exocoetus, Anguilla Ichthyophis/Ureotyphlus Salamandra, Bufo, Hyla,* *Study of , Chelone, Chamaeleon, Draco, Vipera, Naja, Crocodylus*, Any three common birds from different orders, Bat, *Funambulus, Loris.* Any three common birds from different orders, Bat, *Funambulus, Loris*. Study of the following permanent slides: T.S. and L.S. of *Sycon,*	B. Sc Life Sciences Sem I	Animal Diversity
		Study of lymphoid organs: spleen, thymus, lymph nodes. Preparation of stained blood film.	B. Sc Zoology Sem V	Immunology
November	**Theory**	Unit 10: Echinodermata, General characteristics, classification, water vascular system in asteroidea.	B. Sc Life Sciences Sem I	LS Core I/ Animal Diversity
		Unit 10: Enzymes, introduction, mechanism of action,	B. Sc Life Sciences Sem III	CC III/ Physiology and Biochemistry
		Epistasis, Pleiotropy	B. Sc Zoology Sem V	CC-XII/Principles of Genetics
	Practicals:	Key for Identification of poisonous and non-poisonoussnakes A visit to Biodiversity parks and ZoologicalMuseum Study of Digestive, Reproductive and Nervous system ofCockroach. Study of Urinogenital and Nervous system ofRat.	B. Sc Life Sciences Sem I	Animal Diversity
		To perform Ouchterlony double immunodiffusion assay. ABO blood group determination	B. Sc Zoology Sem V	Immunology
	Mid Term Test	Test of B.Sc Life sciences Sem I (Animal Diversity) and Assignments		
		Test of B.Sc Life sciences Sem III (Physiology and Biochemistry) and Assignments		
December	**Theory:**	Animal Diversity Revision, class tests.	B. Sc Life Sciences Sem I	LS Core I

	Physiology and Biochemistry Enzyme kinetics, inhibition and regulation.	B. Sc Life Sciences Sem III	CC III
	Sex influenced traits, Sex limited traits	B. Sc Zoology Sem V	CC-XII/Principles of Genetics
Practicals:	Submission of File and Biodiversity parks report, containing photographs with appropriate write up Mock test	B. Sc Life Sciences Sem I	Animal Diversity
	Revision, file submission, mock exam.	B. Sc Zoology Sem V	Immunology

SEMESTER WISE TEACHING PLAN
SRI VENKATESWARA COLLEGE
August-December 2020, (Session 2020-21)

Name of the Faculty: Dr. Rajendra Phartyal

Department: Zoology

Semester: I, III: Theory: B.Sc. H . Biological Science Sem I(Light and Life), B.Sc. H . Biological Science Sem III (Functional Ecology), BSc (H) Zoology Semester III (Physiology: Controlling And Coordinating Systems)
Practicals: B.Sc. H . Biological Science Sem I(Light and Life), B.Sc. H . Biological Science Sem III (Functional Ecology), BSc (H) Zoology Semester III (Physiology: Controlling And Coordinating Systems)

Month		Topics	Course	Paper Code/Name
August	**Theory:**	Measurement of light (Lux, Candela, Foot Candle).Light as an ecological factor affecting distribution of animals (Zoo geography), in terrestrial and aquatic ecosystems.	B.Sc. H . Biological Science Sem I	Light and Life BS-C2
		Population: Unitary and Modular populations; Metapopulation: Density, natality, mortality, life tables, fecundity tables, survivorship curves, age ratio, sex ratio, dispersal and dispersion; carrying capacity, population dynamics (exponential and logistic growth equation and patterns), r and K selection, density-dependent and independent population regulation;	B.Sc. H . Biological Science Sem III	Ecology BS-C7
		General Introduction, Population : Unitary and Modular populations, metapopulation	B.Sc. H . Zoology Sem I	Principles of ecology CC-II
	Practicals:	Syllabus overview, general instructions and maintenance of lab record. General Introduction , light penetration in water using Secchi disc	B.Sc. H . Biological Science Sem I	Light and Life BS-C2
		Syllabus overview, general instructions and maintenance of lab record. • Plotting of survivorship curves from hypothetical life table data. • To determine a minimal quadrat area for sampling in the given simulation sheet	B.Sc. H . Biological Science Sem III	Ecology BS-C7
		Syllabus overview, general instructions and maintenance of lab record. Demonstration of the unconditioned reflex action (Deep tendon reflex such as knee jerk reflex) Recording of simple muscle twitch with electrical stimulation (or Virtual)	BSc (H) Zoology Semester III	Physiology: Controlling And Coordinating Systems CC VI
September	**Theory:**	Polarized light, light attenuation in water. Altitudinal and latitudinal variations in light intensity and photoperiod. Diel vertical migration. Photoreception in animals, opsins evolution of eyes. Definition,	B.Sc. H . Biological Science Sem I	Light and Life BS-C2

		discovery, diversity of organisms showing bioluminescence.		
		Niche concept, Population interactions: Positive and negative interactions; Competition, Gause"s Principle for competition with laboratory and field examples, Lotka-Volterra equation for predation.	B.Sc. H . Biological Science Sem III	Ecology BS-C7
		Unique and group attributes of population: Density, natality, mortality, life tables, fecundity tables, survivorship curves, age ratio, sex ratio, dispersal and dispersion	B.Sc. H . Zoology Sem I	Principles of ecology CC-II
	Practicals:	• To demonstrate the effect of light on soil fauna using Berlese funnel setup. • To study oxygen liberation during photosynthesis using Hydrilla. • Measurement of light using Luxmeter. • Separation of Chloroplast pigments by Paper Chromatography.	B.Sc. H . Biological Science Sem I	Light and Life BS-C2
		• To determine density /frequency /abundance of the vegetation by quadrat method in the field or on given simulation sheet • Principle and function of Sechi disc, Atmometer, Anemometer, Hygrometer, Hair hygrometer, Luxmeter, Rain guage, Soil thermometer, Min-Max thermometer • Study through specimens/photographs/slides of Parasitic angiosperms, Saprophytic angiosperms, VAM fungi, Root nodules, Corolloid roots, Mycorrhizal roots, Velamen roots, Lichen as pollution indicators. • To estimate dissolved oxygen content of given water sample using Winkler's method.	B.Sc. H . Biological Science Sem III	Ecology BS-C7
		• Preparation of temporary mounts: squamous epithelium, striated muscle fibres, nerve cells • Study of permanent slides of mammalian skin, cartilage, bone, spinal cord, nerveCell.	BSc (H) Zoology Semester III	Physiology: Controlling And Coordinating Systems CC VI
		ASSIGNMENT	B.Sc. H . Biological Science Sem I	Light and Life BS-C2
		ASSIGNMENT	B.Sc. H . Biological Science Sem III	Ecology BS-C7

				B.Sc. H . Zoology Sem I	Principles of ecology CC-II
			ASSIGNMENT		
October	**Theory:**		Functions of bioluminescence in living world. Mechanism of Bioluminescence (*Photinus pyralis, Aequorea victoria*). Three rhythm domains, Biological clock and Circadian rhythms.	B.Sc. H . Biological Science Sem I	Light and Life BS-C2
			Social, reproductive and territorial behavior, Evolution of optimal life history, Tradeoffs, semelparity and iteroparity.	B.Sc. H . Biological Science Sem III	Ecology BS-C7
			Types of ecosystems with detailed study of any one: Forest Ecosystem, Pond or Lake ecosystem, Mangrove and Coral reef ecosystem. Vertical stratification in Forest and Aquatic ecosystem	B.Sc. H . Zoology Sem I	Principles of ecology CC-II
	Practicals:		• Separation of Chloroplast pigments by Paper Chromatography. • Demonstration of Hills Reaction and study the effect of Light intensity (any 2 light conditions). • To study the effect of light and darkness on the chromatophores of fish. • To test / survey for color blindness using Ishihara charts.	B.Sc. H . Biological Science Sem I	Light and Life BS-C2
			• To determine soil texture, soil density, bulk density, particle density and pore space. • To determine pH, Cl, SO_4, NO_3, base deficiency, organic matter, cation exchange capacity in the soil.	B.Sc. H . Biological Science Sem III	Ecology BS-C7
			• Study of permanent slides of Pituitary, Pancreas, Testis, Ovary, Adrenal, Thyroid and Parathyroid • Demonstration of technique of microtomy to have hands-on experience and learning • of the technique.	BSc (H) Zoology Semester III	Physiology: Controlling And Coordinating Systems CC VI
	Mid Term Test			B.Sc. H . Biological Science Sem I	Light and Life BS-C2
				B.Sc. H . Biological Science Sem III	Ecology BS-C7
				B.Sc. H . Zoology Sem I	Principles of ecology CC-II
November	**Theory**		Sleep disorders, Shift work disorder, Jetlag. Color in animals: chromatophores and colour changes in animals, morphological and physiological color change. Color vision, visual processing in human eye.	B.Sc. H . Biological Science Sem I	Light and Life BS-C2

		reproductive structure and mating system Ecological factors (abiotic and biotic): temperature, light	B.Sc. H . Biological Science Sem III	Ecology BS-C7
		Food chain: Detritus and grazing food chains, Linear and Y-shaped food chains, Food web, Energy flow through the ecosystem. Ecological pyramids and Ecological efficiencies	B.Sc. H . Zoology Sem I	Principles of ecology CC-II
	Practicals:	• To study the effect of Light intensity and CO_2 concentration on the rate of photosynthesis. • Revision	B.Sc. H . Biological Science Sem I	Light and Life BS-C2
		• Revision of minimal quadrat and determination of density /frequency /abundance of the vegetation by quadrat method • Revision of Dissolved Oxygen • Revisision of Soil Parameters • Mock Practical	B.Sc. H . Biological Science Sem III	Ecology BS-C7
		• Revision • Evaluation of students on their performance in practical and Record • Mock Practical Test • Submission of practical files • Submission and evaluation of a Project report on methods of contraception in male and female.	BSc (H) Zoology Semester III	Physiology: Controlling And Coordinating Systems CC VI
December	**Theory:**	FINAL EXAM	B.Sc. H . Biological Science Sem I	Light and Life BS-C2
		FINAL EXAM	B.Sc. H . Biological Science Sem III	Ecology BS-C7
		FINAL EXAM	B.Sc. H . Zoology Sem I	Principles of ecology CC-II
	Practicals:	• Final Practical Assessment	B.Sc. H . Biological Science Sem I	Light and Life BS-C2
		• Final Practical assessment	B.Sc. H . Biological Science Sem III	Ecology BS-C7
		• Final Practical assessment	BSc (H) Zoology Semester III	Physiology: Controlling And Coordinating Systems CC VI

SEMESTER WISE TEACHING PLAN (2020-2021)
SRI VENKATESWARA COLLEGE

Name of the Faculty: Dr. Mansi Verma   **Department: Zoology**

Semester : I/III/V

Month		Topics	Course	Paper Code/Name
August	**Theory:**	Nomenclature and classification of Enzymes	B.Sc. (H) Zoology Semester III	Fundamentals of Biochemistry
		Introduction to GMOs	B.Sc (P) Life Science Semester V	Animal Biotechnology DSE
		Salient features of DNA and RNA	B.Sc. (Hons.) Zoology Semester V	Molecular Biology
	Practicals:	Plan of the syllabus and maintenance of record files. Introduction to the Practicals and Exercises. Online simulations	B.Sc (P) Life Science Semester V	Animal Biotechnology DSE
		Introduction to the practicals - Preparation of liquid culture medium (LB) and raise culture of *E. coli*	B.Sc. (H) Zoology Semester V	Molecular Biology CC XI
		ANIMAL DIVERSITY Study of the following specimens: : Amoeba, Euglena, Plasmoditiln, Paramecium, SYcon, Hyalonema, and Euplectella, Obelia, Physulia, Aurelia, Tubipora, Taenia solium, Male and female Ascaris lumbricoides	B.Sc.Life Sciences Zoology Sem I FLS Batch I	LS core 1
September	Theory	Cofactors; Specificity of enzyme action; Isozymes; Mechanism of enzyme action; Enzyme kinetics; Factors affecting rate of enzyme-catalyzed reactions; Derivation of Michaelis-Menten equation,	B.Sc. (H) Zoology Semester III	Fundamentals of Biochemistry
		Agrobacterium mediated transformation and other methods of plant transformation	B.Sc (P) Life Science Semester V	Animal Biotechnology DSE

		Watson and Crick model of DNA; DNA Replication in prokaryotes and eukaryotes, mechanism of DNA replication,Semi-conservative, bidirectional and semi-discontinuous replication, RNA priming,	B.Sc. (Hons.) Zoology Semester V	Molecular Biology
	Practical	Genomic DNA isolation, Agarose Gel Electrophoresis - Transformation Efficiency Concept and Exercises	B.Sc (P) Life Science Semester V	Animal Biotechnology DSE
		Estimation of the growth kinetics of *E. coli* by turbidity method -Preparation of solid culture medium (LB) and growth of *E. coli* by spreading and streaking - Demonstration of antibiotic sensitivity/resistance of *E. coli* to antibiotic pressure and interpretation of results	B.Sc. (H) Zoology Semester V	Molecular Biology CC XI
		ANIMAL DIVERSITY STUDY OF FOLLOWING SPECIMEN Aphrodite, Nereis, Pheretima, Hirudinaria, Palaemon,. Cancer, Limulus, Palamnaeus, Scolopendru, Periplaneta, Chiton, Dentalium, Pila, Unio, Loligo, Sepia, Octopus,	**B.Sc.Life Sciences Zoology Sem I FLS** **Batch I**	CC1
October	Theory	Concept of Km and Vmax, Lineweaver-Burk plot; Multi-substrate reactions; Enzyme inhibition; Allosteric enzymes and their kinetics;	B.Sc. (H) Zoology Semester III	Fundamentals of Biochemistry
		Transgenic animals : retroviral method, microinjection, embryonic stem cells	B.Sc (P) Life Science Semester V	Animal Biotechnology DSE
		ds-DNA, replication of telomeres, Unit 3:Transcription 10 RNA polymerase and transcription Unit, mechanism of transcription in prokaryotes and eukaryotes,	B.Sc. (Hons.) Zoology Semester V	Molecular Biology
	Practical	Plamid isolation. Agarose gel electrophoresis of	B.Sc (P) Life Science	Animal Biotechnology

		plasmid samples Restriction Mapping Spotting: PCR	Semester V	DSE
		Study of Polytene chromosomes from Chironomous / Drosophila larvae Quantitative estimation of salmon sperm/calf thymus DNA using colorimeter (Diphenylamine reagent) or spectrophotometer (A260 measurement)	B.Sc. (H) Zoology Semester V	Molecular Biology CC XI
		ANIMAL DIVERSITY STUDY OF FOLLOWING SPECIMEN Pentaceros, Ophiura, Echinus, Cucumaria and Antedon, Balanoglossus, Herdmania, Branchiostoma, Petromyzon, Sphyrna, Pristis, Torpedo, • Labeo, Exocoetus, Anguilla, Ichthyophis/Ureotyphlus, Salamandra, Bulb, Hyla	B.Sc.Life Sciences Zoology Sem I FLS Batch I	LS core 1
	Assignment	Molecular Biology ; Biotechnology		
November	Theory	Regulation of enzyme action; numericals practice, Nucleic acids	B.Sc. (H) Zoology Semester III	Fundamentals of Biochemistry
		Genetically modified animals and cloning, Dolly , polly Applications of transgenic animals . insect	B.Sc (P) Life Science Semester V	Animal Biotechnology DSE
		synthesis of rRNA and mRNA, transcription factors Unit 5: Post Transcriptional Modifications and Processing of Eukaryotic RNA 6 Structure of globin mRNA; Split genes: concept of introns and exons splicing mechanism, alternative splicing, exon shuffling, and RNA editing, Processing of tRNA Revision	B.Sc. (Hons.) Zoology Semester V	Molecular Biology
	Practical	Spotting: Southern Blotting, Northern Blotting, Western Blotting, DNA sequencing, Restriction Digestion, Mock exam, evaluating project report.	B.Sc (P) Life Science Semester V	Animal Biotechnology DSE

		Quantitative estimation of RNA using Orcinol reaction - Study and interpretation of electron micrographs/ photograph showing DNA replication Transcription Split genes - Mock exam, Revision of Certain topics.	B.Sc. (H) Zoology Semester V	Molecular Biology CC XI

		ANIMAL DIVERSITY
		STUDY OF FOLLOWING SPECIMEN
		    Chelone, Hemidactylus, Chamaeleon, Draco, Vipera, Nafa, Crocodylus, Gavialis, Any six common birds from different orders, Sorex, Bat, Funatnbulus, Loris
		
		2, Study of the following permanent slides: T.S. and L.S. of Sycon, Study.. of life history stages of Taenia, Ts. of Male and female Ascaris
		5. Study of Digestive, Reproductive and Nervous system of Cockroach. 6. Study of Urinogenital and Nervous system of Rat
		
		3. Key for Identification of poisonous and non-poisonous snakes
		    Revision/ mock exam
			B.Sc.Life Sciences Zoology Sem I FLS
			
			Batch I
				LS core 1

SRI VENKATESWARA COLLEGE
Academic Planner: Odd Semester 2020

Name of the Faculty: Dr. P.Jayaraj
Department: Zoology
Semester: I/III/V

Month		Topics	Course	Paper Code/Name
August	**Theory**	**GROWTH AND REPRODUCTION (THEORY)** • Unit 2 Pre Fertilization Changes • Pre- fertilization events- gametogenesis- spermatogenesis and oogenesis	B.Sc. (H) Biological Science Zoology Sem V TBS	BS-C11
		• **IMMUNOLOGY** Unit 6: Cytokines Properties and functions of cytokines, Therapeutics Cytokines	B.Sc. (Hons.) Zoology Sem V TZH	DSE 9
		MOLECULAR BIOLOGY • Unit 6: Gene Regulation • Transcription regulation in prokaryotes: Principles of transcriptional regulation with examples from lac operon and trp operon; Cell biology : Bioscience	B.Sc. (Hons.) Zoology Sem V TZH	CCXI
		Cell Biology Unit V: Signal transduction mechanism: intracellular signal transduction pathways,	B.Sc (Hons.) Biological Science SZH Sem II	BS C-6
	Practicals	• **GROWTH AND REPRODUCTION** • Study of whole mounts of frog - early developmental	**B.Sc. (H) Biological Science Zoology Sem V TBS**	BS-C11

		Cell Biology Preparation of temporary slides of the following: i. Cytochemical staining of polysaccharides by PAS ii. Cytochemical staining of proteins by Bromophenol blue	B.Sc (Hons.) Biological Science SZH Sem II	BS C-6
		ANIMAL DIVERSITY Study of the following specimens: : Amoeba, Euglena, Plasmoditiln, Paramecium, SYcon, Hyalonema, and Euplectella, Obelia, Physulia, Aurelia, Tubipora, Taenia solium, Male and female Ascaris lumbricoides	B.Sc.Life Sciences Zoology Sem I FLS Batch I	LS core 1

September	Theory	• **GROWTH AND REPRODUCTION**
		  • types of eggs in animals
		  • Unit 3 Post Fertilization Changes and Early Development
		  • Post Fertilization Events; Types of Cleavages; Blastula;
			B.Sc. (H) Biological Science Zoology Sem V
			TBS
				BS-C11

		IMMUNOLOGY Unit 7: Complement System Components and pathways of complement activation.	B.Sc. (Hons.) Zoology Sem V TZH	DSE9
		MOLECULAR BIOLOGY **Transcription regulation in eukaryotes: Activators, repressors**	B.Sc. (Hons.) Zoology Sem V TZH	CCXI

		Cell Biology Unit V: GPCR, protein kinase associated receptors.	B.Sc (Hons.) Biological Science SZH Sem II	BS C-6
	Practicals:	**GROWTH AND REPRODUCTION** Study of whole mounts of chick- early developmental stages	**B.Sc. (H) Biological Science Zoology Sem V** **TBS**	BS-C11
		Cell Biology Preparation of temporary slides of the following: iii. Cytochemical staining of mitochondria by Janus Green B.	B.Sc (Hons.) Biological Science SZH Sem II	BS C-6
		ANIMAL DIVERSITY STUDY OF FOLLOWING SPECIMEN Aphrodite, Nereis, Pheretima, Hirudinaria, Palaemon,. Cancer, Limulus, Palamnaeus, Scolopendru, Periplaneta, Chiton, Dentalium, Pila, Unio, Loligo, Sepia, Octopus,	**B.Sc.Life Sciences Zoology Sem I** **FLS** **Batch I**	CC1
October	**Theory**	• **GROWTH AND REPRODUCTION** • Fate Maps, • Morphogenetic movements during gastrulation; • Gastrulation in frog and chick and human	**B.Sc. (H) Biological Science Zoology Sem V** **TBS**	BS-C11
		IMMUNOLOGY Unit 7: Complement System Components	B.Sc. (Hons.) Zoology Sem V TZH	DSE9

		MOLECULAR BIOLOGY **enhancers, silencer elements;**	B.Sc. (Hons.) Zoology Sem V TZH	CCXI
		Cell Biology Unit VI: Cell cycle and regulation, programmed cell death and cancer: Overview of cell cycle. Regulation: Various check points and the role of cyclins and Cdks	B.Sc (Hons.) Biological Science SZH Sem II	BS C-6
	Practical	ANIMAL DIVERSITY STUDY OF FOLLOWING SPECIMEN Pentaceros, Ophiura, Echinus, Cucumaria and Antedon, Balanoglossus, Herdmania, Branchiostoma, Petromyzon, Sphyrna, Pristis, Torpedo, • Labeo, Exocoetus, Anguilla, Ichthyophis/Ureotyphlus, Salamandra, Bulb, Hyla	B.Sc.Life Sciences Zoology Sem I FLS Batch I	LS core 1
		• Study of section of chick embryo through selective developmental stages	**B.Sc. (H) Biological Science Zoology Sem V** **TBS**	BS-C11
		• Study of ultastructure of cell (Plasma membrane, Nucleus, Nuclear Pore Complex	B.Sc (Hons.) Biological Science SZH Sem II	BS C-6
Mid Term Test	**GROWTH AND REPRODUCTION** • Written test on topic covered before the mid semester break IMMUNOLOGY • Written test on topic covered before the mid semester break	**B.Sc. (H) Biological Science Zoology Sem V** • **TBS**	BS-C11	BS-C11
		B.Sc. (Hons.) Zoology Sem V • TZH	DSE-9	**ZH GE-VI**
	• MOLECULAR BIOLOGY • Written test on topic covered before the	B.Sc. (Hons.) Zoology Sem V TZH	CC-XI	BS-C11

		mid semester break		
November	**Theory**	**GROWTH AND REPRODUCTION** • Placenta: Functions and types • Unit 4 Differentiation Organogenesis: • **Formation of CNS, Organogenesis of secondary girth**	**B.Sc. (H) Biological Science Zoology Sem V** **TBS**	BS-C11
		IMMUNOLOGY Unit 7: Complement System pathways of complement activation.	B.Sc. (Hons.) Zoology Sem V TZH	DSE9
		MOLECULAR BIOLOGY Gene silencing, Genetic imprinting **Unit 8: Regulatory RNAs :** **Ribo-switches, RNA interference, miRNA, siRNA**	B.Sc. (Hons.) Zoology Sem V TZH	CCXI
		Cell Biology Unit VI: Cell cycle and regulation, programmed cell death and cancer: Programmed Cell Death.Biology and elementary knowledge of development and causes of cancer. • Salient features of transformed cells. Tumor viruses, oncogenes and suppressor genes	B.Sc (Hons.) Biological Science SZH Sem II	BS C-6
	Practicals:	• **GROWTH AND REPRODUCTION** Videos showing selective embryonic events like cleavage; gastrulation 5. Measurement of animal/plant cell size using ocular and stage micrometer.	**B.Sc. (H) Biological Science Zoology Sem V** **TBS**	BS-C11

		Cell Biology • Studyof Chloroplast,Mitochondrion, Golgi bodies, Lysosome	B.Sc (Hons.) Biological Science SZH Sem II	BS C-6
		ANIMAL DIVERSITY STUDY OF FOLLOWING SPECIMEN Chelone, Hemidactylus, Chamaeleon, Draco, Vipera, Nafa, Crocodylus, Gavialis, Any six common birds from different orders, Sorex, Bat, Funatnbulus, Loris 2, Study of the following permanent slides: T.S. and L.S. of Sycon, Study.. of life history stages of Taenia, Ts. of Male and female Ascaris 5. Study of Digestive, Reproductive and Nervous system of Cockroach. 6. Study of Urinogenital and Nervous system of Rat 3. Key for Identification of poisonous and non-poisonous snakes Revision/ mock exam	B.Sc.Life Sciences Zoology Sem I FLS Batch I	LS core 1

SEMESTER WISE TEACHING PLAN
SRI VENKATESWARA COLLEGE

Name of the Faculty: Dr. Riyaz Ahmed Bakshi

Department: Zoology

Semester: I, III   and V,   2020-21, ODD SEM

Month		Topics	Course	Paper Code/Name
AUGUST	**Theory**	KINDOM PROTISTA	B.Sc. (P) Life Sciences Sem. 1	CC-I,Animal diversity
		Unit 1: Basic concept of food and nutrition	B.Sc. (H) Zoology Sem III	GE-III, FOOD NUTRITION & HEALTH
		Unit 1: Nerve and muscle	B..Sc (H) Sem. III	CC-III, PHYSIOLOGY & BIOCHEMISTRY
		Unit 1:Introduction to Medical Diagnostics and its Importance	B.Sc. (P) Life Sciences Sem. V	SEC: MEDICAL DIAGNOSTICS
	Practicals	-Syllabus overview, general instructions and maintenance of lab record -ABO blood group typing. -Determination of bleeding time/clotting time With continuous evaluation Evaluation of students on their performance in practical.	B.Sc. (P) Life Sciences Sem. V	LS-SEC-3 Medical Diagnostics
		Plan of the syllabus and maintenance of record files. - Preparation of Haemin and Haemochromogen crystals from your own sample of blood - Biochemistry of Carbohydrates. Study of Permanent slides: Cartilage, bone, Spinal Cord, Liver, Pancreas, thyroid	B.Sc. (P) Life Sciences Sem. III	CC III Physiology and Biochemistry
		Determination of blood group, Blood pressure measurement, Hemoglobin content estimation	B.Sc. (H) Zoology Sem III	SEC: Medical Diagnostics

SEPTEMBER	**Theory**	PHYLUM PORIFERA	B.Sc. (P) Life Sciences Sem. 1	CC-I,Animal diversity
		Unit 2: Nutrition Carbohydrates, Lipids,Proteins-Definition, Classification, their dietary source and role	B.Sc. (H) Zoology Sem III	GE-III, FOOD NUTRITION & HEALTH
		Unit 1: Nerve and muscle	B.Sc. (H) Sem III	CC-III, PHYSIOLOGY & BIOCHEMISTRY
		Unit 3:Diagnostic Methods Used for Urine Analysis	B.Sc. (P) Life Sciences Sem. V	SEC: MEDICAL DIAGNOSTICS
	Practicals:	1-Estimation of haemoglobin content using Sahli's haemoglobinometer. 2-Analysis of urine for abnormal constituents. 3-Total leucocytes count from blood. With continuous evaluation Evaluation of students on their performance in practical and Record	B.Sc. (P) Life Sciences Sem. VI	LS-SEC-3 Medical Diagnostics
		Unit 2: Lipids : structure and significance	B.Sc. (H) Zoology Sem III	CC III Physiology and Biochemistry
		Total Leucocyte count, Abnormal constituents of urine, Testing of blood glucose, Ishihara charts	B.Sc. (H) Zoolgy Sem III	Medical Diagnostics
OCT.	**Theory**	METAZOA DTAIL STUDY	B.Sc. (P) Life Sciences Sem. I	CC-I,Animal diversity
		Vitamins- Fat-soluble and Water-soluble vitamins- their dietary source and importance	B.Sc. (H) Zoology Sem III	GE-III, FOOD NUTRITION & HEALTH
		Unit 6: Reproduction and Endocrine Glands	B.Sc. (H) Sem III	CC-III, PHYSIOLOGY & BIOCHEMISTRY
		Unit 5:Infectious Diseases	B.Sc. (P) Life Sciences Sem. V	SEC: MEDICAL DIAGNOSTICS
	Practicals	1. Measurement of blood pressure under normal and stress condition. 2. Estimation of blood glucose/ cholesterol by kit. 3. Detecting defects of colour vision	B.Sc. (P) Life Sciences Sem. V	LS-SEC-3 Medical Diagnostics

		by Ishihara Charts. 4. Interpretation of ECG With continuous evaluation Evaluation of students on their performance in practical and Record		
		Estimation of Total Protein in given solutions by Lowry's Method - Study of permanent slides: Pitutary, adrenal Gland, Duodenum,	B.Sc. (H) Zoology Sem III	CC III Physiology and Biochemistry
		Bleeding time and clotting time, Medical Imaging- X-ray, CT, MRI	B.Sc. (H) Zoology Sem III	Medical Diagnostics
	Test	• COVERED TOPICS	B.Sc. (H) Zoology Sem III	SEC: Public health & hygeine
		• COVERED TOPICS	B.Sc. (H) Zoology Sem V	CC-III, Physiology and Biochemistry
		• COVERED TOPICS	B.Sc. (H) Sem III	GE-III, Food, Nutrition &Health

Practical Examination

	Mid Term Test	• Test of covered topics	B.Sc. (P) Life Sciences Sem. VI	SEC: Medical Diagnostics
		• Test of covered topics	B.Sc. (P) Life Sciences Sem. III	CC-III, Physiology and Biochemistry

		• Test of covered topics	B.Sc. (H) Sem III	GE-III, FOOD NUTRITION & HEALTH y
NOV.	**Theory:**	REVISION OF UNIT -I	B.Sc. (P) Life Sciences Sem. I	CC-I,Animal diversity
		. Minerals- Iron, calcium, phosphorus, iodine, selenium and zinc: their biological functions	B.Sc. (P) Life Sciences Sem. III	GE-III, FOOD NUTRITION & HEALTH y
		Unit 6: Reproduction and Endocrine Glands	B.Sc. (H) Sem III	CC-III, PHYSIOLOGY & BIOCHEMISTRY
		Unit 6:Tumours	B.Sc. (P) Life Sciences Sem. V	SEC: MEDICAL DIAGNOSTICS
	Practicals:	• Detecting defects of colour vision by Ishihara Charts. 2. Interpretation of ECG. 3. Medical Imaging techniques: X-Ray of bone fracture, MRI, CT scan. With continuous evaluation Evaluation of students on their performance in practical and Record -Submission of Report and File, -Viva for practical exams. -Mock test	B.Sc. (P) Life Sciences Sem. V	SEC: Medical Diagnostics
		Repetition of Salivary amylase - Haemin and Haemochromo gen crystals - Mock Practical Exam	B.Sc. (H) Zoology Sem III	CC III Physiology and Biochemistry
		ECG, viva for practical exams	B.Sc. (H) Zoology Sem III	SEC: Medical Diagnostics

SEMESTER WISE TEACHING PLAN

SRI VENKATESWARA COLLEGE
July-Nov, 2020-2021 (Odd Semester)

Name of the Faculty: Dr. Vagisha Rawal
Department: Zoology
Semester: I/III/V

Month		Topics	Course	Paper Code/Name
August	Theory	**Management of excess population** • Bio- telemetry; Care of injured and diseased animal; Quarantine; Common diseases of wild animal • Quarantine; Population Viability an Habitat Analysis (PVHA), captive breeding and propagation, rescue, rehabilitation and reintroduction	B.Sc (H) Biological Sciences Sem V TBS	Wildlife Conservation and management (DSE IV)
		Biological Rhythm • Types and characteristics of biological rhythms: Short- and Long- term rhythms; Circadian rhythms; Tidal rhythms and Lunar rhythms;	B.Sc. (Hons.) Zoology Sem V (TZH)	Animal behavior & chronobiology (DSC-I)
	Practicals	**Medical Diagnostics** • ABO blood group determination • To measure the blood pressure using sphygmomanometer • To determine the blood clotting and bleeding time	B.Sc. Life Sciences Sem III	Medical diagnostics SEC
		Animal behavior & chronobiology • To study nests and nesting habits of the birds and social insects. • To study different patterns of behaviour : Imprinting, Habituation, FAP, Parental care • Study of circadian functions in humans (daily eating, sleep and temperature patterns). •	B.Sc. (Hons.) Zoology Sem V (TZH)	Animal behavior & chronobiology (DSC-I)
		Wildlife Conservation and management • Identification and Study of any five endangered mammalian fauna, avian fauna, herpetofauna • Demonstration of basic equipment needed in wildlife studies use, care and maintenance (Compass, Binoculars, Spotting scope, Range Finders)	B.Sc (H) Biological Sciences Sem V TBS	Wildlife Conservation and management (DSE IV)
September	Theory	**Habitat Analysis** • Evaluation and management of wild life - Physical parameters and Biological Parameters; • Standard evaluation procedures Geographical Information System (GIS), Global Positioning System (GPS), and Remote Sensing (RS).	B.Sc (H) Biological Sciences Sem V TBS	Wildlife Conservation and management (DSE IV)

		• Concept of synchronization and masking; Photic • and non-photic zeitgebers; Circannual rhythms; Role of melatonin.	B.Sc. (Hons.) Zoology Sem V (TZH)	Animal behavior & chronobiology (DSE 3)
	Practicals:	**Medical Diagnostics** • To estimate the blood glucose level by GOD-POD method • To calculate the Blood cells count through DLC method	B.Sc. Life Sciences Sem III	Medical diagnostics SEC
		Animal behavior & chronobiology • To study the behavioural responses of wood lice to dry condition. • To study the behavioural responses of wood lice to humid conditions. • Study and actogram construction of locomotor activity of suitable animal models.	B.Sc. (Hons.) Zoology Sem V (TZH)	Animal behavior & chronobiology (DSC-I)
		Wildlife Conservation and management • Demonstration of basic equipment needed in wildlife studies use, care and maintenance: Global Positioning System, Various types of Cameras and lenses) • PCQ, Ten tree method, Circular, Square & rectangular plots other methods for ground cover assessment, Tree canopy cover assessment, Shrub cover assessment.	B.Sc (H) Biological Sciences Sem V TBS	Wildlife Conservation and management (DSE IV)
October	**Theory**	**Human-wildlife Conflict** • Poaching, illegal trading, conflict management and shifting from extraction to preservation; effect of extinction of a species on ecosystem; Forest landscape restoration.	B.Sc (H) Biological Sciences Sem V TBS	Wildlife Conservation and management (DSE IV)
		• Sexual Behaviour: Asymmetry of sex, Sexual dimorphism, Mate choice, Intra-sexual selection (male rivalry), Inter-sexual selection (female choice), Sexual conflict in parental care.	B.Sc. (Hons.) Zoology Sem V (TZH)	Animal behavior & chronobiology (DSC-I)
	Practical	**Medical Diagnostics** • To determine the different abnormal constituents of urine • To study the different medical techniques: CT-SCAN, MRI, X-RAY,ULTRASOUND	B.Sc. Life Sciences Sem III	Medical diagnostics SEC
		Wildlife Conservation and management • Trail / transect monitoring for abundance and diversity estimation of mammals and bird (direct and indirect evidences)	B.Sc (H) Biological Sciences Sem V TBS	Wildlife Conservation and management (DSE IV)
		Animal behavior & chronobiology • To study geotaxis behaviour in earthworm. • To study the phototaxis behaviour in insect larvae.	B.Sc. (Hons.) Zoology Sem V (TZH)	Animal behavior & chronobiology (DSC-I)

	Assignment	**WILD LIFE CONSERVATION AND MANAGEMENT** • Powerpoint presentations on the topics from syllabus	B.Sc (H) Biological Sciences Sem V TBS	Wildlife Conservation and management (DSE IV)
		Animal behavior and chronobiology Topic: PPTs on Animal behavior related concepts	B.Sc. (Hons.) Zoology Sem V (TZH)	Animal behavior & chronobiology (DSC-I)
	Mid Term Test	**Animal behavior and chronobiology** Test will include all the topics covered	B.Sc. (Hons.) Zoology Sem V (TZH)	Animal behavior & chronobiology (DSC-I)
		WILD LIFE CONSERVATION AND MANAGEMENT Test will include all the topics covered	B.Sc (H) Biological Sciences Sem V TBS	Wildlife Conservation and management (DSE IV)
November	**Theory:**	**Modern Concepts of Management** • Protected Area Network (PAN), WWFN, IUCN, and CITES. Wild life Legislation – Wildlife Protection act (1972), its amendments and implementation. IUCN Red data book and red list categories (only names),	B.Sc (H) Biological Sciences Sem V	Wildlife Conservation and management DSE-IV
		• To study behavioural activities of animals and prepare a short report.	B.Sc. (Hons.) Zoology Sem V (TZH)	Animal behavior & chronobiology (DSC-I)
	Practicals:	• Revision/ mock exam	B.Sc. Life Sciences Sem III	Medical diagnostics SEC
		• Revision/ mock exam	B.Sc (H) Biological Sciences Sem V TBS	Wildlife Conservation and management (DSE IV)
		• Revision/Mock test	B.Sc. (Hons.) Zoology Sem V (TZH)	Animal behavior & chronobiology (DSC-I)

SEMESTER WISE TEACHING PLAN (2020-2021)
SRI VENKATESWARA COLLEGE
August-November, 2020 (Lockdown Period)

Name of the Faculty: Dr. Richa Misra

Department: Zoology

Semester: III, V (Odd)

Month		Topics	Course	Paper Code/Name
AUGUST	**Theory: (2+1+2 periods)**	Introduction to Reproductive Physiology, Unit 5: Male reproductive system, puberty	B. Sc. (H) Zoology 2nd year Sem III	CC-VI: Physiology
		Introduction to Basic Chordate Characters, Unit 4: Agnatha, Unit 5: Pisces	B. Sc. (H) Zoology 2nd year Sem III	CC-V/ Diversity of Chordates
		Introduction to Genetics, Polygenic Inheritance	B.Sc. (H) Zoology 3rd year Sem V	CC-XII/Principles of Genetics
	Practicals:	Introduction to Mendelian Genetics, Instructions for maintaining records, Exercise No. 5: Study of human karyotype, Exercise No. 6: Pedigree analysis of some human inherited traits.	B.Sc. (H) Zoology 3rd year Sem V	CC-XII/Principles of Genetics
		Protochordates, Agnatha, Fishes: Specimens and cross-sections, Instructions for Maintaining records	B. Sc. (H) Zoology 2nd year Sem III	CC-V/ Diversity of Chordates
		Determination of blood group, Blood pressure measurement, Hemoglobin content estimation Instructions for Maintaining records	B.Sc Zoology 2nd year Sem III	SEC/ Medical Diagnostics
SEPTEMBER	**Theory:**	Unit 5: female reproductive system, methods of contraception, unit 6: Endocrine system	B. Sc. (H) Zoology 2nd year Sem III	CC-VI: Physiology
		Unit 5: Pisces contd.	B. Sc. (H) Zoology 2nd year Sem III	CC-V/ Diversity of Chordates
		Unit 2. Linkage, Crossing Over and Chromosomal Mapping, Unit 8: Transposable Genetic elements;	B.Sc. (H) Zoology 3rd year Sem V	CC-XII/Principles of Genetics
	Practicals	Exercise No. 1: To study the Mendelian laws and gene interactions. Exercise No. 2: Chi-square analyses using seeds/beads/Drosophila. Exercise No. 4: Linkage maps based on data from *Drosophila* crosses.	B. Sc. (H) Zoology 3rd year Sem V	CC-XII/Principles of Genetics
		Amphibia, Reptilia, Aves: Specimens and cross-sections	B. Sc. (H) Zoology 2nd year Sem III	CC-V/ Diversity of Chordates
		Total Leucocyte count, Abnormal constituents of urine, Testing of blood glucose, Ishihara charts	B.Sc Zoology 2nd year Sem III	SEC/ Medical Diagnostics
	<u>**Assignment**</u>	Topics for presentation assigned to students related to disorders affecting the various tissues, bone, muscles, nervous, reproductive and endocrine system	B. Sc. (H) Zoology 2nd year Sem III	CC-VI: Physiology
		1) How Drosophila melanogaster is used as a model organism? 2) Highlight any 1 area of research related to implication of transposons.	B.Sc. (H) Zoology 3rd year Sem V	CC-XII/Principles of Genetics
OCTOBER	**Theory**	Unit 6 contd: Endocrine system	B. Sc. (H) Zoology 2nd year Sem III	CC-VI: Physiology
		Unit 6: Amphibia, Revision of Topics	B. Sc. (H) Zoology 2nd year Sem III	CC-V/ Diversity of Chordates

		Unit 8: Transposable Genetic elements contd, Unit 7: Recombination in bacteria and viruses	B.Sc. (H) Zoology 3rd year Sem V	CC-XII/Principles of Genetics
	Practicals:	Exercise No. 3: Linkage maps based on data from conjugation, transformation and transduction.	B.Sc. (H) Zoology 3rd year Sem V	CC-XII/Principles of Genetics
		Mammals, Presentation on selected animal given by students-Evaluation and feedback	B. Sc. (H) Zoology 2nd year Sem III	CC-V/ Diversity of Chordates
		Bleeding time and clotting time, Medical Imaging-X-ray, CT, MRI	B.Sc Zoology 2nd year Sem III	SEC/ Medical Diagnostics
	Mid Term Test (IA)	Time-bound OBE test of covered topics	B. Sc. (H) Zoology 2nd year Sem III	CC-VI: Physiology
		Time-bound OBE test of covered topics	B. Sc. (H) Zoology 2nd year Sem III	CC-V/ Diversity of Chordates
		Time-bound OBE test of covered topics	B.Sc. (H) Zoology 3rd year Sem V	CC-XII/Principles of Genetics
NOVEMBER	**Theory:**	Discussion of Mid-term Test paper and previous year question papers, Revision of topics	B. Sc. (H) Zoology 2nd year Sem III	CC-VI: Physiology
		Discussion of Mid-term Test paper and previous year question papers, Revision of Topics	B. Sc. (H) Zoology 2nd year Sem III	CC-V/ Diversity of Chordates
		Unit 7: Recombination in bacteria and viruses, Discussion of assignment and previous year	B.Sc. (H) Zoology 3rd year Sem V	CC-XII/Principles of Genetics
	Practicals:	Revision exercises, viva for practical exams	B.Sc. (H) Zoology 3rd year Sem V	CC-XII/Principles of Genetics
		Revision exercises, viva for practical exams	B. Sc. (H) Zoology 2nd year Sem III	CC-V/ Diversity of Chordates
		ECG, viva for practical exams	B.Sc Zoology 2nd year Sem III	SEC/ Medical Diagnostics

Name of the Faculty: Dr. Namita Nayyar   **Department: Zoology**

Semester: Odd (I, III, V)

Month		Topics	Course	Paper Code/Name
AUGUST	**Theory:**	- Intoduction to Chordata **Unit 2: Protochordata** General characteristics of Hemichordata, Urochordata and Cephalochordata; Study of larval forms in protochordates; Retrogressive metamorphosis in Urochordata **Unit 3: Origin of Chordata** Dipleurula concept and the Echinoderm theory of origin of chordates. Advanced features of vertebrates over Protochordata	B.Sc. (H) Zoology Semester III	Diversity of Chordata CC V
		- Introduction to Biotechnology **Unit 2: Molecular Techniques in Gene manipulation** Transformation techniques; Calcium chloride method and electroporation. Construction of genomic and cDNA libraries and screening by colony and plaque hybridization	B.Sc (P) Life Science Semester V	Animal Biotechnology DSE
	Practicals:	- Genomic DNA isolation - Agarose Gel Electrophoresis - Transformation Efficiency Concept and Exercises	B.Sc (P) Life Science Semester V **(Batch I, II)**	Animal Biotechnology DSE
		- Preparation of liquid culture medium (LB) and raise culture of *E. coli* - Estimation of the growth kinetics of *E. coli* by turbidity method -Preparation of solid culture medium (LB) and growth of *E. coli* by spreading and streaking - Demonstration of antibiotic sensitivity/resistance of *E. coli* to antibiotic pressure and interpretation of results	B.Sc. (H) Zoology Semester V	Molecular Biology CC XI
SEPTEMBER	**Theory:**	**Unit 4: Agnatha** General characteristics and classification of cyclostomes up to class **Unit 8: Aves**	B.Sc. (H) Zoology Semester III	Diversity of Chordata CC V

		General characteristics and classification up to order *Archaeopteryx*-- a connecting link;		
		Unit 2: Molecular Techniques in Gene manipulation Southern, Northern and Western blotting; DNA sequencing: Sanger method Polymerase Chain Reaction, DNA Finger Printing and DNA micro array	B.Sc (P) Life Science Semester V	Animal Biotechnology DSE
	Practicals:	- Plamid isolation. - Agarose gel electrophoresis of plasmid samples - Restriction Mapping - Spotting: PCR	B.Sc (P) Life Science Semester V **(Batch I, II)**	Animal Biotechnology DSE
		- Study of Polytene chromosomes from Chironomous / Drosophila larvae - Quantitative estimation of salmon sperm/calf thymus DNA using colorimeter (Diphenylamine reagent) or spectrophotometer (A260 measurement)	B.Sc. (H) Zoology Semester V	Molecular Biology CC XI
Assignment		- Gene Therapy or Molecular Diagnostics of Genetic Diseases or Vaccines	B.Sc (P) Life Science Semester V	Animal Biotechnology DSE
		- Previous years question papers	B.Sc. (H) Zoology Semester III	Diversity of Chordata CC V
Mid Term Test		Syllabus Covered till September		
		Syllabus Covered till September		
OCTOBER	**Theory**	**Unit 8: Aves** Principles and aerodynamics of flight, Flight adaptations and Migration in birds **Unit 9: Mammals** General characters and classification up to order; Affinities of Prototheria; Adaptive radiation with reference to locomotory appendages	B.Sc. (H) Zoology Semester III	Diversity of Chordata CC V
		Unit 3: Genetically Modified Organisms Production of transgenic plants: *Agrobacteriurn* mediated transformation. Applications of transgenic plants: insect and herbicide resistant plants. **Unit 4: Culture Techniques and Applications** Animal cell culture, Expressing cloned genes in mammalian cells, Molecular diagnosis of genetic diseases (Cystic fibrosis, Sickle cell anemia)	B.Sc (P) Life Science Semester V	Animal Biotechnology DSE

	Practicals:	- Spotting: Southern Blotting, Northern Blotting, Western Blotting, DNA sequencing, Restriction Digestion,	B.Sc (P) Life Science Semester V **(Batch I, II)**	Animal Biotechnology DSE
		- Quantitative estimation of RNA using Orcinol reaction - Study and interpretation of electron micrographs/ photograph showing (a) DNA replication (b) Transcription (c) Split genes	B.Sc. (H) Zoology Semester V	Molecular Biology CC XI
	Theory:	**Unit 10: Zoogeography** Zoogeographical realms, Theories pertaining to distribution of animals, Plate tectonic and Continental drift theory, distribution of vertebrates in different realms	B.Sc. (H) Zoology Semester III	Diversity of Chordata CC V
NOVEMBER		**Unit 4: Culture Techniques and Applications** Recombinant DNA in medicines: Recombinant insulin and human growth hormone, Gene therapy	B.Sc (P) Life Science Semester V	Animal Biotechnology DSE
	Practicals:	- Mock exam, evaluating project report.	B.Sc (P) Life Science Semester V **(Batch I, II)**	Animal Biotechnology DSE
		- Mock exam, Revision of Certain topics.	B.Sc. (H) Zoology Semester V	Molecular Biology CC XI

Name of the Faculty: Dr. Preeti Khandelwal
Department: Zoology
Semester (I/III/V)
Theory:
B.Sc. (H) Zoology Semester III (**CC VII- Fundamentals of Biochemistry**)
B.Sc. (H) Semester III (**GEIII-Food, Nutrition and Health)**
Practical:
B.Sc. (P) Life Sciences Semester V (**Animal Biotechnology)**
B.Sc. (H) Zoology Semester III (**CC VII- Fundamentals of Biochemistry**)
B.Sc. (P) Life Sciences III (**Physiology and Biochemistry**)

Month		Topics	Course	Paper Code/Name
July	**Theory:**	**Unit 3- Proteins:** **Amino Acid:** Structure, classification and general properties of α-amino acids	B.Sc. (H) Zoology Semester III	**CC VII/ Fundamentals of Biochemistry**
		Unit 3: Health Introduction to Health-Definition and concept of health	B.Sc. (H) Semester III	**GEIII/ Food, Nutrition and Health**
	Practical:	Qualitative tests of functional groups in carbohydrates Qualitative tests of functional groups in	B.Sc. (Hons.) Zoology Sem III SZH	CC VII/ **Fundamentals of biochemistry**
		Plan of the syllabus and maintenance of record files. Preparation of Haemin and Haemochromogen crystals from your own sample of blood	B.Sc. (P.) Life Sciences Sem III SLS	**Physiology and Biochemistry**
		Syllabus discussion and how to make and maintain the Practical record Plan/designing of experiment Introduction to the Practical Preparation of Liquid culture medium (LB) and raise culture of *E.coli*	B.Sc. (P) Life Sciences Semester V (Batch III)	**Animal Biotechnology- DSE**
August	**Theory:**	Physiological importance of essential and non-essential α-amino acids. Proteins- Bond stabilizing protein structure: levels of organization in proteins, Denaturation	B.Sc. (H) Zoology Semester III	**CC VII/ Fundamentals of Biochemistry**
		Major nutritional deficiency diseases- Protein Energy Malnutrition (Kwashiorkar and Marasmus), Vitamin A deficiency disorders, Iron deficiency disorders, iodine deficiency disorders-their causes, symptoms, treatment, prevention and government programs, if any	B.Sc.(H) Semester III	**GEIII/ Food, Nutrition and Health**

		Paper chromatography of amino acids. Action of salivary amylase under optimum conditions Repeated Action of salivary amylase under optimum conditions	B.Sc. (Hons.) Zoology Sem III	CC VII/ **Fundamentals of biochemistry**
	Practicals:	Preparation of Haemin and Haemochromogen Crystals from your own sample of blood. Biochemistry of Carbohydrates. Study of permanent slides: Cartilage, bone, Spinal cord, liver, pancreas, thyroid	B.Sc. (P.) Life Sciences Sem III SLS	Physiology and Biochemistry
		-Isolation of genomic DNA -Agarose gel electrophoresis Transformation efficiency concept and numerical practice	B.Sc. (P) Life Sciences Sem V (Batch III)	**Animal Biotechnology- DSE**
September	**Theory:**	Introduction to simple and conjugate proteins. Immunoglobulins: Basic structure, Classes and function	B.Sc. (H) Zoology Semester III	**CC VII/ Fundamentals of Biochemistry**
		Life style related diseases-hypertension, diabetes mellitus and Obesity- their causes and prevention through dietary and lifestyle modifications	B.Sc. Semester III	**GEIII/ Food, Nutrition and Health**
		- Plasmid DNA isolation (pUC 18/19) from *E. coli,* Separation of Plasmid DNA using Agarose Gel Electrophoresis -Restriction Mapping -Study Of PCR Restriction digestion of plasmid DNA	B.Sc. (P) Life Sciences Sem V (Batch III)	**Animal Biotechnology- DSE**
	Practicals	Demonstration of salivary amylase activity under optimum conditions. Study of permanent slides: liver , kidney, lung	B.Sc. (P.) Life Sciences Sem III SLS	**Physiology and Biochemistry**
		Effect of pH on the action of salivary amylase. Effect of temperature on the action of salivary amylase Repetition of above experiments	B.Sc. (Hons.) Zoology Sem III	**CC VII/ Fundamentals of Biochemistry**
	Assignment	Levels of organization in proteins, Denaturation and Renaturation of DNA, Types of DNA and RNA, Complementarity of DNA (Four Topics are given according to roll numbers)	B.Sc. (H) Zoology Semester III	**CC VII/ Fundamentals of Biochemistry**

		Social Health problems-Smoking, alcoholism, drug dependence and Acquired Immuno Deficiency Syndrome (AIDS)- their causes, treatment and prevention	B.Sc. Semester III	**GEIII/ Food, Nutrition and Health**
October	**Theory**	Antigenic Determinants, **Unit 4: Nucleic acids:** Structure: purines and Pyrimidines, Nucleosides, Nucleotides, Nucleic acids, Cot curves, base pairing	B.Sc. (H) Zoology Semester III	**CC VII/ Fundamentals of Biochemistry**
		Social Health Problems- Smoking, alcoholism, Drug dependenc and acquired immune deficiency syndrome (AIDS)- their causes, treatment and prevention	B.Sc.(Hons) Semester III	**GEIII/ Food, Nutrition and Health**
	Practicals:	Construction of circular and linear restriction map from the data provided, Calculation of transformation efficiency from the data provided, To study following techniques through photographs: a) Southern Blotting b) Northern Blotting c) Western Blotting f) DNA Fingerprinting	B.Sc.(P) Life Sciences Sem V (Batch III)	**Animal Biotechnology- DSE**
		Estimation of total protein in given solution by Lowry's method. Study of permanent slides: Pituitary gland, adrenal gland, Duodenum	B.Sc. (P.) Life Sciences Sem III SLS	**Physiology and Biochemistry**
		Effect of inhibitors on the action of salivary amylase Repetition of effect of temperature on the action of salivary amylase	B.Sc. (Hons.) Zoology Sem III	**CC VII/ Fundamentals of biochemistry**
	Mid Term Test	Physiological importance of essential and non-essential α-amino acids. Proteins- Bond stabilizing protein structure: levels of organization in proteins, Denaturation	B.Sc. (H) Zoology Semester III	**CC VII/ Fundamentals of Biochemistry**
		Major nutritional deficiency diseases- Protein Energy Malnutrition (Kwashiorkar and Marasmus), Vitamin A deficiency disorders, Iron deficiency disorders, iodine deficiency disorders-their causes, symptoms, treatment, prevention and government programs, if any. Social Health problems-Smoking, alcoholism, drug dependence and Acquired Immuno Deficiency Syndrome (AIDS)- their causes, treatment and prevention	B.Sc.(H) Semester III	**GEIII/ Food, Nutrition and Health**
November	**Theory:**	Denaturation and Renaturation of DNA, Types of DNA and RNA, Complementarity of DNA, Hypo-Hyperchromaticity of DNA	B.Sc. (H) Zoology Semester III	**CC VII/ Fundamentals of Biochemistry**
		Common ailments: Cold, cough and fevers, their causes and treatment	B.Sc.(H) Semester III	**GEIII/ Food, Nutrition and Health**

		Evaluation of Practical File and Practice and repetition of practical; Conduct of mock practical examination		
Practical:		Evaluation of Practical File and Practice and repetition of practical; Haemin and Haemochromogen Crystals. Conduct of mock practical examination	B.Sc. (P.) Life Sciences Sem III SLS	**Physiology and Biochemistry**
		Demonstration of proteins separation by SDS-PAGE Evaluation of Practical File Practice and repetition of practical Conduct of Mock examination.	B.Sc. (Hons.) Zoology Sem III SZH	**CC VII/ Fundamentals of Biochemistry**

SRI VENKATESWARA COLLEGE
July-November, 2020

Name of the Faculty: Dr.Sadqua Shameem

Department: :   Zoology

Semester: I /III/V

Month		Topics	Course	Paper Code/Name
AUGUST	**Theory:**	▪ **Unit 4:** Food hygiene: Food and Water borne infections; Bacterial infection:	B.Sc. (Hons.) Sem III	**GE III /** Food, Nutrition and Health
		Unit IV: Endomembrane system and peroxisomes - Structure and functions of endoplasmic reticulum and Golgi apparatus,	B.Sc. (Hons.) Biological Science Sem III	**(BS C-6)** Cell Biology
		Unit 2: Medical Diagnostics of Body Fluids- Blood composition, Blood bank, Transfusion of blood,	B.Sc. Life Sciences Sem III	**LS-SEC-3** Medical Diagnostics
		Unit 1: Nerve and Muscle Structure of a neuron, Resting membrane potential, Graded potential,	B.Sc. Life Sciences Sem III	**LS Core III:** Physiology and Biochemistry
	Practicals:	-Syllabus overview, general instructions and maintenance of lab record -ABO blood group typing. -Determination of bleeding time/clotting time *With continuous evaluation* Evaluation of students on their performance in practical.	B.Sc. Life Sciences Sem V	**LS-SEC-3** Medical Diagnostics
		- Plan of the syllabus and maintenance of record files. - Preparation of Haemin and Haemochromogen crystals from your own sample of blood *With continuous evaluation* Evaluation of students on their performance in practical and Record	BSc. Life Science Sem-III (Batch II, III)	**CC III** Physiology and Biochemistry

SEPTEMBER	**Theory:**	▪ Cholera, typhoid fever, dysentery; ▪ **Viral infection:** Hepatitis, Poliomyelitis; Protozoan infection: amoebiasis, giardiasis;	B.Sc. (Hons.) Sem III	**GE III** / Food, Nutrition and Health
		Unit IV: Endomembrane system and peroxisomes- Protein trafficking, coated vesicles in cellular transport processes,*;*	.Sc. (Hons.) Biological Science Sem III	**(BS C-6)** Cell Biology
		Unit II - RBC, WBC and platelet count using haemocytometer, Erythrocyte Sedimentary Rate (E.S.R), Packed Cell Volume (P.C.V.),	B.Sc. Life Sciences Sem III	**LS-SEC-3** Medical Diagnostics
		Unit 1: Nerve and Muscle Origin of action potential and its propagation in myelinated and non-myelinated nerve fibres,	B.Sc. Life Sciences Sem III	**LS Core III:** Physiology and Biochemistry
	Practicals:	1-Estimation of haemoglobin content using Sahli's haemoglobinometer. 2-Analysis of urine for abnormal constituents. 3-Total leucocytes count from blood. *With continuous evaluation* Evaluation of students on their performance in practical and Record	B.Sc. Life Sciences Sem V	**LS-SEC-3** Medical Diagnostics
		Preparation of Haemin and Haemochromogen crystals from your own sample of blood - Biochemistry of Carbohydrates. - Study of Permanent slides: Cartilage, bone, Spinal Cord, Liver, Pancreas, thyroid *With continuous evaluation* Evaluation of students on their performance in practical and Record	BSc. Life Science Sem-III (Batch II, III)	**CC III** Physiology and Biochemistry
	Assignment	Separate questions will be given to students from previous year question paper	B.Sc. (Hons.) Sem III	**GE III** / Food, Nutrition and Health
		Separate questions will be given to students from previous year question paper	B.Sc. (Hons.) Biological Science Sem III	**(BS C-6)** Cell Biology

		Separate questions will be given to students from previous year question paper	B.Sc. Life Sciences Sem III	**LS Core III:** Physiology and Biochemistry
OCTOBER	**Theory:**	▪ **Parasitic infection:** taeniasis and ascariasis their transmission, causative agent, sources of infection, symptoms and prevention;	B.Sc. (Hons.) Sem III	**GE III /** Food, Nutrition and Health
		GERL. Structure, polymorphic form and functions of lysosomes. Structure and function of peroxisomes.	.Sc. (Hons.) Biological Science Sem III	**(BS C-6)** Cell Biology
		Unit –2 Analysis of urine, sputum, faeces and semen(sperm count) Unit 4: Diagnostics Microbiology Methods to diagnose and isolate infectious agents of diseases like Tuberculosis	B.Sc. Life Sciences Sem III	**LS-SEC-3** Medical Diagostics
		Unit 6:Reproduction and Endocrine Glands Physiology of male reproduction: hormonal control of spermatogenesis; Physiologyof female reproduction: hormonal control of menstrual cycle. Structure and function of pituitary, thyroid,	B.Sc. Life Sciences Sem III	**LS Core III:** Physiology and Biochemistry
	Practicals:	1. Measurement of blood pressure under normal and stress condition. 2. Estimation of blood glucose/ cholesterol by kit. 3. Detecting defects of colour vision by Ishihara Charts. 4. Interpretation of ECG *With continuous evaluation* Evaluation of students on their performance in practical and Record	B.Sc. Life Sciences Sem V	**LS-SEC-3** Medical Diagostics
		-Demonstration of salivary amylase activity under optimal conditions. - Study of permanent slides: Liver, kidney, Lung. *With continuous evaluation* Evaluation of students on their performance in	BSc. Life Science Sem-III (Batch II, III)	**CC III** Physiology and Biochemistry

		practical and Record.		
	Mid Term Test	Test questions in DU exam pattern of covered topics	B.Sc. (Hons.) Sem III	**GE III /** Food, Nutrition and Health
		Test questions in DU exam pattern of covered topics	B.Sc. (Hons.) Biological Science Sem III	**(BS C-6)** Cell Biology
		Test questions in DU exam pattern of covered topics	B.Sc. Life Sciences Sem III	**LS Core III:** Physiology and
NOVEMBER	**Theory**	▪ Brief account of food spoilage: Causes of food spoilage and their preventive measures.	B.Sc. (Hons.) Sem III	**GE III /** Food, Nutrition and Health
		Unit V: Signal transduction mechanism - Signaling molecules and their receptors, functions, brief introduction of the six types of signaling pathways,	B.Sc. (Hons.) Biological Science Sem III	**(BS C-6)** Cell Biology
		Unit – 4 Hepatitis and AIDS.	B.Sc. Life Sciences Sem III	**LS-SEC-3** Medical Diagostics
		Unit 6 -Parathyroid, pancreas and adrenal gland.	B.Sc. Life Sciences Sem III	**LS Core III:** Physiology and Biochemistry
	Practicals:	1. Detecting defects of colour vision by Ishihara Charts. 2. Interpretation of ECG. 3. Medical Imaging techniques: X-Ray of bone fracture, MRI, CT scan. *With continuous evaluation* Evaluation of students on their performance in practical and Record -Submission of Report and File, -Viva for practical exams. -Mock test	B.Sc. Life Sciences Sem V	**LS-SEC-3** Medical Diagnostics
		-Estimation of Total Protein in given solutions by Lowry's Method - Study of permanent slides: Pitutary, adrenal Gland, Duodenum, -Repetition of Salivary amylase	BSc. Life Science Sem-III (Batch II, III)	**CC III** Physiology and Biochemistry

		- Haemin and Haemochromogen crystals *With continuous evaluation* Evaluation of students on their performance in practical and Record. -Submission of Report and File, -Mock Practical Exam		

SEMESTER WISE TEACHING PLAN
July-Dec (2020)
SRI VENKATESWARA COLLEGE

Name of the Faculty:Dr. Aarti Seherawat   **Department: Zoology**

Semester : I/III/V

Month		Topics	Course	Paper Code/Name
August	**Theory**	**Unit 3:** Mutations: Gene Mutation - Classification - Chromosomal aberrations	BSc. Zoology Hons. V Sem	CC XII Principles of Genetics
		Unit 4: Non-infectious Diseases Causes, Types, Symptoms, Diagnosis and Prevention of Diabetes	BSc. Zoology Hons. III Sem	SEC Medical Diagnostics
		Unit 3: Genetically modified organisms - Production of cloned and Transgenic animals	BSc. Life Science V Sem	DSE 1 Animal Biotechnology
		Unit 1: Carbohydrates: - Structure - Biological importance - Monosaccharide,	BSc. Zoology Hons. III Sem	CC VII Fundamentals of Biochemistry
	Practicals	- Plan of the syllabus and maintenance of record files. - Preparation of Haemin and Haemochromogen crystals from your own sample of blood	BSc. Life Science III Sem **(Batch I, II, III)**	CC III Physiology and Biochemistry
	Tutorials			
September	**Theory:**	**Unit 3:** Mutations: - Molecular basis of mutation	BSc. Zoology Hons. V Sem	CC XII Principles of Genetics
		Unit 4: Non-infectious Diseases - Causes, Types, Symptoms, Diagnosis and Prevention of Hypertention	BSc. Zoology Hons. III Sem	SEC Medical Diagnostics

		Unit 3: Genetically modified organisms - Nuclear Transplantation	BSc. Life Science V Sem	DSE 1 Animal Biotechnology
		Unit 1: Carbohydrates: - Structure and Biological importance of Polysaccharides and Glycoconjugates.	BSc. Zoology Hons. III Sem	CC VII Fundamentals of Biochemistry
	Practicals:	- Preparation of Haemin and Haemochromogen crystals from your own sample of blood - Biochemistry of Carbohydrates. Study of Permanent slides: Cartilage, bone, Spinal Cord, Liver, Pancreas, thyroid	BSc. Life Science III Sem **(Batch I, II, III)**	CC III Physiology and Biochemistry
	Tutorials:			

		Assignment :		
October	**Theory:**	Unit 3: Retroviral Method	BSc. Life Science V Sem	DSE 1 Animal Biotechnology
		Unit 3: Mutations - Detection of mutation	BSc. Zoology Hons. V Sem	CC XII Principles of Genetics
		Unit 4: Infectious Diseases Causes, Types, Symptoms, Diagnosis and Prevention of Tuberculosis	BSc. Zoology Hons. III Sem	SEC Medical Diagnostics
		Unit 2: Lipids : structure and significance	BSc. Zoology Hons. III Sem	CC VII Fundamentals of Biochemistry
	Practicals:	- Demonstration of salivary amylase activity under optimal conditions. Study of permanent slides: Liver, kidney, Lung	BSc. Life Science III Sem **(Batch I, II, III)**	CC III Physiology and Biochemistry
	Tutorials:			
	Test	**Unit 1:** Mendelian Gene extension **Unit 3:** Mutations **Unit 4:** Sex Determination	BSc. Zoology Hons. V Sem	CC XII Principles of Genetics
November	**Theory:**	Unit 3: DNA Microinjection Applications of Transgenic animals	BSc. Life Science V Sem	DSE 1 Animal Biotechnology
		Unit 4: Sex determination - Drosophila - Man	BSc. Zoology Hons. V Sem	CC XII Principles of Genetics
		Unit 4: Infectious Diseases Causes, Types, Symptoms, Diagnosis and Prevention of Hepatitis **Unit 6:** Tumors	BSc. Zoology Hons. III Sem	SEC Medical Diagnostics
		Unit 2: Lipids: - Saturated and Unsaturated fatty acids, Tri-acylglycerols. - Phospholipids and	BSc. Zoology Hons. III Sem	CC VII Fundamentals of Biochemistry

Practicals:	- Estimation of Total Protein in given solutions by Lowry's Method - Study of permanent slides: Pitutary, adrenal Gland, Duodenum, - Mock exam	BSc. Life Science III Sem **(Batch I, II, III)**	CC III Physiology and Biochemistry
Tutorials:			

Name of the Faculty: Mrs. Himani Khurana
Department: Zoology
Semester: Odd – I

Subjects:
THEORY: B.Sc. (H) Zoology, Semester I: **Non-Chordates I: Protists to Pseudocoelomates, Principles of Ecology, GE: Insect Vector and Disease**
B.Sc. (H) Biological Sciences, Semester I: **Light and Life**
PRACTICAL: B.Sc. (H) Zoology, Semester I: **Non-Chordates I: Protists to Pseudocoelomates, Principles of Ecology**

Month			Topics	Course	Paper Code/Name
December, 2020	Theory:		**Unit 6: Platyhelminthes** General characteristics and Classification up to classes; Life cycle and pathogenicity of *Fasciola hepatica*	B.Sc. (H) Zoology, Semester I	**CC I/ Non-Chordates I: Protists to Pseudocoelomates**
			Unit 2: Population Unitary and Modular populations; Unique and group attributes of population: Density, natality, mortality, life tables, fecundity tables, survivorship curves, age ratio, sex ratio, dispersal and dispersion	B.Sc. (H) Zoology, Semester I	**CC II/ Principles of Ecology**
			Unit 1: Introduction to Insects General Features of Insects, Classification of insects up to Orders- key identification features; Morphological features: Head- Eyes, Types of antennae, Types of Mouth parts w.r.t. feeding habits: siphoning type (butterfly), sponging type (housefly), biting and chewing type (cockroach), piercing and sucking type (mosquito), chewing and lapping type (honey bee); thorax: types of legs	B.Sc. (H) Zoology, Semester I	**GE: Insect Vector and Disease**
			Unit I: Introduction to Light and Life Light as an ecological factor affecting distribution of plants and animals (Zoo geography), in terrestrial and aquatic ecosystems. Latitudinal Diversity gradient. Altitudinal and latitudinal variations in light intensity and photoperiod. Diel vertical migration	B.Sc. (H) Biological Sciences, Semester I	**BS C-2/Light and Life**
	Practical:		**Experiment 1:** Study of whole mount of *Euglena*, *Amoeba*, *Noctiluca*, *Paramecium*, Binary fission in *Paramecium* and Conjugation in *Paramecium*	B.Sc. (H) Zoology, Semester I	**CC I/ Non-Chordates I: Protists to Pseudocoelomates**

		Experiment 2: Examination of pond water collected from different places to observe diversity in Protista		
		Experiment 1: Study of life tables and plotting of survivorship curves of different types from the hypothetical/real data provided	B.Sc. (H) Zoology, Semester I	**CC II/ Principles of Ecology**
January, 2021	**Theory:**	**Unit 6: Platyhelminthes** Life cycle and pathogenicity of *Taenia solium*; Parasitic adaptations in Platyhelminthes	B.Sc. (H) Zoology, Semester I	**CC I/ Non-Chordates I: Protists to Pseudocoelomates**
		Unit 2: Population Exponential and logistic growth, equation and patterns, r and k strategies, Population regulation; Density-dependent and independent factors	B.Sc. (H) Zoology, Semester I	**CC II/ Principles of Ecology**
		Unit 2: Concept of Vectors Brief introduction to carriers and vectors (mechanical and biological vector); Insect reservoirs; Host-vector relationship; Vectorial capacity; Adaptations in insects to act as vectors; Host Specificity; Modes of disease transmission- vertical and horizontal transmission **Unit 3: Insects as Vectors** Features of Orders with insects as vectors (Diptera, Siphonaptera, Siphunculata, Hemiptera) w.r.t. evolutionary, anatomical, physiological, cellular and molecular adaptations towards their role as vectors	B.Sc. (H) Zoology, Semester I	**GE: Insect Vector and Disease**
		Unit II: Photoreception Photoreception in animals, opsins evolution of eyes, color vision and visual processing in human eye **Unit IV: Bioluminescence** Definition, discovery, diversity of organisms, Functions and mechanism of Bioluminescence (*Photinus pyralis*, *Aequorea victoria*)	B.Sc. (H) Biological Sciences, Semester I	**BS C-2/Light and Life**
	Practical:	**Experiment 3:** Study of *Sycon*, *Hyalonema*, *Euplectella*, *Spongilla*, T.S. of *Sycon*, L.S. of *Sycon* **Experiment 4:** Study of *Obelia*, *Physalia*, *Millepora*, *Aurelia*, *Tubipora*, *Corallium*, *Alcyonium*, *Gorgonia*, *Metridium*/*Adamsia*, *Pennatula*, *Fungia*, *Meandrina*, *Madrepora*, T.S. of *Metridium*/*Adamsia*	B.Sc. (H) Zoology, Semester I	**CC I/ Non-Chordates I: Protists to Pseudocoelomates**

		Evaluation of record file and discussion in the class		
		Experiment 2: Determination of population density in a natural/hypothetical community by quadrate method and calculation of Shannon-Weiner diversity index for the same community Evaluation of record file and discussion in the class	B.Sc. (H) Zoology, Semester I	**CC II/ Principles of Ecology**
February, 2021	**Theory:**	**Unit 7: Nemathelminthes** General characteristics and Classification up to classes	B.Sc. (H) Zoology, Semester I	**CC I/ Non-Chordates I: Protists to Pseudocoelomates**
		Unit 2: Population Population interactions; Gause's Principle with laboratory and field examples; Lotka-Volterra equation for competition and predation; Functional and numerical responses	B.Sc. (H) Zoology, Semester I	**CC II/ Principles of Ecology**
		Unit 5: Siphonapterans as Disease Vectors Fleas as insect vectors; Host-specificity; Study of flea borne diseases- Plague, typhus fever; Control of sand flies **Unit 6: Siphunculata as Disease Vectors** Human louse (head, body and pubic louse) as disease vectors; study of louse borne diseases- Typhus fever, relapsing fever, trench fever, vagabond's disease, phthiriasis; Control of human louse	B.Sc. (H) Zoology, Semester I	**GE: Insect Vector and Disease**
		Unit V: Photoperiodism Animal responses to changing photoperiodism. Morphological, Anatomical, Physiological and Behavioural adaptations to extreme light conditions in animals. Three rhythm domains, Biological clock and Circadian rhythms. Sleep disorders, Shift work disorder, Jetlag	B.Sc. (H) Biological Sciences, Semester I	**BS C-2/Light and Life**
	Practical:	**Experiment 5:** One specimen of Ctenophore **Experiment 6:** Study of adult *Fasciola hepatica*, *Taenia solium* and their life stages (Slides/microphotographs) **Experiment 8:** Project Report on life cycle of any one parasite or pathogen/corals/coral reefs Evaluation of record file and discussion in the class	B.Sc. (H) Zoology, Semester I	**CC I/ Non-Chordates I: Protists to Pseudocoelomates**

		Experiment 3: Study of an aquatic ecosystem: phytoplankton and zooplankton, measurement of area, temperature, turbidity/penetration of light **Experiment 4:** Report on a visit to National Park/Biodiversity Park/Wildlife sanctuary Evaluation of record file and discussion in the class	B.Sc. (H) Zoology, Semester I	**CC II/ Principles of Ecology**
	Continuous Evaluation:	Tests will be taken from the practical exercises in order to make the students understand the concept thoroughly and in the process, they will be able to learn the exercises and get doubts resolved	B.Sc. (H) Zoology, Semester I	**CC I/ Non-Chordates I: Protists to Pseudocoelomates**
		Tests will be taken from the practical exercises in order to make the students understand the concept thoroughly and in the process, they will be able to learn the exercises and get doubts resolved	B.Sc. (H) Zoology, Semester I	**CC II/ Principles of Ecology**
	Mid Term Test:	A test will be conducted from the units covered so that the students are able to learn the concepts thoroughly	B.Sc. (H) Zoology, Semester I	**CC II/ Principles of Ecology**
		A test will be conducted from the units covered so that the students are able to learn the concepts thoroughly	B.Sc. (H) Zoology, Semester I	**GE: Insect Vector and Disease**
	Assignment:	Students will be asked to make assignment on the following topic "Biodiversity: Importance & threats" which will allow them to delve deep and understand the topic in detail	B.Sc. (H) Zoology, Semester I	**CC II/ Principles of Ecology**
		Students will be asked to make assignment on the following topic "Management strategies to control insect vectors- quarantine, cultural, mechanical, chemical, biological, behavioural" which will allow them to delve deep and understand the topic in detail	B.Sc. (H) Zoology, Semester I	**GE: Insect Vector and Disease**
		Students will be asked to make assignment on the following topic "Latitudinal and altitudinal variations in wildlife diversity (Zoogeography)" which will allow them to delve deep and understand the topic in detail	B.Sc. (H) Biological Sciences, Semester II	**BS C4/Biodiversity**
March, 2021	**Theory:**	**Unit 7: Nemathelminthes** General characteristics and Classification up to classes; Life cycle, and pathogenicity of *Ascaris lumbricoides*; Parasitic adaptations in Nemathelminthes **Revision**	B.Sc. (H) Zoology, Semester I	**CC I/ Non-Chordates I: Protists to Pseudocoelomates**

	Unit 5: Applied Ecology Ecology in wildlife conservation and management, Biodiversity types, Importance & threats, Protected areas: National Parks, Bioreserves and Sanctuaries, Restoration ecology, Global climate change and its mitigation	B.Sc. (H) Zoology, Semester I	**CC II/ Principles of Ecology**
	Unit 7: Hemipterans as Disease Vectors Bugs as insect vectors; Blood sucking bugs; Chagas disease; Bed bugs as mechanical vectors; Control and prevention methods	B.Sc. (H) Zoology, Semester I	**GE: Insect Vector and Disease**
	Unit VI: Ecological and physiological responses to Light Color in animals: chromatophores and colour changes in animals, morphological and physiological colour change. Light as an inducer for biosynthesis/activation of enzymes, hormones and other biomolecules (Vitamin D, Melatonin).Thymine dimer formation, skin cancer and cataract in response to UV exposure. Light pollution and its impacts on environment, ecosystems and wildlife **Revision**	B.Sc. (H) Biological Sciences, Semester II	**BS C4/Biodiversity**
Practical:	**Experiment 7:** Study of adult *Ascaris lumbricoides* and its life stages (Slides/micro-photographs) **Experiment 9:** Examination of soil samples collected from different places to observe diversity in Nematodes Evaluation of record file and discussion in the class	B.Sc. (H) Zoology, Semester I	**CC I/ Non-Chordates I: Protists to Pseudocoelomates**
	Experiment 3: Study of an aquatic ecosystem: determination of pH, and dissolved oxygen content (Winkler's method), chemical oxygen demand and free CO_2, alkalinity Evaluation of record file and discussion in the class	B.Sc. (H) Zoology, Semester I	**CC II/ Principles of Ecology**
Mock Practical Test:	Mock test will be conducted to make the students well versed with the practical exercises and confident for the final practical examination Checking of complete practical file	B.Sc. (H) Zoology, Semester I	**CC I/ Non-Chordates I: Protists to Pseudocoelomates**
Mock Practical Test:	Mock test will be conducted to make the students well versed with the practical exercises and confident for the final practical examination Checking of complete practical file	B.Sc. (H) Zoology, Semester I	**CC II/ Principles of Ecology**

SEMESTER WISE TEACHING PLAN (2020-2021)
SRI VENKATESWARA COLLEGE

Name of the Faculty: Dr. Nawaz Alam Khan   **Department: Zoology**

Semester: I (Odd Semester)

Month		Topics	Course	Paper Code/Name
DECEMBER (2020)	**Theory**	**Unit 1: Introduction to Animalia**: General Characteristics of Kingdom Animalia and Basis of Classification.	B.Sc. (Hons) Zoology, Semester-I	**Non-Chordates I:** Protists to Pseudocoelomates **(32231101)**
		Unit 2: Protista: General characteristics and Classification up to classes; Study of *Euglena* and *Paramecium*.	B.Sc. (Hons) Zoology, Semester-I	**Non-Chordates I:** Protists to Pseudocoelomates **(32231101)**
		Unit 4: Ecosystem: Types of ecosystems with detailed study of Pond or Lake ecosystem, Vertical stratification in Forest and Aquatic ecosystem, Food chain: Detritus and grazing food chains, Linear and Y-shaped food chains, Food web, Energy flow through the ecosystem, Ecological pyramids and Ecological efficiencies.	B.Sc. (Hons) Zoology, Semester-I	Principles of Ecology **(32231102)**
		Unit 1: Protista: General Characteristics and Classification up to classes.	B.Sc. Life Sciences, Semester-I	Animal Diversity **(42231102)**

Practicals	Study of following specimens: *Amoeba, Euglena, Paramecium, Sycon, Hyalonema, Euplectella, Obelia, Physalia, Aurelia, Tubipora, Metridium, Taenia solium,* Male and female *Ascaris lumbricoides, Aphrodite, Nereis, Heteronereis, Chaetopterus, Pheretima, Hirudinaria, Palaemon, Cancer, Limulus, Palamnaeus, Scolopendra, Julus, Periplaneta, Chiton, Dentalium, Pila, Unio, Sepia, Octopus, Pentaceros, Ophiothrix, Echinus, Cucumaria, Antedon.*	B.Sc. Life Sciences, Semester-I	Animal Diversity **(42231102)**
	Study of different kinds of mouth parts of insects through slides or specimens, Study of insect vector- bed bug through permanent slide or photograph and study of different diseases transmitted by above insect vector.	**GE I:** Zoology	Insect vector & diseases **(32235908-OC)**

JANUARY (2021)	**Theory:**	**Unit 2: Protista**: Life cycle and pathogenicity of *Plasmodium vivax*; Locomotion and Reproduction in Protista	B.Sc. (Hons) Zoology, Semester-I	**Non-Chordates I:** Protists to Pseudocoelomates **(32231101)**
		Unit 3: Porifera: Introduction to Parazoa; General characteristics and Classification up to classes; Study of *Sycon*; Canal system in sponges.	B.Sc. (Hons) Zoology, Semester-I	**Non-Chordates I:** Protists to Pseudocoelomates **(32231101)**
		Unit 4: Cnidaria: Introduction to Metazoa: General characteristics and Classification up to classes.	B.Sc. (Hons) Zoology, Semester-I	**Non-Chordates I:** Protists to Pseudocoelomates **(32231101)**
		Unit 4: Ecosystem: Nutrient and biogeochemical cycle with one example of Nitrogen cycle	B.Sc. (Hons) Zoology, Semester-I	Principles of Ecology **(32231102)**
		Unit 3: Community: Community characteristics: species richness, dominance, diversity, abundance, Guilds, Ecotone and edge effect; Ecological succession with examples and types.	B.Sc. (Hons) Zoology, Semester-I	Principles of Ecology **(32231102)**
		Unit 1: Protista: Locomotory Organelles and locomotion in Protozoa.	B.Sc. Life Sciences, Semester-I	Animal Diversity **(42231102)**
		Unit 2: Porifera: General characteristics and Classification up to classes; Canal system in *Sycon*.	B.Sc. Life Sciences, Semester-I	Animal Diversity **(42231102)**

Practicals:	Study of following specimens: *Balanoglossus, Herdmania, Branchiostoma, Petromyzon, Sphyrna, Pristis, Torpedo, Labeo, Exocoetus, Anguilla, Ichthyophis/Ureotyphlus, Salamandra, Bufo, Hyla, Chelone, Chamaeleon, Draco, Vipera, Naja, Crocodylus,* Any three common birds from different orders, Bat, *Funambulus, Loris.*	B.Sc. Life Sciences, Semester-I	Animal Diversity **(42231102)**
	Study of insect vectors-house fly, sand fly and lice (head, body and pubic) through permanent slides or photographs and study of different diseases transmitted by above insect vectors.	**GE I:** Zoology	Insect vector & diseases **(32235908-OC)**
Assignment:	Reproduction in Protista.	B.Sc. (Hons) Zoology, Semester-I	**Non-Chordates I:** Protists to Pseudocoelomates **(32231101)**
	Temperature as an Ecological Factor.	B.Sc. (Hons) Zoology, Semester-I	Principles of Ecology **(32231102)**
	Project report on Biodiversity parks and Zoological Museum.	B.Sc. Life Sciences, Semester-I	Animal Diversity **(42231102)**
	Project report on Diseases transmitted by insect vector.	**GE I:** Zoology	Insect vector & diseases **(32235908-OC)**

FEBRUARY (2021)	**Theory:**	**Unit 4: Cnidaria:** General characteristics and Classification up to classes.**;** Metagenesis in *Obelia*; Polymorphism in Cnidaria; Corals and coral reefs.	B.Sc. (Hons) Zoology, Semester-I	**Non-Chordates I:** Protists to Pseudocoelomates **(32231101)**
		Unit 5: Ctenophora: General characteristics.	B.Sc. (Hons) Zoology, Semester-I	**Non-Chordates I:** Protists to Pseudocoelomates **(32231101)**
		Unit 3: Community: Theories pertaining to climax community.	B.Sc. (Hons) Zoology, Semester-I	Principles of Ecology **(32231102)**
		Unit1: Introduction to Ecology: History and Scope of ecology, Autecology and synecology, Laws of limiting factors, Study of physical factor: Temperature.	B.Sc. (Hons) Zoology, Semester-I	Principles of Ecology **(32231102)**
		Unit 3: Cnidaria: General characteristics and Classification up to classes; Polymorphism in Hydrozoa.	B.Sc. Life Sciences, Semester-I	Animal Diversity **(42231102)**
	Practicals:	T.S. and L.S. of *Sycon*, Study of larval stages of *Taenia solium*, Key for Identification of poisonous and non-poisonous snakes, Study of Digestive, Reproductive and Nervous system of Cockroach, Study of Urinogenital and Nervous system of Rat.	B.Sc. Life Sciences, Semester-I	Animal Diversity **(42231102)**
		Study of insect vectors- *Aeded, Culex* and *Anopheles* through permanent slides or photographs and study of different diseases transmitted by above insect vectors.	**GE I:** Zoology	Insect vector & diseases **(32235908-OC)**

	Test	Mock test (full syllabus).	B.Sc. Life Sciences, Semester-I	Animal Diversity **(42231102)**
		Internal assessment test (Unit 2: Protista, Unit 3: Porifera, Unit 4: Cnidaria).	B.Sc. (Hons) Zoology, Semester-I	**Non-Chordates I:** Protists to Pseudocoelomates **(32231101)**
		Mock test (full syllabus).	**GE I:** Zoology	Insect vector & diseases **(32235908-OC)**
	Assignment	Exercise: Household Insecticides Survey: What is being used at home?	**GE I:** Zoology	Insect vector & diseases **(32235908-OC)**
MARCH (2021)	**Theory:**	**Unit 5: Ctenophora:** Evolutionary significance	B.Sc. (Hons) Zoology, Semester-I	**Non-Chordates I:** Protists to Pseudocoelomates **(32231101)**
		Unit1: Introduction to Ecology: Study of physical factor: Light.	B.Sc. (Hons) Zoology, Semester-I	Principles of Ecology **(32231102)**
		Unit 3: Cnidaria: Polymorphism in Hydrozoa.	B.Sc. Life Sciences, Semester-I	Animal Diversity **(42231102)**
	Practicals:	Revision	B.Sc. Life Sciences, Semester-I	Animal Diversity **(42231102)**

SEMESTER WISE TEACHING PLAN (2020-21)
SRI VENKATESWARA COLLEGE

Name of the Faculty: Mr. Amarjeet Singh   **Department:** Zoology

Semester: Odd I/III/V: I

Month & Year		Topics	Course	Paper Code/Name
DECEMBER, 2020	**Theory:**	**Unit 4: Platyhelminthes:** General characteristics classification up to classes, Life Cycle of *Taenia solium* and its parasitic adaptations	B.Sc. (P) Life Sciences 1st Semester	LS Core I: Animal Diversity
		Unit 5: Nemathelminthes: General characteristics and classification up to classes; Life cycle of *Ascaris lumbricoides* and its parasitic adaptations		
		Unit 6: Annelida: General characteristics and classification up to classes; Metamerism in Annelida		
		Unit 7: Arthropoda: General characteristics and classification up to classes; Vision in Arthropoda; Metamorphosis in Insects		
		Unit 4: Dipterans as Disease Vectors: Introduction to Mosquitoes, Mosquitoes Life Cycle (general), *Anopheles* Life Cycle, Malaria, *Plasmodium* Life Cycle, *Culex* Life Cycle	Generic Elective Biological Sciences (H), Biochemistry (H), Botany (H), Chemistry (H)	Insect Vectors and Diseases
	Practicals:	**Exercise No. 1: Study of specimens related to different phyla:** Protista, Porifera, Cnidaria, Platyhelminthes, Nematoda, Annelida	B.Sc. (P) Life Sciences 1st Semester	LS Core I: Animal Diversity

		Exercise No. 1: To study light penetration in water using Secchi disc **Exercise No. 2:** To demonstrate the effect of light on soil fauna using Berlese funnel setup	B.Sc. (H) Biological Sciences 1st Semester	BS C-2: Light and Life
JANUARY, 2021	**Theory:**	**Unit 8: Mollusca:** General characteristics and classification up to classes; Torsion and detorsion in Gastropoda; Pearl formation	B.Sc. (P) Life Sciences 1st Semester	LS Core I: Animal Diversity
		Unit 9: Echinodermata: General characteristics and classification up to classes; Water-vascular system in		
		Unit 4: Dipterans as Disease Vectors: Filariasis, Dengue, Chikungunya, Viral encephalitis	Generic Elective Biological Sciences (H), Biochemistry (H), Botany (H), Chemistry (H)	Insect Vectors and Diseases
	Practicals:	**Exercise No. 1: Study of specimens related to different phyla, super class and class:** Arthropoda, Mollusca, Echinodermata, Protochordata, Agnatha, Pisces, Amphibia, Reptilia, Aves, Mammalia. **Exercise No. 2: Study of following permanent slides:** • T.S. and L.S. of *Sycon* • Study of larval stages of Taenia solium **Exercise No. 3: Report on "A visit to Biodiversity Park and Zoological Museum"**	B.Sc. (P) Life Sciences 1st Semester	LS Core I: Animal Diversity
		Exercise No. 3: To study the effect of light and darkness on the chromatophores of fish	B.Sc. (H) Biological Sciences 1st Semester	BS C-2: Light and Life

	Assignment	• Assignment will be given from the syllabus. • A list of assignment topics is given below: (a). Life Cycle of *Taenia solium* and its parasitic adaptations. (b). Vision in Arthropoda.	B.Sc. (P) Life Sciences 1st semester	LS Core I: Animal Diversity
FEBRUARY, 2021	**Theory:**	**Unit 12: Pisces:** General characteristics and classification up to order; Migration, Osmoregulation and Parental care in fishes	B.Sc. (P) Life Sciences 1st semester	LS Core I: Animal Diversity
		Unit 13: Amphibia: General characteristics and classification up to order; Parental care in Amphibians		
		Unit 14: Reptilia: General characteristics and classification up to order; Biting mechanism in snakes		
		Unit 15: Aves: General characteristics and classification up to order; Flight adaptations and		
		Unit 4: Dipterans as Disease Vectors: Control of mosquitoes, Sand fly (general), Leishmaniasis, Phlebotomus fever, Control of sand flies, House fly (general) and mouth parts, House fly as important mechanical vector, Myiasis, Control of Housefly	Generic Elective Biological Sciences (H), Biochemistry (H), Botany (H), Chemistry (H)	Insect Vectors and Diseases
	Practicals	**Exercise No. 4:** Key for identification of poisonous and non-poisonous snakes	B.Sc. (P) Life Sciences 1st Semester	LS Core I: Animal Diversity
		Exercise No. 5: Study of Digestive, Reproductive and Nervous system of Cockroach		
		Exercise No. 6: Study of Urinogenital and Nervous system of Rat		
		Exercise No. 4: To test for color blindness using Ishihara charts	B.Sc. (H) Biological Sciences 1st Semester	BS C-2: Light and Life

	Mid Term Test	A mid-term test will be kept in February which will cover the syllabus to test the Life Sciences students grasping power. The test will be conducted for both theory as well as for practical paper and the format can be an objective and subjective type.	B.Sc. (P) Life Sciences 1st Semester	LS Core I: Animal Diversity
	Mid Term Test	A mid-term test will be kept in February for practical paper only to test the understanding of Biological Sciences students towards practical knowledge	B.Sc. (H) Biological Sciences 1st Semester	BS C-2: Light and Life
MARCH, 2021	**Theory**	**Unit 16: Mammals:** General characteristics and classification up to orders; Origin of mammals	B.Sc. (P) Life Sciences 1st Semester	LS Core I: Animal Diversity
		• Revision	B.Sc. (P) Life Sciences 1st Semester	LS Core I: Animal Diversity
		• Revision	Generic Elective Biological Sciences (H), Biochemistry (H), Botany (H), Chemistry (H)	Insect Vectors and Diseases
	Practicals:	• Revision	B.Sc. (P) Life Sciences 1st Semester	LS Core I: Animal Diversity
		• Revision	B.Sc. (H) Biological Sciences 1st Semester	BS C-2: Light and Life

SEMESTER WISE TEACHING PLAN (2020-21)

ODD SEMESTER

SRI VENKATESWARA COLLEGE

Department: Sociology
Name of the Faculty: Geeta J. Sodhi
Semester: I

Month		Topic(s)	Course	Paper Code/Name
JULY	**Theory**	Thinking Sociologically	B.A.(H) Sociology Core Course 1	Introduction to Sociology-I
	Practical	NA	NA	NA
	Tutorial	Sociological and Individualistic Perspectives	B.A.(H) Sociology Core Course 1	Introduction to Sociology-I
AUGUST	**Theory**	1. Emergence of Sociology & SocialAnthropology 2. Sociology &History	B.A.(H) Sociology Core Course 1	Introduction to Sociology-I
	Practical	NA	NA	NA
	Tutorial	Historical development of Sociology	B.A.(H) Sociology Core Course 1	Introduction to Sociology-I
SEPTEMBER	**Theory**	1. Sociology and Psychology 2. Sociology and Anthropology	B.A.(H) Sociology Core Course 1	Introduction to Sociology-I
	Practical	NA	NA	NA
	Tutorial	Relation between Sociology and Social Anthropology	B.A.(H) Sociology Core Course 1	Introduction to Sociology-I

	Assignment	What does it mean to 'think sociologically'?	B.A.(H) Sociology Core Course 1	Introduction to Sociology-I
OCTOBER	**Theory**	1. Individual and Group 2. Associations and Institutions	B.A.(H) Sociology Core Course 1	Introduction to Sociology-I
	Practical	NA	NA	NA
	Tutorial	Nature and Classification of Social groups	B.A.(H) Sociology Core Course 1	Introduction to Sociology-I
	Mid-SemesterExamination (10Marks)	Topics: Sociological Perspective, Sociology and Common Sense, Sociology and History, Sociology and Psychology, Sociology and Social Anthropology	B.A.(H) Sociology Core Course 1	Introduction to Sociology-I
NOVEMBER	**Theory**	1.Culture and Society 2.Social Change	B.A.(H) Sociology Core Course 1	Introduction to Sociology-I
	Practical	NA	NA	NA
	Tutorial	The Theories of Social Change	B.A.(H) Sociology Core Course 1	Introduction to Sociology-I

Department: Sociology

Name of the Faculty: Geeta J. Sodhi

Semester: V

Month		Topics	Course	Paper Code/Name
JULY	**Theory**	1.Classical Approaches toWork 2. Work Study and the IndustrialWorker	B.A. (H) Sociology DSE 04	Sociology of Work
	Practical	NA	NA	NA
	Tutorial	Marx, Durkheim and Weber on 'Work'	B.A. (H) Sociology DSE 04	Sociology of Work
AUGUST	**Theory**	1.Industriaism 2.Post-industrialSociety	B.A. (H) Sociology DSE 04	Sociology of Work
	Practical	NA	NA	NA
	Tutorial	Comparison of industrial with post-industrial society	B.A. (H) Sociology DSE 04	Sociology of Work
SEPTEMBER	**Theory**	1. 3.Information Society 2.Dimensions of Work: Alienation, Gender	B.A. (H) Sociology DSE 04	Sociology of Work
	Practical	NA	NA	NA
	Tutorial	Theories of Alienation	B.A. (H) Sociology DSE 04	Sociology of Work
	Assignment (10 Marks)	Critically examine the theory of post-industrial society.	B.A. (H) Sociology DSE 04	Sociology of Work

OCTOBER	Theory	1.Unpaid Work and Forcedlabour 2. Work in the Informalsector	B.A. (H) Sociology DSE 04	Sociology of Work
	Practical	NA	NA	NA
	Tutorial	Features of work in the informal sector	B.A. (H) Sociology DSE 04	Sociology of Work
	Mid-term Exam	Topics: Interlinking Work and Industry, Industrialism, Post-industrialism, Information Society, Alienation		

NOVEMBER	Theory	Risk, Hazard and Disaster	B.A. (H) Sociology DSE 04	Sociology of Work
	Practical	NA	NA	NA
	Tutorial	Analysis of work in hazardous situations	B.A. (H) Sociology DSE 04	Sociology of Work

Name of the Faculty: Subas C Mohapatra

Department: Sociology

Semester: III

Month		Topics	Course	Paper Code/Name
JULY	**Theory**	Sociology of religion; meaning and scope	Discipline Specific Elective- 02	Religion and Society
	Practical	NA	NA	NA
	Tutorial	Sociology of religion; meaning and scope	Discipline Specific Elective- 02	Religion and Society
AUGUST	**Theory**	Sociology of Religion: Nature and scope Sacred and profane Religion and Rationalizatiom	Discipline Specific Elective- 02	Religion and Society
	Practical	NA	NA	NA
	Tutorial	Sociology of Religion: Nature and scope Sacred and profane Religion and Rationalizatiom	Discipline Specific Elective- 02	Religion and Society

SEPTEMBER	**Theory**	Rites of Passage Hinduism Budhism	Discipline Specific Elective- 02	Religion and Society
	Practical	NA	NA	NA
	Tutorial	Rites of Passage Hinduism Budhism	Discipline Specific Elective- 02	Religion and Society
	Assignment (10 Marks)	Sociology of Religion: Nature and scope Sacred and profane Religion and Rationalizatiom	Discipline Specific Elective- 02	Religion and Society
OCTOBER	**Theory**	Islam Jainism Sikhism Christianity	Discipline Specific Elective- 02	Religion and Society
	Practical	NA	NA	NA
	Tutorial	Islam Jainism Sikhism Christianity	Discipline Specific Elective- 02	Religion and Society
	Mid-SemesterExamination (10Marks)	-------------------------- Islam, Jainism Sikhism,Christianity		Religion and Society

NOVEMBER	Theory	Communalism and secularism	Discipline Specific Elective- 02	Religion and Society
	Practical	NA	NA	NA
	Tutorial	Communalism and secularism	Discipline Specific Elective- 02	Religion and Society
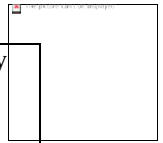
.

Name of the Faculty: Subas C Mohapatra   **Department: Sociology**

Semester: I

Month		Topic(s)	Course	Paper Code/Name
JULY	**Theory**	Karl Marx Materialistic Conception of History	B.A. Programme Core Course-03	Sociological Theories
	Practical	NA	NA	NA
	Tutorial	Historical materialism	Core Course-03	Sociological Theories
AUGUST	**Theory**	Class and Class Struggle	Core Course-03	Sociological Theories
	Practical	NA	NA	NA
	Tutorial	Class and Class struggle	Core Course-03	Sociological Theories
SEPTEMBER	**Theory**	Emile Durkheim Forms of solidarity and Socialfact	Core Course-03	Sociological Theories

	Practical	NA	NA	NA
	Tutorial	Emile Durkheim Forms of Solidarity and Social fact	Core Course-03	Sociological Theories
	Assignment (10Marks)	Division of labor / Historical Materialism	Core Course-03	Sociological Theories
OCTOBER	**Theory**	Max Weber Ideal Type and Social Action	Core Course-03	Sociological Theories
	Practical	NA	NA	NA
	Tutorial	Max Weber Ideal Type and Social Action	Core Course-03	Sociological Theories
	Mid-SemesterExamination (10Marks)	Topics: Karl Max, E. Durkheim, Max Weber	Core Course-03	Sociological Theories
NOVEMBER	**Theory**	Max Weber on Types of Authority	Core Course-03	Sociological Theories
	Practical	NA	NA	NA
	Tutorial	Max Weber on Types of Authority	Core Course-03	Sociological Theories

SEMESTER WISE TEACHING PLAN (2020-21)
ODD SEMESTER
SRI VENKATESWARA COLLEGE

Name of the Faculty: Nabanipa Bhattacharjee

Department: Sociology   **Semester: I (July-**

December, 2020)

Month		Topic(s)	Course	Paper Code/Name
JULY	**Theory**	Introducing Sociology of India; Images and Ideas of India; pre-colonial image of India; colonial discourse	Core Course-02	Sociology of India I
	Practical	NA	NA	NA
	Tutorial	Colonial discourse	Core Course-02	Sociology of India I
AUGUST	**Theory**	Ideas of India I & II: Reading Gandhi and Ambedkar	Core Course-02	Sociology of India I
	Practical	NA	NA	NA
	Tutorial	Compare and contrast the ideas of Gandhi and Ambedkar	Core Course-02	Sociology of India I
SEPTEMBER	**Theory**	concept of caste and understanding the caste system; critique of caste; agrarian classes	Core Course-02	Sociology of India I

	Practical	NA	NA	NA
	Tutorial	features and critique of caste; agrarian structure	Core Course-02	Sociology of India I
	Assignment (10 Marks)	Discuss the views of Gandhi and Ambedkar on India	Core Course-02	Sociology of India I
OCTOBER	**Theory**	Village studies in India; profile and situation of Indian tribes; kinship system in India	Core Course-02	Sociology of India I
	Practical	NA	NA	NA
	Tutorial	Understanding the Indian village; contemporary issues and problems of Indian tribes; North and South Indian kinship	Core Course-02	Sociology of India I
	Mid-Semester Examination (10 Marks)	Topics: agrarian classes, caste, kinship, village	Core Course-02	Sociology of India I
NOVEMBER	**Theory**	Industry and labor; religion and society in India	Core Course-02	Sociology of India I
	Practical	NA	NA	NA
	Tutorial	Mapping the industrial working class; religious practices of Hindus, Sikhs and Muslims	Core Course-02	Sociology of India I

Name of the Faculty: Nabanipa Bhattacharjee

Department: Sociology

Semester: V (July-December, 2020)

Month		Topics	Course	Paper Code/Name
JULY	**Theory**	Introduction to sociological thought; key thinkers like Marx, Weber and Durkheim	Core Course 11	Sociological Thinkers-I
	Practical	NA	NA	NA
	Tutorial	Interface of Marx and 19th century Europe; intellectual biography of Marx	Core Course 11	Sociological Thinkers-I
AUGUST	**Theory**	Marxian historical materialism or materialist interpretation of history; capitalist mode of production	Core Course 11	Sociological Thinkers-I
	Practical	NA	NA	NA
	Tutorial	Dialectics and its application towards a materialist understanding of history	Core Course 11	Sociological Thinkers-I

SEPTEMBER	**Theory**	Weber's Protestant ethic and the spirit of capitalism; interpretive sociology and social action	Core Course 11	Sociological Thinkers-I
	Practical	NA	NA	NA
	Tutorial	The concept of ideal type and the various types of action; Weber's intellectual biography	Core Course 11	Sociological Thinkers-I
	Assignment (10 Marks)	With reference to Weber, write an essay on the relation of religion and accumulation.	Core Course 11	Sociological Thinkers-I
OCTOBER	**Theory**	Durkhemian understanding of suicide;	Core Course 11	Sociological Thinkers-I
	Practical	NA	NA	NA
	Tutorial	Suicide as a social fact; intellectual biography of Durkheim	Core Course 11	Sociological Thinkers-I
	Mid-Semester Examination (10 Marks)	CMOP, Historical Materialism, Social Action, Social Fact	Core Course 11	

NOVEMBER	**Theory**	Sociology and methodology; reading Durkheim's *Rules of Sociological Method*	Core Course 11	Sociological Thinkers-I
	Practical	NA	NA	NA
	Tutorial	Definition and features of social facts; types of suicide	Core Course 11	Sociological Thinkers-I

Name of the Faculty: Dr. Padma Priyadarshini
Department: Sociology
Semester: **BA (Hons.) V**

Month		Topic(s)	Course	Paper Code/Name
JULY	**Theory**	**1.The Logic of Social Research** A. Sociological Imagination	Core Course-12	Sociological Research Methods I
	Practical	NA	NA	NA
	Tutorial	How does the Sociological Imagination contribute to the understanding of our society? Ref: C. Wright Mills	Core Course-12	Sociological Research Methods I
AUGUST	**Theory**	B.The Problem Of Objectivity C. Reflexivity	Core Course-12	Sociological Research Methods I
	Practical	NA	NA	NA
	Tutorial	Why is there a problem of objectivity in the social sciences? Ref: Rules of Sociological Method. Durkheim.	Core Course-12	Sociological Research Methods I
SEPTEMBER	**Theory**	**2. Methodological Perspectives** A.Comparative Method	Core Course-12	Methods of Sociological Research I

	Practical	NA	NA	NA
	Tutorial	Reflexivity amounts to critical self introspection. Ref: Gouldner	Core Course-12	Methods of Sociological Research I
	Mid Sem Exam	Topics: Sociological Imagination, Objectivity and Reflexivity	Core Course-12	Methods of Sociological Research I
OCTOBER	**Theory**	B. Feminist Method **3. Modes of Enquiry** A. Theory and Research Ref: R.K. Merton	Core Course-12	Methods of Sociological Research I
	Practical	NA	NA	Methods of Sociological Research I
	Tutorial	The Comparative Method is a method par excellence. Ref: Radcliffe Brown Andre Beteille	Core Course-12	Methods of Sociological Research I
	Assignment	Research Project using both quantitative and qualitative techniques; primary sources of data collection.	Core Course-12	Methods of Sociological Research I
NOVEMBER	**Theory**	Analyzing Data: Quantitative and Qualitative Ref: Alan Bryman	Core Course-12	Methods of Sociological Research I
	Practical	NA	NA	NA
	Tutorial	Is there a distinct feminist method? Ref: Sandra harding	Core Course-12	Methods of Sociological Research I

<div align="center">**SRI VENKATESWARA COLLEGE**</div>

Name of the Faculty: Dr. Padma Priyadarshini
Department: Sociology
Semester: **BA (Hons.) V**

Month		Topics	Course	Paper Code/Name
JULY	**Theory**	1.**Envisioning Environmental Sociology** Nature and Scope of Environmental Sociology	DSE - 03	Environmental Sociology
	Practical	**Movie Screened** "An Inconvenient Truth"	DSE 03	Environmental Sociology
	Tutorial	What are the fundamental debates of Environmental Sociology Ref: Michael Bell Hannigan	DSE-03	Environmental Sociology
AUGUST	**Theory**	B. Realist-Constructionist Debate **2. Approaches** A. Treadmill of Production B. Ecological Modernization	DSE 03	Environmental Sociology
	Practical	**Movie Screened**: "Chipko Movement as it stands today"	DSE 03	Environmental Sociology
	Tutorial	Realism and Constructionism do not represent two opposed strands of thought. Ref: Leahy Evanoff	DSE 03	Environmental Sociology

SEPTEMBER	**Theory**	C. Risk D. Eco Feminism and Feminist Environmentalism E. Political ecology	DSE 03	Environmental Sociology
	Practical	**Movie Screened:** "Narmada Bachao Andolan: Its social, economic and Environmental impact explained."	DSE 03	Environmental Sociology
	Tutorial	Relevance of approaches to the study of Environmental Sociology Ref: Schnaiberg and Gould, Mol and Spaargaren, Beck, Shiva and Agarwal, Robbins.	DSE 03	Environmental Sociology
	<u>Mid Sem Exam</u>	Topics: What is environmental sociology? Realism and Constructionism	DSE 03	Environmental Sociology
OCTOBER	**Theory**	**3. Environmental Movements in India** A.Chipko B. Narmada Ref: Guha Khagram	DSE 03	Environmental Sociology
	Practical	**Movie Screened:** 1."Seeds of Life" 2. "Should India have genetically modified crops?"	DSE 03	Environmental Sociology
	Tutorial	Can the Chipko Movt be designated as a woman's movement?	DSE 03	Environmental Sociology
	<u>Assignment</u>	Class Presentations and Viva Topics: Chipko, Narmada, Anti-mining, Seed.	DSE 03	

Name of the Faculty: DR. URMI BHATTACHARYYA
Department: SOCIOLOGY
Semester: **III**

Month		Topic(s)	Course	Paper Code/Name
JULY	**Theory**	Introduction: learning the virtues of repetition Re-Reading and Re-writing in academics	B. A. (H) SEC	Reading, Writing and Reasoning for Sociology
	Practical	NA	NA	NA
	Tutorial (N.A.) *Take-away weekly assignments*	-Read a short and summarize it in one paragraph; -Re-read the same text and re-write the summary twice based on discussions on content and form.	B. A. (H) SEC	Reading, Writing and Reasoning for Sociology
AUGUST	**Theory**	Techniques for Reading academic texts: -Titles -Section headings -Summaries Introduction and Conclusion	B. A. (H) SEC	Reading, Writing and Reasoning for Sociology
	Practical	NA	NA	NA
	Tutorial (N.A.) *Take-away weekly assignments*	Reading various kinds of writings, to understand how to construct arguments and build a framework Choosing a topic for the end term assignment	B. A. (H) SEC	Reading, Writing and Reasoning for Sociology
SEPTEMBER	**Theory**	Stages of argument and its structuring, Distribution of emphasis on writing Background knowledge	B. A. (H) SEC	Reading, Writing and Reasoning for Sociology

		Practical	NA	NA	NA
		Tutorial (N.A.) *Take-away weekly assignments*	Reading various kinds of writings, to understand how to construct arguments and build a framework, followed by writing summaries and reports on the same. Finalizing the topic for end term asignment	B. A. (H) SEC	Reading, Writing and Reasoning for Sociology
		Assignment	Observe a particular context for a continued span of time and then write an essay on, explaining what you observed and understood.	B. A. (H) SEC	Reading, Writing and Reasoning for Sociology
OCTOBER		**Theory**	Writing paragraphs: building prose Sentences, punctuation, balance, continuity Paraphrasing and plagiarism	B. A. (H) SEC	Reading, Writing and Reasoning for Sociology
		Practical	NA	NA	NA
		Tutorial (N.A) *At-home assignment*	Working on the review essay, problematising the issue, paraphrasing arguments	B. A. (H) SEC	Reading, Writing and Reasoning for Sociology
		Mid-Semester Examination	Write the review essay on the topic decided upon by you with reference to articles and books.	B. A. (H) SEC	Reading, Writing and Reasoning for Sociology
NOVEMBER		**Theory**	Citation	B. A. (H) SEC	Reading, Writing and Reasoning for Sociology
		Practical	NA	NA	NA
		Tutorial (N.A) *Class discussion*	Essay feedback Declaration of IA results	B. A. (H) SEC	Reading, Writing and Reasoning for Sociology

Name of the Faculty: DR. URMI BHATTACHARYYA
Department: SOCIOLOGY
Semester: V

Month		Topic(s)	Course	Paper Code/Name
JULY	**Theory**	-Introducing Urban Sociology -The City in History	B. A. (H) DSE	Urban Sociology
	Practical	NA	NA	NA
	Tutorial	-Discussion and writing on concepts of community, city and neighborhood	B. A. (H) DSE	Urban Sociology
AUGUST	**Theory**	-Concepts: Urban, Urbanism and the city Cities and Capitalism -Urban theory and urban experience	B. A. (H) DSE	Urban Sociology
	Practical	NA	NA	NA
	Tutorial	-Assisting students on how to understand and write on the traditional approach to urbanism -How it changed with the development of capitalism	B. A. (H) DSE	Urban Sociology
SEPTEMBER	**Theory**	-Perspectives in Urban Sociology: City as Ecological, Political Economy, Network, City as Culture	B. A. (H) DSE	Urban Sociology

	Practical	NA	NA	NA
	Tutorial	-Identifying the basic principles underlying Chicago School and the human ecological approach -recognize the theoretical distinctions between the different perspectives Discussions centering writing the term assignment	B. A. (H) DSE	Urban Sociology
	Assignment	By reflecting on the social transformations brought about by the development of capitalism and the money economy, write an essay elaborating on the Marxist approach to understanding urbanism.	B. A. (H) DSE	Urban Sociology
OCTOBER	Theory	-Movements and Settlements: Migration and Community -Politics of Urban Space: Culture and Leisure	B. A. (H) DSE	Urban Sociology
	Practical	NA	NA	NA
	Tutorial	-Course readings-related discussions on the ethnographic cases emphasizing on migration in the Indian context; and on the concepts of culture and identity in the urban space	B. A. (H) DSE	Urban Sociology
	Mid-Semester Examination	Theme: Write a note on the principle features underlying urbanism as a way of life	B. A. (H) DSE	Urban Sociology
NOVEMBER	Theory	-Caste, Class, Gender and the Politics of Urban Space	B. A. (H) DSE	Urban Sociology
	Practical	NA	NA	NA
	Tutorial	-Looking at how metropolitan areas are affected by differences of class, caste and gender	B. A. (H) DSE	Urban Sociology

Name of the Faculty: Antasa Vairagya   **Department: Sociology**

Semester: III BA(Hons)

Month		Topic(s)	Course	Paper Code/Name
JULY	**Theory**	Gendering Sociology-Jackson and Scott	Core Course-07	Sociology of Gender
	Practical	NA	NA	NA
	Tutorial	NA	NA	NA
AUGUST	**Theory**	Gendering Sociology- Liz Stanley, Marilyn Strathern; Gender, Sex, Sexuality-Sherry Ortner, Rubin Gayle, Newton Esther	Core Course-07	Sociology of Gender
	Practical	NA	NA	NA
	Tutorial	Politics of Sexuality; Nature Vs Culture debate in Gender	Core Course-07	Sociology of Gender
	Assignment	How does Anthropology accommodates Gender Studies	Core Course-07	Sociology of Gender

SEPTEMBER	**Theory**	Production of Masculinity and Femininity- Halberstam Judith, Alter Joseph, Patricia Uberoi; Class, Caste- WalbySylvia	Core Course-07	Sociology of Gender

	Practical	NA	NA	NA
	Tutorial	Masculinity and Femininity	Core Course-07	Sociology of Gender
	Field Work	Gender Relations	Core Course-07	Sociology of Gender
OCTOBER	**Theory**	Caste, Class- Leela Dube, Sharmila Rege; Family, Work- Whitehead, Rajni Palriwal;, Power and Subordination- Candace	Core Course-07	Sociology of Gender
	Practical	NA	NA	NA
	Tutorial	Caste and Class; Family	Core Course-07	Sociology of Gender
	Mid-SemesterExamination	Topics: caste, family	Core Course-07	Sociology of Gender
NOVEMBER	**Theory**	Resistance and Movements- Kandiyoti Deniz, Hill-Collins Patricia, Radha Kumar	Core Course-07	Sociology of Gender
	Practical	NA	NA	NA
	Tutorial	Feminist Movements	Core Course-07	Sociology of Gender

SEMESTER WISE TEACHING PLAN (2020-21)

ODD SEMESTER

SRI VENKATESWARA COLLEGE

Name of the Faculty: Antasa Vairagya

Department: Sociology

Semester: III BA (Hons)

Month		Topics	Course	Paper Code/Name
JULY	**Theory**	Unpacking Development- Henry Bernstein, Wolfgang Sachs, Rist Gilbert	Generic Elective 03	Rethinking Development
	Practical	NA	NA	NA
	Tutorial	NA	NA	NA
AUGUST	**Theory**	Unpacking Development- J. Ferguson; Theorizing Development- David Harrison, Andre Frank, Michael Redclift	Generic Elective 03	Rethinking Development
	Practical	NA	NA	NA
	Tutorial	Modernization and Development	Generic Elective 03	Rethinking Development

SEPTEMBER	**Theory**	Theorizing Development- Nalini Vishwanathan, Kalyan Sanyal, Amartya Sen;	Generic Elective 03	Rethinking Development
	Practical	NA	NA	NA
	Tutorial	Environment and Development; Development as Freedom	Generic Elective 03	Rethinking Development
	Assignment	How is Development considered to be Freedom	Generic Elective 03	Rethinking Development
OCTOBER	**Theory**	Developmental Regimes in India- Pranab Bardhan, Partha Chatterjee; Issues in DevelopmentalPraxis- T. Scudder	Generic Elective 03	Rethinking Development
	Practical	NA	NA	NA
	Tutorial	Political Economy of Development	Generic Elective 03	Rethinking Development
	Mid-SemesterExamination	With reference to Pranab Bardhan and ParthaChatterji explain how there has been an influence of	Generic Elective 03	Rethinking Development

NOVEMBER	Theory	Issues in Developmental Praxis- Aradhana Sharma	Generic Elective 03	Rethinking Development
	Practical	NA	NA	NA
	Tutorial	Gender and Development	Generic Elective 03	Rethinking Development

Name of the Faculty: Antasa Vairagya

Department: Sociology

Semester: III BA (Hons)

Month		Topics	Course	Paper Code/Name
JULY	**Theory**	Introduction	Generic Elective 01	Indian Society: Images and Realities
	Practical	NA	NA	NA
	Tutorial	NA	NA	NA
AUGUST	**Theory**	Gender Construction in Hindu Society,; South Asian Household	Generic Elective 01	Indian Society: Images and Realities
	Practical	NA	NA	NA
	Tutorial	Gender seen as a social construction	Generic Elective 01	Indian Society: Images and Realities

SEPTEMBER	**Theory**	Social Change among South Indian Muslims; State and Politics in India	Generic Elective 01	Indian Society: Images and Realities
	Practical	NA	NA	NA
NOVEMBER	**Theory**	Recasting Women	Generic Elective 01	Indian Society: Images and Realities
	Tutorial	Household and Politics	Generic Elective 01	Indian Society: Images and Realities
	Practical	N	NA	NA
	Assignment	On Gender and Household	Generic Elective 01	Indian Society: Images and Realities
	Tutorial	Colonial History	Generic Elective 01	Indian Society: Images and Realities
OCTOBER	**Theory**	Understanding Caste	Generic Elective 01	Indian Society: Images and Realities
	Practical	NA	NA	NA
	Tutorial	Forms of Solidarity	Generic Elective 01	Indian Society: Images and Realities

Name of the Faculty: Dr. Nupurnima Yadav

Department: Sociology

Semester: Vth B.A Program

Paper: Generic Elective 01   Polity and Society in India

Month		Topics	Course	Paper Code/Name
AUGUST	**Theory**	The political history of Independent India. State and democratic problem	Generic elective 01	Polity and Society in India
	Practical	NA	NA	NA
	Tutorial	Social character of Indian State	Generic elective 01	Polity and Society in India

SEPTEMBER	**Theory**	Political Economy, Para Political Systems Indian Nationalism And Caste based politics in India	Generic elective 01	Polity and Society in India
	Practical	NA	NA	NA
	Tutorial	Idea of sub-nationalism	Generic elective 01	Polity and Society in India
	Assignment (10 Marks)	Discuss the social character of Indian state through its political history.		
OCTOBER	**Theory**	Party system and political participation	Generic elective 01	Polity and Society in India
	Practical	NA	NA	NA
	Tutorial _____ **Mid-Semester Examination (10 Marks)**	Vernacularization of politics in India	Generic elective 01	Polity and Society in India

NOVEMBER	Theory	Protest and Resistance in Indian politics	Generic elective 01	Polity and Society in India
	Practical	NA	NA	NA
	Tutorial	Mobilizations at the local level.	Generic elective 01	Polity and Society in India

SEMESTER WISE TEACHING PLAN (2020-21)

ODD SEMESTER

SRI VENKATESWARA COLLEGE

Name of the Faculty: Nupurnima Yadav

Department: Sociology

Semester: 5th B.A Prog.

Paper: SEC 03 Society through the Visual

Month		Topics	Course	Paper Code/Name
AUGUST	**Theory**	Introduction to Sociological understanding of Visual -Visual Anthropology -Visual Sociology	SEC 03	Society through the Visual
	Practical	NA	NA	NA
	Tutorial	NA	NA	NA

SEPTEMBER	Theory	Reflexivity Film Making as an ethnographic research	SEC 03	Society through the Visual
	Practical	NA	NA	NA
	Tutorial	NA	NA	NA
	Assignment (10 Marks)			
OCTOBER	Theory	New techniques of observations and research Hypermedia	SEC 03	Society through the visual
	Practical	NA	NA	NA
	Tutorial **Mid-Semester Project (10 Marks)** **Presentation (10 Marks)**	NA	NA	N A
			Reflexivity Film Making as an ethnographic research	SEC 03	Society through the Visual

NOVEMBER	Theory	Qualitative research and positioning women researchers in visual anthropology	SEC 03	Society through the visual
	Practical	NA	NA	NA
	Tutorial	NA	NA	NA

NOVEMBER	**Theory**			
	Practical	NA	NA	NA
	Tutorial	NA	NA	NA

SEMESTER WISE TEACHING PLAN (2020-21)
ODD SEMESTER
SRI VENKATESWARA COLLEGE

Name of the Faculty: Niharika Jaiswal   **Department: Sociology**

Semester: I

Month		Topics	Course	Paper Code/Name
JANUARY	**Theory**	Ideas of India Eck (2012)	Generic Elective no 01	General Elective Indian Society: Images and Reality
	Practicals			
	Tutorials	how have the socio-political transformations in the last two centuries shaped the idea of India?		
FEBRUARY	**Theory:**	Village, Town and Region Breman (1997) Cohn (1987) Caste, Class and Religion Zeliot (2004) Alavi (1989) Mines	Generic Elective no 01	General Elective Indian Society: Images and Reality
	Practicals:			
	Tutorials:	Discuss the diverse ways of conceptualizing Indian villages in social science discourse.		

	Assignment :	Discuss the diverse ways of conceptualizing Indian villages in social science discourse.		
MARCH	**Theory:**	Family and Gender Dube (1988) Gray and Mearns (1989)	Generic Elective no 01	General Elective Indian Society: Images and Reality
	Practicals:			
	Tutorials:			
	Test	is the idea of a distinctive 'Indian household' viable? Illustrate your answer with suitable examples.		
APRIL	**Theory:**	Political Economy Chatterjee (1997)	Generic Elective no 01	General Elective Indian Society: Images and Reality
	Practicals:			
	Tutorials:	write an essay on the political history of independent India.		

MAY	Theory:	critiques Omvedt (2011) Jayawardena (2016) Baruah (2001)	Generic Elective no 01	General Elective Indian Society: Images and Reality
	Practicals:			
	Tutorials:	Do you agree with the view that caste and class relations are based on patriarchy?		

SEMESTER WISE TEACHING PLAN
SRI VENKATESWARA COLLEGE

Name of the Faculty : Dr. S. Vivekananthan
Department : Tamil
CBCS Semester : I

Month	Theory/Practical	Topics	Course	Paper code/Name
July	Theory	<u>History of Indian Language (Tamil)</u> **Semantic Changes**	**B.A Prog Tamil Language**	**62081104**
	Theory	<u>Oral Traditions : Folk Tales, Songs and Myth</u> **Types and Explanation of Folk songs**	**B.A Prog Tamil Discipline**	**62081108**
	Theory	<u>MIL Communications (Tamil)</u> **Interview**	**B.A Prog Tamil AECC**	**72082807**
August	Theory	<u>History of Indian Language (Tamil)</u> **Phonological and Morphological Changes**	**B.A Prog Tamil Language**	**62081104**
	Theory	<u>Oral Traditions : Folk Tales, Songs and Myth</u> <u>**Folk songs and Myth**</u>	**B.A Prog Tamil Discipline**	**62081108**
	Theory	<u>MIL Communications (Tamil)</u> **Group Discussion and Conversation**	**B.A Prog Tamil AECC**	**72082807**

Month	Theory/Practical	Topics	Course	Paper code/Name
September	Theory Assignment	**History of Indian Language (Tamil)** **Syntactical Changes** **History of Tamil Language (I Part)**	**B.A Prog** **Tamil Language**	**62081104**
	Theory Assignment	**Oral Traditions : Folk Tales, Songs and Myth** **Myth and literature** **Folk Songs and Myth**	**B.A Prog** **Tamil Discipline**	**62081108**
	Theory Assignment	**MIL Communications (Tamil)** **Letter writing** **Interview and Letter writing**	**B.A Prog** **Tamil** **AECC**	**72082807**
October	Theory Mid-Term Test	**History of Indian Language (Tamil)** **History of Scripts** **History of Tamil Language**	**B.A Prog** **Tamil Language**	**62081104**
	Theory Mid-Term Test	**Oral Traditions : Folk Tales, Songs and Myth** **Mythology** **Oral Traditions**	**B.A Prog** **Tamil Discipline**	**62081108**
	Theory Mid-Term Test	**MIL Communications (Tamil)** **Comprehension** **Tamil Communications**	**B.A Prog** **Tamil** **AECC**	**72082807**
November	Theory	**History of Indian Language (Tamil)** **History of Tamil Scripts**	**B.A Prog** **Tamil Language**	**62081104**
	Theory	**Oral Traditions : Folk Tales, Songs and Myth** **Growth of literature from Myth**	**B.A Prog** **Tamil Discipline**	**62081108**
	Theory	**MIL Communications (Tamil)** **Practical writing of Tamil Communications**	**B.A Prog** **Tamil** **AECC**	**72082807**

SEMESTER WISE TEACHING PLAN
SRI VENKATESWARA COLLEGE

Name of the Faculty : Dr. S. Vivekananthan
Department : Tamil
CBCS Semester : III

Month	Theory/Practical	Topics	Course	Paper code/Name
July	Theory	**History of Ancient Tamil Lierature** **Three Sangams**	**B.A Prog** **Tamil Language**	**62081325**
	Theory	**Cultural Behavior of the Tamils** **Cultural Behavior**	**B.A Prog** **Tamil Discipline**	**62081327**
August	Theory	**History of Ancient Tamil Lierature** **Ettut-Thokai and Pathuppaattu**	**B.A Prog** **Tamil Language**	**62081325**
	Theory	**Cultural Behavior of the Tamils** **Customs and Social aspects of Tamils**	**B.A Prog** **Tamil Discipline**	**62081327**
September	Theory Assignment	**History of Ancient Tamil Lierature** **Ettut-Thokai and Pathuppaattu** **Sangam Literature**	**B.A Prog** **Tamil Language**	**62081325**
	Theory Assignment	**Cultural Behavior of the Tamils** **Customs and Social aspects of Tamils** **Festivals of the Tamils**	**B.A Prog** **Tamil Discipline**	**62081327**

Month	Theory/Practical	Topics	Course	Paper code/Name
October	Theory Mid Term Test	History of Ancient Tamil Lierature Ethical Literature and major five Epics History of Ancient Tamil Literature	B.A Prog Tamil Language	62081325
	Theory Mid Term Test	Cultural Behavior of the Tamils Festivals and Rituals Cultural Behavior of the Tamils	B.A Prog Tamil Discipline	62081327
November	Theory	History of Ancient Tamil Lierature Minor five Epics	B.A Prog Tamil Language	62081325
	Theory	Cultural Behavior of the Tamils Ballads and cultural issues	B.A Prog Tamil Discipline	62081327

SEMESTER WISE TEACHING PLAN
SRI VENKATESWARA COLLEGE

Name of the Faculty : Dr. S. Vivekananthan
Department : Tamil
CBCS Semester : V

Month	Theory/Practical	Topics	Course	Paper code/Name
July	**Theory**	**Selected Texts : Novel & Short Story (Tamil)** **History of Tamil short Story**	**B.A Prog** **Tamil Discipline**	**62087504**
August	**Theory**	**Selected Texts : Novel & Short Story (Tamil)** **First Five Short Stories**	**B.A Prog** **Tamil Discipline**	**62087504**
September	**Theory** **Assignment**	**Selected Texts : Novel & Short Story (Tamil)** **Second Five Short Stories** **Modern Short Stories in History of short story Literature**	**B.A Prog** **Tamil Discipline**	**62087504**
October	**Theory** **Mid Term Test**	**Selected Texts : Novel & Short Story (Tamil)** **Last Two Short stories and cultural reflections of the fictions** **Short story and Novel**	**B.A Prog** **Tamil Discipline**	**62087504**
November		**Selected Texts : Novel & Short Story (Tamil)** **Sociological perspectives in Short stories**	**B.A Prog** **Tamil Discipline**	**62087504**

SEMESTER WISE TEACHING PLAN
SRI VENKATESWARA COLLEGE

Name of the Faculty : Dr. S. Seenivasan
Department : Tamil
CBCS Semester : I

Month	Theory/Practical	Topics	Course	Paper code/Name
July	Theory	**History of Indian Language (Tamil)** **Sources of Tamil Language History**	B.A Prog Tamil Language	62081104
	Theory	**Oral Traditions : Folk Tales, Songs and Myth** **Folk Traditions in Tamil**	B.A Prog Tamil Discipline	62081108
	Theory	**MIL Communications (Tamil)** **History of Translation**	B.A Prog Tamil AECC	72082807
August	Theory	**History of Indian Language (Tamil)** **Dravidian Languages and Tamil**	B.A Prog Tamil Language	62081104
	Theory	**Oral Traditions : Folk Tales, Songs and Myth** **Definition and Types of Folk Tales**	B.A Prog Tamil Discipline	62081108
	Theory	**MIL Communications (Tamil)** **History and Types of Public Speech**	B.A Prog Tamil AECC	72082807

Month	Theory/Practical	Topics	Course	Paper code/Name
September	Theory Assignment	History of Indian Language (Tamil) Special Features in South Dravidian Languages History of Tamil Language (II Part)	B.A Prog Tamil Language	62081104
	Theory Assignment	Oral Traditions : Folk Tales, Songs and Myth Folk-lore and Culture of Tamils Folk Tales and Culture of the Tamils	B.A Prog Tamil Discipline	62081108
	Theory Assignment	MIL Communications (Tamil) Business Letter writing in Tamil Public Speech in Tamil	B.A Prog Tamil AECC	72082807
October	Theory Mid-Term Test	History of Indian Language (Tamil) Dialects in Tamil History of Tamil Language	B.A Prog Tamil Language	62081104
	Theory Mid-Term Test	Oral Traditions : Folk Tales, Songs and Myth Customs and Culture through Folk Literature Oral Traditions	B.A Prog Tamil Discipline	62081108
	Theory Mid-Term Test	MIL Communications (Tamil) Practical Translations Tamil Communications	B.A Prog Tamil AECC	72082807
November	Theory	History of Indian Language (Tamil) Types of Dialects	B.A Prog Tamil Language	62081104
	Theory	Oral Traditions : Folk Tales, Songs and Myth Analysis of Tamil Literary text through Folk tale	B.A Prog Tamil Discipline	62081108
	Theory	MIL Communications (Tamil) Practical Public Speeches in Tamil	B.A Prog Tamil AECC	72082807

SEMESTER WISE TEACHING PLAN
SRI VENKATESWARA COLLEGE

Name of the Faculty : Dr. S. Seenivasan
Department : Tamil
CBCS Semester : III

Month	Theory/Practical	Topics	Course	Paper code/Name
July	Theory	**History of Ancient Tamil Literature** **Tamil Bakthi Literature**	**B.A Prog** **Tamil Language**	**62081325**
	Theory	**Cultural Behavior of the Tamils** **Definition of Culture**	**B.A Prog** **Tamil Discipline**	**62081327**
August	Theory	**History of Ancient Tamil Literature** **Nayanmars in Bakthi Literature**	**B.A Prog** **Tamil Language**	**62081325**
	Theory	**Cultural Behavior of the Tamils** **Life style of Tamils**	**B.A Prog** **Tamil Discipline**	**62081327**
September	Theory Assignment	**History of Ancient Tamil Literature** **Azhvars in Bakthi Literature** **Bakthi Literature in Tamil**	**B.A Prog** **Tamil Language**	**62081325**
	Theory Assignment	**Cultural Behavior of the Tamils** **Social of Tamils** **Deities of the Tamils**	**B.A Prog** **Tamil Discipline**	**62081327**

Month	Theory/Practical	Topics	Course	Paper code/Name
October	Theory Mid Term Test	**History of Ancient Tamil Literature** **Saiva and Vaishnava Literature** **History of Ancient Tamil Literature**	**B.A Prog Tamil Language**	**62081325**
	Theory Mid Term Test	**Cultural Behavior of the Tamils** **History of Culture through Literature** **Cultural Behavior of the Tamils**	**B.A Prog Tamil Discipline**	**62081327**
November	Theory	**History of Ancient Tamil Literature** **Minor Literature in Tamil**	**B.A Prog Tamil Language**	**62081325**
	Theory	**Cultural Behavior of the Tamils** **Tamil Medicines**	**B.A Prog Tamil Discipline**	**62081327**

SEMESTER WISE TEACHING PLAN
SRI VENKATESWARA COLLEGE

Name of the Faculty : Dr. S. Seenivasan
Department : Tamil
CBCS Semester : V

Month	Theory/Practical	Topics	Course	Paper code/Name
July	Theory	**Selected Texts : Novel & Short Story (Tamil)** **History of Tamil Novel Literature**	**B.A Prog** **Tamil Discipline**	**62087504**
August	Theory	**Selected Texts : Novel & Short Story (Tamil)** **Characterization of the Novel THAGANAM**	**B.A Prog** **Tamil Discipline**	**62087504**
September	Theory Assignment	**Selected Texts : Novel & Short Story (Tamil)** **Social History of the workers in Grave yards** **Thaganam Novel in History of Tamil Novel Literature**	**B.A Prog** **Tamil Discipline**	**62087504**
October	Theory Mid Term Test	**Selected Texts : Novel & Short Story (Tamil)** **Plot of Thganam Novel** **Modern Short story and Thaganam Novel**	**B.A Prog** **Tamil Discipline**	**62087504**
November		**Selected Texts : Novel & Short Story (Tamil)** **Cultural Reflections of Society in Thaganam Novel**	**B.A Prog** **Tamil Discipline**	**62087504**

SEMESTER WISE TEACHING PLAN
(2020-2021)
SRI VENKATESWARA COLLEGE

Name of the Faculty: **Dr. Haokam Vaiphei**   Department: Political **Science**

ODD Semester: **I/III/V**

Name of the paper: **Perspectives of Public Administration III SEM**

Month		Topic	Course	Paper Code/Name
July	**Theory**	Public Administration as A Discipline Meaning, Dimensions and Significance of the Discipline Public and Private Administration Evolution of Public Administration	Honours Core Paper	**12321302**
	Practicals			
	Tutorials	Status of PA		
August	**Theory**	***Theoretical Perspectives*** **Classical Theories** Scientific management (F.W. Taylor) Administrative Management (Gullick, Urwick and Fayol) Ideal-type bureaucracy (Max Weber) **Neo-Classical Theories** Human relations theory (Elton Mayo) Rational decision-making (Herbert Simon)		
	Practicals			
	Tutorials	Relating Ideal Type Bureaucracy with the functioning of Indian Bureaucracy today		
	Assignment	Any one topic from the syllabus		
September	**Theory**	**Contemporary Theories** Ecological approach (Fred Riggs) Innovation and Entrepreneurship (Peter Drucker)		
	Practicals			
	Tutorials	Ecological Approach & Public Policy		
October	**Theory**	**Public Policy** Concept, relevance and approaches Formulation, implementation and evaluation		
	Practicals			
	Tutorials	Good Governance in India		
	Test	Test in Unit I and II		
November	**Theory**	**Major Approaches in Public Administration** New Public Administration New Public Management New Public Service Approach Good Governance Feminist Perspectives		

	Practicals			
	Tutorials	Revision		

Name of the Paper: **Legislative Practices and Procedures (SEC) SEM III**

Month		Topic	Course	Paper Code/Name
July	Theory	***Powers and functions of people's representative at different tiers of governance*** Members of Parliament, State legislative assemblies Functionaries of rural and urban local self-government from Zila Parishad, Municipal Corporation to Panchayat/ward.	Honours SEC Paper	**Legislative Practices and Procedures**
	Practicals			
	Tutorials	Role of MLAs/MPs		
August	Theory	***Supporting the legislative process*** How a bill becomes law Role of the Standing committee in reviewing a bill Legislative consultants & the framing of rules and regulations.		
	Practicals			
	Tutorials			
	Assignment	Problems & Prospects of New Farm Acts		
September	Theory	***Supporting the Legislative Committees*** Types of committees, role of committees in reviewing government finances, policy, programmes, and legislation.		
	Practicals			
	Tutorials	Role of Standing Committees		
October	Theory	***Reading the Budget Document*** Overview of Budget Process Role of Parliament in reviewing the Union Budget, Examination of Demands for Grants of Ministries, Working of Ministries.		
	Practicals			
	Tutorials	Role of Media in Indian Democracy		
	Test	Unit III, IV & V		
November	Theory	***Support in media monitoring and communication*** Types of media and their significance for legislators; Basics of communication in print and electronic media.		
	Practicals			
	Tutorials	Revision		

Name of the Paper: **Comparative Government & Politics BA P III SEM**

Month		Topic	Course	Paper Code/Name
July	Theory	Powers and functions of people's representatives at different tiers of governance Members of Parliament,	BA P Paper	**Comparative Government & Politics**

		State Legislative Assemblies, functionaries of rural and urban local self-government from Zila Parishads/Municipal Corporation to Panchayat/Ward.		
	Practicals			
	Tutorials	Assessing the role of MLAs & MPs		
August	**Theory**	Supporting the legislative process: How a Bill becomes a Law, Role of the Standing Committee in reviewing a Bill, Legislative Consultations, amendments to a Bill & The framing of Rules and Regulations.		
	Practicals			
	Tutorials	Differences between a bill & Law		
	Assignment	Write a Critique on the role of Parliamentary Committees		
September	**Theory**	Supporting the legislative committees Types of committees, Role of committees in reviewing government finances, policy, programmes, and legislation.		
	Practicals			
	Tutorials	Critical role of committees in determining an act		
October	**Theory**	Reading the budget document: Overview of Budget Process, Role of Parliament in reviewing the Union Budget, Railway Budget, Examination of Demands for Grants of Ministries, Working of Ministries		
	Practicals			
	Tutorials	Union Budget		
	Test	Unite-II, III & IV		
November	**Theory**	Support in media monitoring and communication: Types of media and their significance for legislators. Basics of communication in print and electronic media		
	Practicals			
	Tutorials	Revision		

(Dr. Haokam Vaiphei)
Assistant Professor
Department of Political Science

SEMESTER WISE TEACHING PLAN (2020-2021)
SRI VENKATESWARA COLLEGE

Name of the Faculty: **Dr. Deepika Singh**   Department: Political **Science**
ODD Semester: **I/III/V**

Name of the paper: **NATIONALISM IN INDIA - GE SEM III**

Month		Topic	Course	Paper Code/Name
July	**Theory**	Approaches to the study of nationalism	Honours GE Paper	**Nationalism in India**
	Practicals			
	Tutorials			
August	**Theory**	Unit 2 Reformist and anti-reformist movement of 19ᵗʰ century: major social and religious movements		
	Practicals			
	Tutorials			
	Assignment	PRESENTATION ON THE TOPICS TAUGHT		
September	**Theory**	Unit 3 Nationalist Politics and Expansion of its Social Base. a. Phases of Nationalist Movement: Liberal Constitutionalists, Swadeshi and the Radicals; Beginning of Constitutionalism in India b. Gandhi and Mass Mobilization: Non-Cooperation Movement, Civil Disobedience Movement, and Quit India Movement c. Socialist Alternatives: Congress Socialists, Communists.		
	Practicals			
	Tutorials	DISCUSSSION ON VARIOUS STRANDS OF INDEOLOGY AND THEIR SIGNIFICANCE IN FREEDOM STRUGGLE		
October	**Theory**	Unit 4 Social Movements (8 lectures) a. The Women's Question: Participation in the National Movement and its Impact b. The Caste Question: Anti-Brahmanical Politics c. Peasant, Tribals and Workers Movements		
	Practicals			
	Tutorials			
	Test	Test in Unit I and II		
November	**Theory**	Unit 5 Partition and Independence a. Communalism in Indian Politics b. The Two-Nation Theory, Negotiations over Partition		
	Practicals			
	Tutorials	Debate on partition Was partition inevitable		

Name of the Paper: **Comparing government and politics** (shared paper)

Month			Topic	Course	Paper Code/Name
July	**Theory**		Nature , scope and method of comparative politics	BA (p) discipline specific	**Comparing government and politics**
	Practicals				
	Tutorials				
August	**Theory**		Continue unit 1		
	Practicals				
	Tutorials				
	Assignment		What is comparative politics?		
September	**Theory**		COMPARING REGIME: AUTHRITAIRAN AND DEMOCRATIC		
	Practicals				
	Tutorials		DISCUSSION AUTHORITARAIN REGIME AS THREAT TO INTERNATIONAL PEACE.		
October	**Theory**		CLASSIFICATION OF POLITICAL SYSTEM PARIAMENTARY AND PRESIDENTIAL		
	Practicals				
	Tutorials				

	Test	Unite-II, III & IV		
November	**Theory**	CONITUE UNIT 3		
	Practicals			
	Tutorials			

Name of the Paper: **Introduction to Comparative Government and Politics**

Month		Topic	Course	Paper Code/Name
July	**Theory**	Understanding comparative politics	BA Pol SC core paper honurs	INTRODUCTION TO COMPARATIVE GOVERNMENT AND POLITICS
	Practicals			
	Tutorials			
August	**Theory**	Nature and scope of comparative politics Going beyond eurocentrism		
	Practicals			
	Tutorials			
	Assignment			

September	**Theory**	HISTORICAL CONTEXT OF MODERN GOVERNMENT
		      B) Socialism;
		      Meaning, growth and
		      development
		
		C) colonialism and decolonization; meaning, context, forms of colonialism, colonial struggle and process of decolonization		

	Practicals			
	Tutorials	Discussion on decolonisation		

October	Theory	Comparative study of constitutional development and political economy in the following countries: Brazil, Britain		
	Practicals			
	Tutorials			
	Test	Unit I &II		
November	Theory	Comparative study of constitutional development and political economy in the following countries: Nigeria and China		
	Practicals			
	Tutorials	Comparing the political system of Nigeria and Brazil		

Dr Deepika Singh

Assistant Professor (ad hoc)

Department of political Science

SEMESTER WISE TEACHING PLAN   (2020-2021)
SRI VENKATESWARA COLLEGE

Name of the Faculty:Amit Yadav(Adhoc-joined 2ⁿᵈ dec 2020)   **Department:Political Science**

Semester : I/III/IV(ODD SEM)

Month		Topics	Course	Paper Code/Name
DECEMBER	**Theory**	Constituent assembly debates, philosophy of constitution, basic features, fundamental rights and directive principles of state policy, citizenship and related debates.	BA(HONS)	12321102/ CONSTITUTIONAL GOVERNMENT AND DEMOCRACY IN INDIA
		Globalization- definition and its various dimensions: economic, political, technological and cultural. United Nations- introduction and its various agencies and structure	BA(PROG)	62321445/ A GLOBALISING WORLD
	Practicals			
	Tutorials	Discussion around the above topics, answering doubts and other information regarding answer writing		
JANUARY	**Theory:**	Organs of Government The Legislature: Power and Functions of Parliament, Debates on Representation in Parliament. The Executive: Election, Power, Functions and the changing role of President and Prime Minister.	BA(HONS)	12321102/ CONSTITUTIONAL GOVERNMENT AND DEMOCRACY IN INDIA

		Equality-conceptualization, various dimensions, debates regarding equality of opportunity and equality of outcome and its relationship with liberty. Justice- Defining the concept, theories of justice, Rawls theory of justice, the two principles and its criticisms. Also,Nozicks theory of justice and Amartya Sen's views on justice, equality and freedom	BA(PROG)	62321101/ Introduction to Political Theory
	Practicals:			
	Tutorials:	Discussion around the above topics, answering doubts and other information regarding answer writing with relevant examples and thought experiments.		

	Assignment:	Question assigned from above topics making up the internal assessment requirement		
FEBURARY	**Theory:**	The Judiciary: Appointment of Judges in High Courts and the Supreme Court, Power and Functions of High Courts and the Supreme Court. Federalism and Decentralization- Centre-State Relations, Asymmetrical features of Federalism; the Panchayats and Municipalities. Emergency Provisions and critical analysis these provisions.	BA(HONS)	12321102/ CONSTITUTIONAL GOVERNMENT AND DEMOCRACY IN INDIA
		Rights- Meaning and nature; types and functions of rights; theories and different generation of rights and relevant criticisms. Debates in Political Theory- Protective discrimination and principles of fairness; The Public versus private debate: Feminist Perspective, Censorship and its limits	BA(PROG)	62321101/ Introduction to Political Theory

	Practicals:			
	Tutorials:	Discussion around the above topics, answering doubts and other information regarding answer writing with relevant examples and thought experiments.		
	Test			
MARCH	**Theory:**	Preventive Detention and National Security Laws	BA(HONS)	12321102/ CONSTITUTIONAL GOVERNMENT AND DEMOCRACY IN INDIA
		Censorship and its limits	BA(PROG)	62321101/ Introduction to Political Theory
	Practicals:			
	Tutorials:	Discussion around the whole syllabus, revising the core areas, answering doubts and other information regarding answer writing with relevant examples and thought experiments.		

SEMESTER WISE TEACHING PLAN   (2020-2021)
SRI VENKATESWARA COLLEGE

Name of the Faculty: Ashish Kumar Thakur (Adhoc-joined 28ᵗʰ Sept. 2020)   Department: Political Science

Semester : I/III/V(ODD SEM)

Month		Topics	Course	Paper Code/Name
SEPTEMBER		**Course Objective:** to equip students with the basic intellectual tools for understanding International Relations. • To make students aware of the implicit Euro - centricism of International Relations by highlighting certain specific perspectives from the Global South.	B.A.(H), Sem III	12321303/Perspectives on International Relations and World History
		Course Objective: to acquaint the student broadly with the legislative process in India at various levels, introduce them to the requirements of peoples' representatives and provide elementary skills to be part of a	SEC-B.A.(P), Sem III	62323312/ Legislative Support

		legislative support team.		
			B.A.(P), Sem V	62327502/ Administration and Public Policy: Concepts and Theories
OCTOBER		**Unit:** An Overview of Twentieth Century IR History • Rise of Fascism / Nazism • World War II: Causes and Consequences • Cold War: Different Phases • Emergence of the Third World • K. Mingst, (2011) Essentials of International Relations • J. Baylis and S. Smith (eds), The Globalization of World Politics: An Introduction to International Relations • M. Nicholson, (2002) International Relations: A Concise Introduction • R. Jackson and G. Sorensen, (2007) Introduction to International Relations: Theories and Approaches • Hobsbawm, E.	B.A.(H), Sem III	12321303/ Perspectives on International Relations and World History

		(1995) Age of Extreme: The Short Twentieth Century, 1914— 1991. • Carr, E.H. (2004) International Relations between the Two World Wars: 1919-1939. • Taylor, A.J.P. (1961) The Origins of the Second World War. • The Cold War: A Very Short Introduction, Robert J. McMahon		
		Unit IV: Reading the budget document • Celestine, A. How to read the Union Budget • Government of India (Lok Sabha Secretariat) Parliamentary Procedures (Abstract Series) • Kapur, Devesh and Pratap Banu Mehta, "The Indian Parliament as an Institution of Accountability" **Unit V:** Support in media monitoring and communication • Agarwal, O.P. and T.V.	SEC-B.A.(P), Sem III	62323312/ Legislative Support

		Somanathan, "Public Policy Making in India: Issues and Remedies" • The Media's Role in Lawmaking: A Case Study Analysis, Lotte Melenhorst		
		Unit III: Development administration • Elements of development administration. • Time and space dimensions in the study of development administration • Bhattacharya, M. (2001) *New Horizons in Public Administration*. • Gant, G.F. (1979) *Development Administration: Concepts, Goals, Methods*. • Wiedner, E. (ed.) (1970) *Development Administration in Asia.*	B.A.(P), Sem V	62327502/ Administration and Public Policy: Concepts and Theories
NOVEMBER		**Unit:** An Overview of Twentieth Century IR History • Collapse of the USSR and the End of the Cold War • Post Cold War	B.A.(H), Sem III	12321303/ Perspectives on International Relations and World History

		Developments and Emergence of Other Power Centers of Power • The Cold War: A Very Short Introduction, Robert J. McMahon • Brezeznski, Z. (2005) Choice: Global Dominance or Global Leadership. • Therborn, G. (2006) 'Poles and Triangles: US Power and Triangles of Americas, Asia and Europe' • J. Baylis and S. Smith (eds), The Globalization of World Politics: An Introduction to International Relations		
		Revision: Unit I, Unit II and Unit III	SEC-B.A.(P), Sem III	62323312/ Legislative Support
		Unit III: Development administration • Politics of development administration • Bhattacharya, M. (2001) New Horizons in Public Administration. • Esman, M.J. (1986) 'Politics of Development Administration'.	B.A.(P), Sem V	62327502/ Administration and Public Policy: Concepts and Theories

		Course Objective: This course provides a comprehensive introduction to the most important multilateral political organization in international relations. Unit I: The United Nations (a) An Historical Overview of the United Nations (b) Principles and Objectives • Hurd, Ian (2011), "Theorizing International Organizations: Choices and Methods in the Study of International Organizations • Karns, Margaret P. and Karen A. Mingst (2009), International Organizations: The Politis and Processes of Global Governance • Taylor, P. and Groom, A.J.R. (eds.) (2000) The United Nations at the millennium. • Gareis, S.B. and Varwick, J. (2005) The United Nations: an introduction.	B.A.(H) GE-Political Science, Sem I	12325908/ United Nations and Global Conflicts

	Practicals			

	Tutorials	• Discussion
		  • Previous year questions
		  • Individual doubts
		  • Assignments
		• Revision		

DECEMBER	**Theory**	**Unit I** (c) Structures and Functions: General Assembly; Security Council, and Economic and Social Council; the International Court of Justice, and the specialised agencies (International Labour Organisation [ILO], United Nations Educational, Scientific and Cultural Organisation [UNESCO], World Health Organisation [WHO], and UN programmes and funds: United Nations Children's Fund *UNICEF+, United Nations Development Programme [UNDP], United Nations Environment Programme [UNEP], UN Women, United Nations High Commissioner for Refugees [UNHCR]), Critical Asssessment of Secretary General (d) Peace Keeping, Peace Making and Enforcement, Peace	B.A.(H) GE-Political Science, Sem I	12325908/ United Nations and Global Conflicts

		Building and Responsibility to Protect		
		(e) Millennium Development Goals		
		• Taylor, P. and Groom, A.J.R. (eds.) (2000) The United Nations at the millennium.		
		• Thakur, R. (1998) 'Introduction', in Thakur, R. (eds.) Past imperfect, future uncertain: The UN at Ffifty.		
		• Moore, J.A. Jr. and Pubantz, J. (2008) The new United Nations.		
		• Whittaker, D.J. (1997) 'Peacekeeping', in United Nations in the contemporary world.		
		• Ghali, B.B. (1995) An agenda for peace. United Nations Department of Public Information. (2008) The United Nations Today.		
		• Baylis, J. and Smith, S. (eds.) (2008) The globalization of world politics. an introduction to international		

		relations. • Hanhimäki, Jussi M. (2015) The United Nations: A Very Short Introduction. • Weiss, Thomas G. and Daws, Sam ed. (2007) The Oxford Handbook on the United Nations		
	Practicals			
	Tutorials	Discussion around the above topics, answering doubts and other information regarding answer writing		
JANUARY	**Theory:**	Unit II: Major Global Conflicts since the Second World War (a) Korean War (b) Vietnam War (c) Afghanistan Wars (d) Balkans: Serbia and Bosnia • Baylis, J. and Smith, S. (eds.) (2008) The globalization of world politics. an introduction to international relations. • Hanhimäki, Jussi M. (2015) The United Nations: A Very Short Introduction. • Thakur, R. (1998) 'Introduction', in Thakur, R. (eds.) Past imperfect, future uncertain: The UN at Ffifty.	B.A.(H) GE- Political Science, Sem I	12325908/ United Nations and Global Conflicts

	Practicals:			
	Tutorials:			

| FEBURARY | **Theory:** | **Unit III:** Assessment of the United Nations as an International Organisation: Imperatives of Reforms and the Process of Reforms

• Baylis, J. and Smith, S. (eds.) (2008) The globalization of world politics. an introduction to international relations.
• Hanhimäki, Jussi M. (2015) The United Nations: A Very Short Introduction. | B.A.(H) GE-Political Science, Sem I | 12325908/ United Nations and Global Conflicts |

	Practicals:			
	Tutorials:	• Discussion • Previous year questions Assignment: B.A.(H), Sem I Understanding Political Theory • Revision		
	Test			

MARCH	**Theory:**	• Discussion
		    • Previous year questions
		    • Individual doubts
		    • Assignments
		• Revision
			B.A.(H) GE-Political Science, Sem I	12325908/ United Nations and Global Conflicts

	Practicals:			
	Tutorials:	Discussion around the whole syllabus, revising the core areas, answering doubts and other information regarding answer writing with relevant examples and thought experiments.		

SEMESTER WISE
TEACHING PLAN (2020-
2021)
SRI VENKATESWARA COLLEGE

Name of the Faculty: Dr Jita Mishra   **Department:**
Political Science

Semester : I/111/V Citizenship in a globalizing world

Month		Topics	Course	Paper Code/Name
JANUARY	**Theory**	Classical conceptions of citizenship	BA Hons Political Science 3rd year v semester	6.4 A Citizenship in a globalizing world
	Practicals			
	Tutorials	Greek and Roman citizenship		
FEBRUARY	**Theory:**	The evolution of Citizenship and the modern state		
	Practicals:			

		Tutorials:	Evolution of citizenship		

		Assignment :	Classical theory of citizenship	
MARCH	**Theory:**	Citizenship and diversity	
	Practicals:		
	Tutorials:	diversity	
	Test		
APRIL	**Theory:**	Citizenship beyond the nation state-globalisation and global justice	

	Practicals:	
	Tutorials:	Globalization -cultural,economic, political

MAY	**Theory:**	The idea of cosmopolitan citizenship
	Practicals:	
	Tutorials:	Cosmopolitan citizenship- the contemprory debate

SEMESTER WISE TEACHING PLAN   (2020-2021)
SRI VENKATESWARA COLLEGE

Name of the Faculty: Rajan Jha(Adhoc-joined 2ⁿᵈ Dec 2020)   Department: Political Science

Semester : I/III/IV(ODD SEM)

Month		Topics	Course	Paper Code/Name
DECEMBER	**Theory**	Course Objective: to introduce the various ways of theorizing the political. Unit I: What is Politics: Theorizing the 'Political' Unit II: Approaches to Political Theory: Normative, Historical and Empirical • 'What is Political Theory', in Bhargava, R. and Acharya, A. (eds), Political Theory: An Introduction. • 'Why do we need Political Theory', in Bhargava, R. and Acharya, A. (eds), Political Theory: An Introduction.	BA(HONS), Sem I	12321101/ Understanding Political Theory
		Course Objective: to introduce certain key aspects of conceptual analysis in political theory. Unit I: What is Political	BA(PROG), Sem I	62321101/ Introduction to Political Theory

		Theory and what is its relevance? 'What is Political Theory', in Bhargava, R. and Acharya, A. (eds.) Political Theory: An Introduction. Unit II: Liberty		
	Practicals			
	Tutorials	Discussion around the above topics, answering doubts and other information regarding answer writing		
JANUARY	**Theory:**	Unit III: Traditions of Political Theory: Liberal, Marxist, Anarchist and Conservative Heywood, A. (1992) Political Ideologies Unit IV: Critical Perspectives in Political Theory: Feminist and Postmodern	BA(HONS), Sem I	12321101/ Understanding Political Theory
	Practicals:			
	Tutorials:			

FEBURARY	**Theory:**	Unit V: The Idea of Political Community: Political Obligation • Roy, A. (2008) 'Citizenship', in Bhargava, R. and Acharya, A. (eds), Political Theory: An Introduction. Hyums, K. (2008) 'Political Authority and Obligation', in McKinnon, C. (ed), Issues in Political Theory.	BA(HONS), Sem I	12321101/ Understanding Political Theory
	Practicals:			
	Tutorials:	• Discussion • Previous year questions Assignment: B.A.(H), Sem I Understanding Political Theory • Revision		
	<u>Test</u>			

MARCH	**Theory:**	• Discussion
		  • Previous year questions
		  • Assignments
		• Revision
			BA(HONS), Sem I	12321101/ Understanding Political Theory

	Practicals:			

	Tutorials:	Discussion around the whole syllabus, revising the core areas, answering doubts and other information regarding answer writing with relevant examples and thought experiments.

PLAN
SRI VENKATESWARA COLLEGE
July-November, 2020

Name of the Faculty: Dr SANTOSH KUMAR SINGH

Department: POLITICAL SCIENCE

Semester: B.A (Hons) Vth Semester
Paper XI-Classical Political Philosophy

Month		Topics	Course	Paper Code/Name
JULY	**Theory:**	What is Political Thought, Theory and Philosophy. Debates on Decline and Resurgence of Political Theory Methods of Interpretation: Textual, Contextual and Postmodern Approach	B.A (Hons) Vth Semester	Paper XI-Classical Political Philosophy
	Tutorials:	Text and Interpretation Philosophy and science Metaphysics and Epistemology		
AUGUST	**Theory:**	Textual Approach – Terence Ball, Hannah Arendt, Leo Strauss. Contextual Approach-Quentin Skinner, Thomas Kuhn, Sheldon Wolin Postmodern Approach- Herbert Marcuse, Jurgen Habermas, Michel Foucault, Nietzsche Plato's Philosophy- Theory of Forms, Justice, Philosopher King/Queen, Communism Plato's Later Political Thought	B.A (Hons) Vth Semester	Paper XI-Classical Political Philosophy

	Tutorials:	Textual, Contextual and Postmodern Approach Plato's Philosophy		
SEPTEMBER	**Theory:**	Aristotle Philosophy-Comparison with Plato Religion, Theory on State, Citizenship, Slavery, and Forms of Government, Ethics, Constitution, Justice Political Thought from Ancient Greece to Early Christianity Machiavelli's Philosophy-Virtu, Religion, Republicanism, Separation of State vs Religion, morality and statecraft; vice and virtue and Modern thinker	B.A (Hons) Vth Semester	Paper XI-Classical Political Philosophy
	Assignment	Textual, Contextual and Postmodern Approach Plato's Philosophy Aristotle Philosophy		
OCTOBER	**Theory**	Hobbes Philosophy-Human nature, State of Nature, Social Contract, State, Leviathan; atomistic individuals. Locke's Philosophy- Laws of Nature, Natural Rights, Property, right to dissent, Theory on State, Rights, Forms of Government	B.A (Hons) Vth Semester	Paper XI-Classical Political Philosophy
	Tutorials:	Hobbes Philosophy compare with Locke's Philosophy		
	Mid Term Test			
NOVEMBER	**Theory:**	Understanding the Political Philosophy – From Plato to Locke Revision of previous topics	B.A (Hons) Vth Semester	Paper XI-Classical Political Philosophy

	Tutorials:	Debates on Contractarian Thinkers		

*(**Dr Santosh Kumar Singh)**

SEMESTER WISE TEACHING

PLAN
SRI VENKATESWARA COLLEGE
July-November, 2018

Name of the Faculty: Dr SANTOSH KUMAR SINGH

Department: POLITICAL SCIENCE

Semester: B.A (Prog) Vth Semester
                 Paper GE (Interdisciplinary): Reading Gandhi

Month		Topics	Course	Paper Code/Name
JULY	**Theory:**	Philosophy Vs Theory, Thought Vs Theory, Thought Vs Philosophy in the context of Gandhi Approaches of Interpretation: Textual, Contextual and Postmodern Approach	B.A (Prog) Vth Semester	Paper GE (Interdisciplinary): Reading Gandhi
	Tutorials:	Philosophy and Politics Philosophy and science Metaphysics and Epistemology		
AUGUST	**Theory:**	Textual Approach – Terence Ball, and Leo Strauss. Contextual Approach- Quentin Skinner, and Sheldon Wolin	B.A (Prog) Vth Semester	Paper GE (Interdisciplinary): Reading Gandhi
		Postmodern Approach- Herbert Marcuse, Jurgen Habermas, Michel Foucault, Nietzsche Gandhi's Philosophy Gandhi in his own words: A close reading of Hind Swaraj		

	Tutorials:	Textual, Contextual and Postmodern Approach Gandhi's Philosophy		
SEPTEMBER	**Theory:**	Commentaries on Hind Swaraj and Gandhian thought by A.J.Parel, B.Parekh, and D.Hardiman	B.A (Prog) Vth Semester	Paper GE (Interdisciplinary): Reading Gandhi
	Assignment	Textual, Contextual and Postmodern Approach Gnadhi's Philosophy-Modernity, Swaraj, Satyagraha		
OCTOBER	**Theory**	Gandhi and modern India-Nationalism, Communal unity, Women's Question, and Untouchability	B.A (Prog) Vth Semester	Paper GE (Interdisciplinary): Reading Gandhi
	Tutorials:	Relevance of Gandhi in Our life		
	Mid Term Test			
NOVEMBER	**Theory:**	Understanding the Overall Gandhi's Philosophy and Contribution Revision of previous topics	B.A (Prog) Vth Semester	Paper GE (Interdisciplinary): Reading Gandhi
	Tutorials:	Where do you find Gandhi's Philosophy?		

(*Dr Santosh Kumar Singh)*

SEMESTER WISE TEACHING PLAN (2020-2021)
SRI VENKATESWARA COLLEGE

Name of the Faculty: Namita Pandey   **Department:** Political Science

Semester : I/III/V

Month		Topics	Course	Paper Code/Name
JULY	**Theory**	Approaches to Understanding Patriarchy. Feminist theory of Sex/Gender Distinction	BA(Hons), Fifth Semester, Political Science	Feminism: Theory and Practice
		Biologism vs. Social Construction		
		Understanding Patriarchy and Feminism		
	Practicals			
	Tutorials	Discussion on Sylvia Walby - Theorizing Patriarchy		
AUGUST	**Theory:**	Liberal Theory of Feminism. Discussion of First Wave of Feminism with special reference to Mary Wollstonecraft & other Feminist authors.		
		Marxist theory of Feminism with special reference to Marx and Engels perspective on Feminism		

	Practicals:			
	Tutorials:	Understanding Sex/Gender distinctions in day to day living		

	Assignment:	Critically Examine the liberal theory of Feminism from Marxian Perspective	
SEPTEMBER	**Theory:**	Socialist Theory of Feminism with Special reference to Dual Patriarchy, Zilla Einstein's notion of Capitalist Patriarchy Emphasis on Women's Question from Neomarxist Perspective Radical Theory of Feminism	
	Practicals:		
	Tutorials:	A discussion on Betty Friedans Feminine Mystique, Simon De Beauvoir's Second Sex	

	Test	A Critical Comparison between Radical and Socialist Feminism
OCTOBER	**Theory:**	Origin of Feminist in the West: Women in French Revolution, Suffrage Movement in Britain and West, Feminism in Scoalist Countries, Women in Russian Revolution, Feminist Movements in China and Cuba, Feminist Issues and Womens Participation in Anti Colonial and national Liberation Movements with special reference to India
	Practicals:	
	Tutorials:	Class Presentation on Women in Indian National Movement

NOVEMBER	**Theory:**	Tradtional Histiography and Feminist Critiques: A Criticism of Traditional History by Analyzing the Social Reform movement and Indian National Movement & Position of Women in India

Family in India: Patrilineal and Matrilineal, Patterns of Consumption, Intra Household Bargaining and Entitlement, Property Rights

Women in Work, Seual Division of Productive and Reproductive Work, Paid, Underpaid and Unpaid work, Visible and Invisible Work, Methods of Computing Women's Work, Female Head Households |
| | **Practicals:** | |

	Tutorials:	A discussion on domestic labor debate emerging in the context of unpaid labour

SEMESTER WISE
TEACHING PLAN (2020-2021)
SRI VENKATESWARA COLLEGE

Name of the Faculty: Namita Pandey   **Department:** Political Science

Semester : I

Month		Topics	Course	Paper Code/Name
JANUARY	**Theory**	Globalization: What is it? Economic, Political, Technological & Cultural Dimensions	B.A(Prog) Sem 1	A Globalizing World
	Practicals			
	Tutorials	Discussion on Political and Economic Dimensions of Globalization and its anchors		

FEBRUARY	**Theory:**	Contemporary World Actors: United Nations; Structure, Function, Role & Reforms World Trade Organization; Structure, Functions, Critical Evaluation		
	Practicals:			
	Tutorials:	Discussions on the Reforms in the United Nations		

	Assignment :	Define Globalization Discuss the Technological & Cultural Dimensions of Globalization	
MARCH	**Theory:**	Group of 77; Structure, Functions, Role and Critical Evaluation Contemporary World Issues Global Environmental Issues: Global Warming	
	Practicals:		

	Tutorials:	Discussion on the Functioning of WTO	
	Test	What are the economic dimensions of globalization? Critically examine the role of UN in the contemporary world	
APRIL	**Theory:**	Global Environmental Issues; Biodiversity, Resource Scarcity Poverty and Inequality International Terrorism	
	Practicals:		
	Tutorials:	Discuss Factors responsible for International Terrorism	

MAY	**Theory:**	
	Practicals:	
	Tutorials:	

SEMESTER WISE TEACHING PLAN (2020-2021)- Odd Semester
SRI VENKATESWARA COLLEGE

Name of the Faculty: Dr. Vikash Kumar   **Department: Political Science**

Semester: I/III/V

Month		Topics	Course	Paper Code/Name
September, 2020	**Theory**	Legal system in India, system and courts their jurisdiction Understanding public policy Concept of Globalisation	B.A (P)- Political Science 5ᵗʰ Semester BA(P)- Political Science 5ᵗʰ semester B. Com (P)- Pol. Sci (MIL) 3ʳᵈ Semester	1.Democratic awareness through legal Literacy (62323501) 2.Administrative and Public Policy (62327502) 3. Politics of Globalisation (52321323
	Practicals	NA		
	Tutorials	Discussion with topics		
October, 2020	**Theory:**	Role of the police, dosputes and executive in criminal law administration, Indian Personal laws, Constitution, FIR, arrest, Bail, Consumer right, violence against women, labour law, cybercrime, anti-terrorist law etc. Policy making in pub. Adm. Approaches to understanding Globalisation: Libral and Radical, Alternative Perspectives of Globalisation and Dimensions, Globalisation and social movements	BA(P)- Political Science 5ᵗʰ Semester BA(P)- Political Science 5ᵗʰ Semester B. Com (P)- Pol. Sci (MIL) 3ʳᵈ Semester	1.Democratic awareness through legal Literacy (62323501) 2.Administrative and Public Policy (62327502) 3. Politics of Globalisation (52321323)

	Practicals:	NA		
	Tutorials:	Discussion with some topic		

	Assignment:	What is Legal System? Critically explain the feature of legal System in India. Discuss the Approaches to Understanding Globalisation.		1.Democratic awareness through legal Literacy (62323501) 2.Politics of Globalisation (52321323)
November, 2020	**Theory:**	Access to court and enforcement of Rights. policy formulation and implementation Demise of the Nation State, human migration and Domestic and Global responses of Globalisation.	BA(P)- Political Science 5ᵗʰ Semester BA(P)- Political Science 5ᵗʰ Semester B. Com (P)-Pol. Sci (MIL) 3ʳᵈ Semester	1.Democratic awareness through legal Literacy (62323501) 2.Administrative and Public Policy (62327502) 3. Politics of Globalisation (52321323)
	Practicals:	NA		
	Tutorials:	Questions-answer session		
	Test	What is role of Police and Discuss the Criminal law administration in India. What is Globalization? Give Your Argument for or against Contemporary Globalization.		1.Democratic awareness through legal Literacy (62323501) 2. Politics of Globalisation (52321323)

December, 2020	**Theory:**	What is Political Theory and relevance of Political theory Anarchist	B.A (P)- Political Science 1ˢᵗ Semester BA (H)- Political Science 1ˢᵗ Semester	1.Introduction to Political Theory (62321101) 2. Understanding Political Theory (12321101)
	Practicals:			
	Tutorials:			

January, 2021	**Theory:**	Liberty and Equality Nature of Anarchist: different perspective	B.A (P)- Political Science 1ˢᵗ Semester BA (H)- Political Science 1ˢᵗ Semester	1.Introduction to Political Theory (62321101) 2. Understanding Political Theory (12321101)
	Practicals:	NA		
	Tutorials:	Discussion with some topics		Introduction to Political Theory (62321101)
	Assignment	What do you mean by Political Theory? Discuss its Nature and Significance.		1.Introduction to Political Theory (62321101)
February, 2021	**Theory:**	Justice and Rights Post modernism	B.A (P)- Political Science 1ˢᵗ Semester BA (H)- Political Science 1ˢᵗ Semester	1.Introduction to Political Theory (62321101) 2. Understanding Political Theory (12321101)
	Practicals:	NA		
	Tutorials:			

March, 2021	**Theory:**	Protective discrimination and principles of fairness. Multicultural perspective of Post modernism	B.A (P)- Political Science 1ˢᵗ Semester BA (H)- Political Science 1ˢᵗ Semester	1.Introduction to Political Theory (62321101) 2. Understanding Political Theory (12321101)
	Practicals:	NA		
	Tutorials:	Questions and Answer		
	Test	What is Equality? Discuss the kinds of Equality.		1.Introduction to Political Theory (62321101)
April, 2021	Theory:	The Public vs private debate: Feminist Perspective Censorship and its limits Idea of Political Community	B.A (P)- Political Science 1ˢᵗ Semester BA (H)- Political Science 1ˢᵗ Semester	1.Introduction to Political Theory (62321101) 2. Understanding Political Theory (12321101)
	Practicals:	NA		
	Tutorials:			

Name of the Faculty: Dr M PADMA SURESH

Department: ECONOMICS   **Semester : V / 2020-21**

MONTH		TOPICS	COURSE	PAPER CODE/NAME
JULY	**Theory**	**Issues in Growth, Development and Sustainability** Todaro and Smith, Ch 1, 2; Dreze and Sen Chs. 2 & 3. **Factors in Development** Capital formation (physical and human); technology; institutions. Todaro and Smith, Ch 1, 2, Kapila (2015), Ch 6.	BA Prog. Economics	Economic Development and Policy in India-I 62277503
	Tutorials	Discussion, Practice writing and online resources e.g. World Bank for developing and developed countries comparison.		
AUGUST	**Theory:**	**Factors in Development** Capital formation (physical and human); technology; institutions. Todaro and Smith, Ch 1, 2, **Population and Economic Development** Demographic trends; urbanization. Kapila (2015), Ch 6, 7*.		
	Tutorials:	Discussion, Population pyramid etc.		
SEPTEMBER	**Theory:**	**Employment** Occupational structure in the organized and unorganized sectors; open, under and disguised unemployment (rural and urban); employment schemes and their impact. Kapila (2015), Ch 19.		

		Internal Test-1		
	Tutorials:	Writing assignment, discussion.		
OCTOBER	**Theory:**	**Indian Development Experience** Critical evaluation of growth, inequality, poverty and competitiveness, pre and post reform era; Kapila (2015), Ch 3, 15. Savings and investment; Kapila (2015), Ch 11, 12. optional and advanced reading material.		
	Tutorials:	Discussion of past papers. Revision		
NOVEMBER	**Theory**	Topic 5 Contd. Mobilisation of internal and external finance; Kapila (2009), Ch 8. Monetary and fiscal policies; Kapila (2015), Ch 5. Centre-state financial relations; 14th Finance Commission Report* M. Govinda Rao (2005), Y.V. Reddy (2015), Sections I to 9.		
	Tutorials	Revision Internal Test-2		

SEMESTER WISE TEACHING PLAN (2020-21)
SRI VENKATESWARA COLLEGE

Name of the Faculty: Dr. M PADMA SURESH

Department: ECONOMICS   **Semester : V /2020-21**

MONTH		TOPICS	COURSE	PAPER CODE/NAME
JULY	**Theory**	Matrix approach to k-variable regression model	BA(Hons) Economics	12277502-DSE Applied Econometrics
	Tutorials	Exercises from Basic Econometrics on matrix approach, 5th International ed.		
AUGUST	**Theory**	Matrix approach, Stages in empirical econometric research, Regression Diagnostics-Multicollinearity, Heteroscedasticity, Autocorrealation. Functional forms and Dummy variables. Use of GRET/STATA in econometrics by using Econometrics By Example (EBE)		
	Tutorials	Review and revision of essentials of econometrics using EBE, question papers-problem solving		
SEPTEMBER	**Theory**	Model specification-Ramsey RESET Test, LM Test, DW test. Measurement errors, AIC, SIC, Outliers, Leverage etc. Non-normal errors. STATA/ GRETL exercises from EBE for specification and diagnostics		
	Tutorials	Conduct of first internal test covering Matrix approach, Review chapters and Model specification. Exercises from Basic econometrics, Gujarati and Wooldridge. Question papers-problem solving. Discussion of Project topic and submission of		

		proposals		
OCTOBER	**Theory**	Advanced topics in regression analysis- Dynamic econometric models, Panel data and Instrumental Variable estimation, GRETL/STATA exercises using EBE		
	Tutorials	Exercises from Basic econometrics, Gujarati and Wooldridge. Question papers-problem solving		
NOVEMBER	**Theory**	Simultaneous equation models		
	Tutorials	Conduct of practice internal test covering Advanced topics in regression analysis. Submission and evaluation of projects.		

Name of the Faculty: Aruna Rao

Department: Economics   **Semester : V**

Month		Topics	Course	Paper Code/Name
AUGUST	**Theory**	Unit 1	B. Com (Prog)	Principles of Microeconomics
	Practicals			
	Tutorials	Assignment on unit 1		
SEPTEMBER	**Theory:**	Unit 1 & 2	B. Com (Prog)	Principles of Microeconomics
	Practicals:			
	Tutorials:	Assignment on unit 1 & 2		
	Test :	Internal Assessment 01		

	Theory:	Unit 2 & 3	B. Com (Prog)	Principles of Microeconomics
OCTOBER	**Practicals:**			
	Tutorials:	Assignment on unit2 & 3		
	Test :	Internal Assessment 02		
	Theory:	Unit 3 & 4	B. Com (Prog)	Principles of Microeconomics
NOVEMBER	**Practicals:**			
	Tutorials:	Assignment on unit 3 & 4		
	Theory:	Unit 4	B. Com (Prog)	Principles of Microeconomics
DECEMBER	**Practicals:**			
	Tutorials:	Assignment on unit 4		
	Test :	Internal Assessment 2		

Name of the Faculty: Aruna Rao

Department: Economics   **Semester : I**

Month		Topics	Course	Paper Code/Name
NOVEMBER	**Theory**	Unit 1	B.A (H) Economics	Introductory Microeconomics
	Practicals			
	Tutorials	Assignment on unit 1		
DECEMBER	**Theory:**	Unit 1	B.A (H) Economics	Introductory Microeconomics
	Practicals:			
	Tutorials:	Assignment on unit 1		

JANUARY	**Theory:**	Unit 2	B.A (H) Economics	Introductory Microeconomics
	Practicals:			
	Tutorials:	Assignment on unit 2		
	Test :	Internal Assessment 01		
FEBRUARY	**Theory:**	Unit 2 & 3	B.A (H) Economics	Introductory Microeconomics
	Practicals:			
	Tutorials:	Assignment on unit 2 & 3		
	Test :	Internal Assessment 02		

MARCH	**Theory:**	Unit 3 & 4	B.A (H) Economics	Introductory Microeconomics
	Practicals:			
	Tutorials:	Assignment on unit 3 & 4		
APRIL	**Theory:**	Unit 4	B.A (H) Economics	Introductory Microeconomics
	Practicals:			
	Tutorials:	Assignment on unit 4		

SEMESTER WISE TEACHING PLAN (2020-21)
SRI VENKATESWARA COLLEGE

Name of the Faculty: Aruna Rao

Department: Economics   **Semester : I**

Month		Topics	Course	Paper Code/Name
NOVEMBER	**Theory**	Unit 1	B.A (H) GENERIC ELECTIVE	Introductory Microeconomics
	Practicals			
	Tutorials	Assignment on unit 1		
DECEMBER	**Theory:**	Unit 1	B.A (H) GENERIC ELECTIVE	Introductory Microeconomics
	Practicals:			
	Tutorials:	Assignment on unit 1		

JANUARY	**Theory:**	Unit 2	B.A (H) GENERIC ELECTIVE	Introductory Microeconomics
	Practicals:			
	Tutorials:	Assignment on unit 2		
FEBRUARY	**Theory:**	Unit 2 & 3	B.A (H) GENERIC ELECTIVE	Introductory Microeconomics
	Practicals:			
	Tutorials:	Assignment on unit 2 & 3		
	Test :	Internal Assessment 1 & 2		

MARCH	**Theory:**	Unit 3 & 4	B.A (H) GENERIC ELECTIVE	Introductory Microeconomics
	Practicals:			
	Tutorials:	Assignment on unit 3 & 4		
APRIL	**Theory:**	Unit 4	B.A (H) GENERIC ELECTIVE	Introductory Microeconomics
	Practicals:			
	Tutorials:	Assignment on unit 4		

SEMESTER WISE TEACHING PLAN (2020-21)
SRI VENKATESWARA COLLEGE

Name of the Faculty: KRISHNAKUMAR S (2020-21)

Department: ECONOMICS   **Semester : I/III/V**

Month		Topics	Course	Paper Code/Name
JULY	**Theory**	What is macroeconomics? Macroeconomic Issues in an economy	BA Programme Sem III	Principles of Macroeconomics-I
	Practicals			
	Tutorials			
AUGUST	**Theory:**	Concepts of GDP and National Income; measurement of national income and related aggregates; nominal and real GDP; limitations of the GDP concept Actual and potential GDP; aggregate expenditure; consumption function; investment function; equilibrium GDP; concepts of MPS, MPC; autonomous expenditure; concepts of multiplier	BA Programme Sem III	Principles of Macroeconomics-I
	Practicals:			
	Tutorials:	Numericals on the basis of the simple Keynesian model	BA Programme Sem III	Principles of Macroeconomics-I
SEPTEMBER	**Theory:**	Fiscal policy; impact of changes in government expenditure and taxes; net exports and equilibrium national income.	BA Programme Sem III	Principles of Macroeconomics-I

	Practicals:			
	Tutorials:	Discussion of Keynes and Great Depression, recession in the current world economy . Numericals on the thiree sector model	BA Programme Sem III	Principles of Macroeconomics-I
	Assignment :	Detailed assignment on Fiscal Policy and Keynesian model. Balanced budget multiplier.(TEST)	BA Programme Sem III	Principles of Macroeconomics-I
OCTOBER	**Theory:**	Concept of money in a modern economy; monetary aggregates; demand for money; quantity theory of money; liquidity preference and rate of interest; money supply and credit creation;	BA Programme Sem III	Principles of Macroeconomics-I
	Practicals:			
	Tutorials:	Exploring RBI data relating to money supply and multiplier. Discussion on the basis of the lecture by Prof Anat Admati on The Banker's New Clothes	BA Programme Sem III	Principles of Macroeconomics-I
	Test	Test on the basis of the course in two sets		
NOVEMBER	**Theory:**	Monetary policy. Contemporary global economy and Indian economy. How do we make sense with the course which we did?	BA Programme Sem III	Principles of Macroeconomics-I
	Practicals:			

	Tutorials:	Revision and discussion of the previous year papers	BA Programme Sem III	Principles of Macroeconomics-I

Name of the Faculty: KRISHNAKUMAR S

Department: ECONOMICS   **Semester : I/III/V**

Month		Topics	Course	Paper Code/Name
JULY	**Theory**	Ricardian model of comparative advantage. H-O-S factor endowments model, specific factors model. Standard trade model	BA(Hons) Economics Sem V	International Economics
	Practicals			
	Tutorials	Problems on Ricardian model and modeling with specific factor model		
AUGUST	**Theory:**	New trade theories. intra-industry trade. Imperfect competition and trade. Dumping and reciprocal dumping. Externalities and decreasing cost curve. Industrial district. Instruments of trade policy. Static welfare analysis of tariffs, subsidies and quotas. Political economy of trade policy.	BA(Hons) Economics Sem V	International Economics
	Practicals:			
	Tutorials:	Problem set on welfare calculation of tariffs and subsidies.		

SEPTEMBER	**Theory:**	Brander Spencer strategic trade policy. Optimum tariff. Trade creation and trade diversion. WTO, RTAs, FTAs.	BA(Hons) Economics Sem V	International Economics
		Introduction to Open Economy Macroeconomics. Uncovered and covered interest parity theories. Nominal and real exchange rates. DD and AA curves		
	Practicals:			
	Tutorials:	Trade creation, trade diversion. Problems of instruments of trade policy		
	Assignment :	Students to assess the external sector performance of economies on the basis of BOPS, DOTS, IFS and WEO Database of IMF		
OCTOBER	**Theory:**	Permanent and temporary fiscal expansion. Permanent and temporary monetary expansion under the DD-AA framework. Exchange rate overshooting. Marshall Lerner conditions. J Curve. Mundell-Fleming model.	BA(Hons) Economics Sem V	International Economics
	Practicals:			
	Tutorials:	Small macro models on the basis of DD AA framework.		

	Test	Test on the basis of four chapters : two from each section		
NOVEMBER	**Theory:**	Financial Globalization. Regulation of banking. Revision	BA(Hons) Economics Sem V	International Economics
	Practicals:			
	Tutorials:	Revision of the trade theory numerical from back of text.		

Name of the Faculty: **BRAHMAREDDY D**

Department: ECONOMICS **Semester: III/V 2020-21**

Month		Topics	Course	Paper Code/Name
JULY & AUGUST	Theory	Topic 1. The Aggregate I ___ MONEY: Concept, Functions, Measurement, Theories of Money Supply Determination Financial Institutions, Markets, Instruments And Financial Innovations: a) Role of Financial Markets and Institutions; problems of asymmetric information – adverse selection and moral hazard, financial crisis	B.A. (H)-II Economics ___ Generic Elective III (Honors)	Intermediate Macroeconomics I ___ Money & Banking
	Tutorials	1. Discussion of Chapter end questions and problems 2. ___ Project Discussion	B.A. (H)-II Economics ___ Generic Elective III (Honors)	Intermediate Macroeconomics I ___ Money & Banking

SEPTEMBER	Theory:	Inflation, Unemployment and Expectations _____ _____ b) Money and Capital Markets; Organization, Structure and Reforms in India; Role of Financial Derivatives and Other Innovations c) INTEREST RATES: Determination, Sources of interest rates differentials, Theories of term structure of interest rates ; interest rates in India	B.A. (H)-II Economics Generic Elective III (Honors)	Intermediate Macroeconomics I Money & Banking
	Tutorials:	1. Discussion of Chapter end questions and problems 2. Project Discussion	B.A. (H)-II Economics Generic Elective III (Honors)	Intermediate Macroeconomics I Money & Banking
OCTOBER	Theory:	Microeconomic Foundations BANKING SYSTEM: a) Balance Sheet and Portfolio Management b) Indian Banking System. Changing Role and Structure, Banking Sector Reforms	B.A. (H)-II Economics Generic Elective III (Honors)	Intermediate Macroeconomics I Money & Banking
	Tutorials:	1. Discussion of Chapter end questions and problems 2.	B.A. (H)-II Economics Generic	Intermediate Macroeconomics I Money & Banking

	<u>TEST:</u> _____ Project Presentation	25th October _____ _____ 27th October to 3rd November		
NOVEMBER	Theory:	I. Microeconomic Foundations II. CENTRAL BANKING AND MONETARY POLICY Functions, Balance Sheet Goals, Targets, Indicators and instruments of monetary control, monetary management in an open economy, current monetary policy of India	B.A. (H)-II Economics _____ Generic Elective III (Honors)	Intermediate Macroeconomics I Money & Banking
	Tutorials:	1. Discussion of Chapter end questions and problems 2. _____ 2. Project Discussion	B.A. (H)-II Economics _____ Generic Elective III (Honors)	Intermediate Macroeconomics I Money & Banking
	<u>Test</u> _____ <u>Project Presentation</u>	8th November 2021 9th to 13th November 2021	B.A. (H)-II Economics _____ Generic Elective III (Honors)	Intermediate Macroeconomics I Money & Banking

Name of the Faculty: N Kalithasammal

Department: Economics   **Semester-III**

Month		Topics	Course	Paper Name/
JULY	**Theory**	Macroeconomics over view of India, the growth story is discussed with the view of India development report	**GE-II YEAR**	**INDIAN ECONOMY PART I**
	Tutorials	The basic educational trend and development and the problems of migrated people in India discussed		
AUGUST	**Theory:**	Agricultural growth in India since 1991, going to teach through RBI DEAP study		
	Tutorials:	Reasons for failure of growth in agriculture is going to explain and the reasons are pointing out clearly.		
SEPTEMBER	**Theory:**	Labour market and its legislation, and unemployment is going to explain,		

OCTOBER	**Tutorials:**	Inequality and concentration of income is going to explain with some inclusive ideas.		
	<u>Assignment :</u>	**Two tests are** going to conduct according to the given schedule.		
NOVEMBER	**Theory:**	Financial sector, policy frame work is going to take, structural changes are going to explain.		
	Tutorials:	Major features and savings and investment related questions going to work out.		

Name of the Faculty: N Kalithasammal

Department: Economics   **Semester-V**

Month		Topics	Course	Paper Name/
JULY-2019	**Theory**	Macroeconomics over view of India, the growth story is discussed with the view of India development report	**ECO HONS 111 YEAR**	**INDIAN ECONOMY PART I**
	Tutorials	The basic educational trend and development and the problems of migrated people in India discussed		
AUGUST	**Theory:**	Agricultural growth in India since 1991, going to teach through RBI DEAP study		
	Tutorials:	Reasons for failure of growth in agriculture is going to explain and the reasons are pointing out clearly.		
SEP	**Theory:**	Labour market and its legislation, and unemployment is going to explain,		

OCTOBER	**Tutorials:**	Inequality and concentration of income is going to explain with some inclusive ideas.		
	Assignment :	**Two tests are** going to conduct according to the given schedule.		
NOVEMBER	**Theory:**	Financial sector, policy frame work is going to take, structural changes are going to explain.		
	Tutorials:	Major features and savings and investment related questions going to work out.		

Name of the Faculty: Meenakshi Sharma

Department: ECONOMICS   **Semester: III, B.A. (H) Economics**

Month		Topics	Course	Paper Code/Name
JULY	**Theory**	Budget constraint-Taxes, subsidies and Rationing and Preferences: Assumptions about preferences, MRS, ICS	B.A (H), Economics, Semester III	Intermediate microeconomics I
	Tutorials	Numericals from Varian Workbook and past years' questions	B.A (H), Economics, Semester III	Intermediate microeconomics I
AUGUST	**Theory:**	Utility; demand; Slutsky equation Hicksian demand : Cardinal, Ordinal, Quasilinear preferences.	B.A (H), Economics, Semester III	Intermediate microeconomics I
	Tutorials:	Numericals from Varian Workbook and past years' questions, Appendix of Varian	B.A (H), Economics, Semester III	Intermediate microeconomics I
SEPTEMBER	**Theory:**	Revealed preference. Buying and selling; choice under risk and intertemporal choice;	B.A (H), Economics, Semester III	Intermediate microeconomics I
	Tutorials:	Numericals from Varian Workbook and past years' questions, questions from B. Douglas Bernheim and M. Whinston (2009): Chapter 11.	B.A (H), Economics, Semester III	Intermediate microeconomics I
	Test 1 :	Utility, preferences, budget constraint, choice, demand, Slutsky equation	B.A (H), Economics, Semester III	Intermediate microeconomics I

OCTOBER	**Theory:**	Technology, isoquants, production with one and more variable inputs, returns to scale.	B.A (H), Economics, Semester III	Intermediate microeconomics I
	Test 2:	Buying and selling; choice under risk and intertemporal choice; revealed preference	B.A (H), Economics, Semester III	
	Tutorials:	Back questions from C. Snyder and W. Nicholson (2010): Fundamentals of Microeconomics	B.A (H), Economics, Semester III	Intermediate microeconomics I
NOVEMBER	**Theory:**	Cost : short run and long run costs, cost curves in the short and long run; review of perfect competition.	B.A (H), Economics, Semester III	Intermediate microeconomics I
	Tutorials:	Back questions from C. Snyder and W. Nicholson (2010): Fundamentals of Microeconomics	B.A (H), Economics, Semester III	Intermediate microeconomics I

Month		Topics	Course	Paper Code/Name
November	**Theory**	Scarcity and choice: concepts of scarcity, choice and opportunity cost; production possibility frontier; economic systems.	B.A (Prog), Semester I	Principles of Microeconomics I
	Tutorials	Problem of scarcity and choice: Numericals from Case n Fair n past years' questions	B.A (Prog), Semester I	Principles of Microeconomics I
December	**Theory:**	Demand and supply; applications of demand and supply; elasticity law of demand, determinants of demand, shifts of demand versus movements along a demand curve, market demand, law of supply, determinants of supply, shifts of supply versus movements along a supply curve, market supply, market equilibrium.	B.A (Prog), Semester I	Principles of Microeconomics I
	Tutorials:	Applications of demand and supply: price rationing, price floors, consumer surplus, producer surplus. Elasticity: price elasticity of demand, calculating elasticity, determinants of price elasticity, other elasticities	B.A (Prog), Semester I	Principles of Microeconomics I

January	**Theory:**	Consumer theory: Budget constraint, concept of utility, diminishing marginal utility, Diamond-water paradox, income and substitution effects; consumer choice: indifference curves, derivation of demand curve from indifference curve and budget constraint.	B.A (Prog), Semester I	Principles of Microeconomics I
	Tutorials:	Numericals from Case &Fair; and Appendix of Chapter 6	B.A (Prog), Semester I	Principles of Microeconomics I
	Test 1 :	Demand and supply and consumer theory		
February	**Theory:**	Production and costs Production: behaviour of profit maximising firms, production process, production functions, law of variable proportions, choice of technology, isoquant and isocost lines, cost minimizing equilibrium condition.	B.A (Prog), Semester I	Principles of Microeconomics I
	Tutorials:	Numerical from Case &Fair; past years' question papers, and Appendix of Chapter 7.	B.A (Prog), Semester I	Principles of Microeconomics I
	Test 2:	Production and costs.	B.A (Prog), Semester I	
March	**Theory:**	Perfect competition and welfare: Assumptions: theory of a firm under perfect competition, demand and revenue; equilibrium of the firm in the short run and long run; long run industry	B.A (Prog), Semester I	Principles of Microeconomics I
	Tutorials:	Perfect competition and welfare	B.A (Prog), Semester I	Principles of Microeconomics I

Name of the Faculty: Ankit Joshi

Department: Economics   **Semester: I (2019- 20)**

Month		Topics	Course	Paper Code/Name
NOVEMBER	**Theory**	SYDSAETER & HAMMOND Ch- 1: Introduction	B.A. (Hons.) Economics	227103 Mathematical Methods for Economics - I
	Tutorials	Providing the basic motivation of the course and discussion on the use of mathematics in economics		
DECEMBER	**Theory:**	SYDSAETER & HAMMOND Ch- 2: Functions Ch- 3: Polynomials, Powers & Exponentials Ch- 4: Differentiation	B.A. (Hons.) Economics	227103 Mathematical Methods for Economics - I
	Tutorials:	Teaching students how to plot different curves and to analyse the same Discussion on Book Exercises for Ch- 1 to 4		
JANUARY	**Theory:**	SYDSAETER & HAMMOND Ch- 5: More on Differentiation Ch- 6: Limits, Continuity & Series Ch- 7: Implications of Continuity Ch- 8:Exponential & Logarithmic Functions	B.A. (Hons.) Economics	227103 Mathematical Methods for Economics - I

	Tutorials:	Assignment and additional questions		
	Assignment :	TEST 1: Ch- 1 to 4		
FEBRUARY	**Theory:**	SYDSAETER & HAMMOND Ch- 9: Optimization Ch-12: Linear Algebra: Vectors & Matrices Ch- 13: Determinants & Matrix Inversions Ch- 14: Further Topics in Linear Algebra	B.A. (Hons.) Economics	227103 Mathematical Methods for Economics - I
	Tutorials:	Discussion on Past Years, Book Exercises and assignment		
	Test	TEST 2: Ch – 5 to 8		
MARCH	**Theory:**	Revision and doubts	B.A. (Hons.) Economics	227103 Mathematical Methods for Economics - I
	Tutorials:	Solving Book Exercises and additional questions		

SEMESTER WISE TEACHING PLAN (2020-21)
SRI VENKATESWARA COLLEGE

Name of the Faculty: Ankit Joshi

Department: Economics   **Semester: VI (2017- 18)**

Month		Topics	Course	Paper Code/Name
AUGUST	**Theory**	**Unit -1**: Money: Concepts, Functions and Money Supply Determination	GE for Hons.	GE: Money and Banking
	Practicals	-		
	Tutorials	**Unit -1**: Money: Concepts, Functions and Money Supply Determination		
SEPTEMBER	**Theory:**	**Unit -2**: Financial Institutions, Money and Capital Markets, Asymmetric Information	GE for Hons.	GE: Money and Banking
	Practicals:	-		
	Tutorials:	**Unit -1**: Money: Concepts, Functions and Money Supply Determination **Unit -2**: Financial Institutions, Money and Capital Markets, Asymmetric Information		
	Assignment :	**Unit – 1**: Money: Concept, measurement and money supply determination		

OCTOBER	**Theory:**	**Unit – 3**: Interest Rate Determination, Term Structure of Interest Rates **Unit – 4**: Balance Sheet and Portfolio Management	GE for Hons.	GE: Money and Banking
	Practicals:	-		
	Tutorials:	**Unit – 3**: Interest Rate Determination, Term Structure of Interest Rates **Unit – 4**: Banking System: (a) Balance Sheet and Portfolio Management (b) Indian banking system, changing role & structure, banking sector reforms		
	Test	**Unit -2**: Financial Institutions, Money and Capital Markets, Asymmetric Information **Unit – 3**: Interest Rate Determination, Term Structure of Interest Rates		
NOVEMBER	**Theory:**	**Unit – 5**: Central Banking and Monetary Policy	GE for Hons.	GE: Money and Banking
	Practicals:	-		
	Tutorials:	**Unit – 5**: Central Banking and Monetary Policy		

Name of the Faculty: Jitesh Rana

Department: Economics   **Semester V, BA.(H) Economics**

Month		Topics	Course	Paper Code/Name
AUGUST	**Theory**	AVSI: Characteristics of Development, Debraj Ray Ch2, Deaton Ch1	B.A. Hons Economics	2271502: Development Economics – I
	Tutorials	Student doubts and Past year questions from the topics covered.		
SEPTEMBER	**Theory:**	HDR 2016 Technical Note 1, Pranab Bardhan Ch10, Debraj Ray Ch 3 & 4.	B.A. Hons Economics	2271502: Development Economics – I
	Tutorials:	Student doubts and Past year questions from the topics covered.		
	Test 1:	All topics of first 2 units.		
OCTOBER	**Theory:**	DE Ch6, Ch8, Angus Deaton Ch1, Amartya Sen Ch4, Picketty and Saez: Inequality in the Long Run. Elinor Ostrom Ch1, Dietz, Ostrom and Stern: The struggle to govern the commons,2003, Mancur Olson Jr.: Big Bills Left on the Sidewalk,1996,	B.A. Hons Economics	2271502: Development Economics – I
	Tutorials:	Student doubts and Past year questions from the topics covered.		

	Test 2:	All topics of unit 3 and coverd topics of unit 4.		
NOVEMBER	**Theory:**	Dani Rodrik: Ch1, Shleifer and Vishny: Corruption, QJE 1993.	B.A. Hons Economics	2271502: Development Economics – I
	Tutorials:	Student doubts and Past year questions from the topics covered. Preparation for final exams.		

Month		Topics	Course	Paper Code/Name
NOVEMBER/ DECEMBER	**Theory**	Mankiw: Ch1,2 and 4	Generic Elective	227101: Introductory Microeconomics
	Tutorials	Student doubts and Past year questions from the topics covered.		
JANUARY	**Theory:**	Mankiw: Ch5, 6, 7 and 8.	Generic Elective	227101: Introductory Microeconomics
	Tutorials:	Student doubts and Past year questions from the topics covered.		
	Test 1:	All topics of first 2 units.		
FEBRUARY	**Theory:**	Mankiw: Ch 13, 14, and 21.	Generic Elective	227101: Introductory Microeconomics
	Tutorials:	Student doubts and Past year questions from the topics covered.		
	Test 2:	All topics in unit 3 and 4.		

MARCH	**Theory:**	Mankiw: Ch15 and 18.	Generic Elective	227101: Introductory Microeconomics
	Tutorials:	Student doubts and Past year questions from the topics covered. Preparation for final exams.		

Name of the Faculty: Amit Kumar Jha

Department: ECONOMICS   **Semester: v, B.A. (H) Economics**

Month		Topics	Course	Paper Code/Name
JULY	**Theory**	Fiscal Function: an Overview(Hendricks & Myles, Chapter 5) Public goods : Definition ,	**B.A. (H) Economics**	Public Economics
	Tutorials	Past Year question, Students doubts		
AUGUST	**Theory:**	Public goods : Definition , Models of efficient allocation, pure and impure public goods, free riding(Cullis & jones, chapter 3,12) Externalities: the problem and its solution, taxes versus regulation, property rights, the coase theorem(Hendricks & Myles, Chapter 8)	**B.A. (H) Economics**	Public Economics
	Tutorials:	Past Year question, Students doubts		
SEPTEMBER	**Theory:**	Externalities: the problem and its solution, taxes versus regulation, property rights, the coase theorem(Hendricks & Myles, Chapter 8) Taxation: its economic effects, dead weight loss and distortion, efficiency and equity considerations, tax incidence, optimal taxation (stiglitz, ch 18, Hendricks & Myles, Chapter 15)	**B.A. (H) Economics**	Public Economics

	Tutorials:	Past Year question, Students doubts		
	Test 1 :	First two units from reading		
OCTOBER	**Theory:**	Taxation: its economic effects, dead weight loss and distortion, efficiency and equity considerations, tax incidence, optimal taxation (Hendricks & Myles, Chapter 16,17)	**B.A. (H) Economics**	Public Economics
	Tutorials:	Past Year question, Students doubts		
NOVEMBER	**Theory:**	Indian Public Finance: tax system, buget, deficit, public debt, fiscal federalism in India	**B.A. (H) Economics**	Public Economics
	Tutorials/ Presentation	Past Year question, Students doubts		

Month		Topics	Course	Paper Code/Name
JULY	**Theory**	Unit 1: Introduction to the course: how can the representation and analysis of data help us study real world problems, publicly available data sets Levine et al ch 1(1.1- 1.3)	**B.A. (H) Economics**	DATA ANALYSIS
	Practicals	Hands on approach using excel		
AUGUST	**Theory:**	Introduction to the course: how can the representation and analysis of data help us study real world problems, publicly available data sets (Devore ch 1) Data base of Indian economy: Unit 2: usisng data available statistical softare, steps in data storage, organization and cleaning Levine et al ch 1(1.4 onwards), ch 2;Gardener ch 1,2	**B.A. (H) Economics**	DATA ANALYSIS
	Practicals	Hands on approach using excel and R		
SEPTEMBER	**Theory:**	Unit 3: visualization and representation: alternative forms of presenting summarizing and presenting data Levine et al ch 2.3 onwards, ch3 Tattar et al ch 2	**B.A. (H) Economics**	DATA ANALYSIS
	Practicals	Hands on approach using excel and R		
OCTOBER	**Theory:**	Unit 4: simple estimation techniques and tests for statistical inference Levine et al 7,8,9	**B.A. (H) Economics**	DATA ANALYSIS

	Practicals	Hands on approach using excel and R		
NOVEMBER	**Theory:**	Unit 4: simple estimation techniques and tests for statistical inference Levine et al 10 Summary onwards, relevant parts of excel guide	**B.A. (H) Economics**	DATA ANALYSIS
	Practicals/ Assignments	Hands on approach using excel and R		

Month		Topics	Course	Paper Code/Name
JULY	**Theory**	2.2 current policy issues and initiative a. state of the economy, ch 1 (economic survey)	B.A. (PROGRAM)	Understanding the economic survey and the union budget of India **SEC**
	Tutorials			
AUGUST	**Theory:**	2.2 current policy issues and initiative b. external sector, ch 3(economic survey) c. participating in global value chains, ch5(economic survey)	B.A. (PROGRAM)	Understanding the economic survey and the union budget of India **SEC**
	Tutorials:			
SEPTEMBER	**Theory:**	2.2 current policy issues and initiative d. golden jublee of bank nationalistaion, ch 7 (economic survey)	B.A. (PROGRAM)	Understanding the economic survey and the union budget of India **SEC**
	Tutorials:			
	Test 1 :	Above section		
OCTOBER	**Theory:**	2.2 current policy issues and initiative e. social infrastructure, employment, and human development ch 10 (economic survey)	B.A. (PROGRAM)	Understanding the economic survey and the union budget of India **SEC**
	Tutorials:			

NOVEMBER	**Theory:**	2.2 current policy issues and initiative f. sustainable development and climate change, ch 6 (economic survey) digitalization and development: issues for india and beyond	B.A. (PROGRAM)	Understanding the economic survey and the union budget of India **SEC**
	Tutorials:			

Name of the Faculty: Yogita Yadav

Department: Economics   **Semester : III**

Month		Topics	Course	Paper Code/Name
AUGUST	**Theory**	1. Introduction & Overview 2. Elementary Probability Theory	B.A (H) Economics	12271303 / Statistical methods for Economics
	Practicals			
	Tutorials	1. Introduction & Overview 2. Elementary Probability Theory		
SEPTEMBER	**Theory:**	1. Random Variables & Probability Distributions (Discreet & continuous Variables) 2. Random Sampling & Jointly Distributed random variables	B.A (H) Economics	12271303 / Statistical methods for Economics
	Practicals:			
	Tutorials:	Assignment on : 1. Random Variables & Probability Distributions (Discreet & continuous Variables) 2. Random Sampling & Jointly Distributed random variables		

	Test :	Internal Assessment 1 on Elementary Probability theory & Probability Distributions (Discreet		
OCTOBER	**Theory:**	1. Random Sampling & Jointly Distributed random variables 2. Sampling	B.A (H) Economics	12271303 / Statistical methods for Economics
	Practicals:			
	Tutorials:	Assignment on : 1. Random Sampling & Jointly Distributed random variables 2. Sampling		
	Test :	Internal Assessment 2 on Probability distribution (Continuous variables & jointly distributed variables) & Sampling		
NOVEMBER	**Theory:**	1. Point & Interval Estimation 2. Hypothesis Testing	B.A (H) Economics	12271303 / Statistical methods for Economics
	Practicals:			
	Tutorials:	Assignment on : 1. Point & Interval Estimation		
	Test:	Internal Assessment 3 on Estimation & Hypothesis Testing		

SEMESTER WISE TEACHING PLAN (2020-21)
SRI VENKATESWARA COLLEGE

Name of the Faculty: Yogita Yadav

Department: Economics   **Semester : III**

Month		Topics	Course	Paper Code/Name
AUGUST	**Theory**	1. Key to Budget Documents	B.A (Prog)	62273326 / Understanding the Economic Survey and Union Budget
	Practicals			
	Tutorials	Discussions on Presentation Topics		
SEPTEMBER	**Theory:**	1. Budget at a Glance 2. Making of Union Budget	B.A (Prog)	62273326 / Understanding the Economic Survey and Union Budget
	Practicals:			
	Tutorials:	Doubt sessions on Presentations		

OCTOBER	**Theory:**	1. Fiscal Federalism 2. Finance Commission	B.A (Prog)	62273326 / Understanding the Economic Survey and Union Budget
	Practicals:			
	Tutorials:	Doubt sessions on Presentations		
NOVEMBER	**Theory:**	1. Gender Budgeting 2. Five year Plans	B.A (Prog)	62273326 / Understanding the Economic Survey and Union Budget
	Practicals:			
	Tutorials:			
	Test:	Presentations		

SEMESTER WISE TEACHING PLAN (2020-2021)
SRI VENKATESWARA COLLEGE

Name of the Faculty: Rajbir Kaur

Department: History

Semester: III

Month		Topics	Course	Paper Code/ Name
JULY	**Theory:**	I. Studying Early Medieval India (a) Dynamic and divergent topographies (b) Sources: texts, inscriptions, coins	B.A. (Hons.) IInd Year	Core - History of India-III (c.750-1200)
		I. Foundation, expansion and consolidation of the Sultanates of Delhi c.13th to 15th Century: Expansion; iqta system; administrative reforms; nobility	B.A. (Prog.) IInd Year	Core - History of India, c. 1200-1700
	Tutorials:	Introducing the course and its themes.		
		Discussion		
AUGUST	**Theory:**	I. Studying Early Medieval India (c) Debates on the early medieval II. Political Structures and Processes (a) Evolution of political structures: Rajput polities; Chola State; Odisha (b) Symbols of political power: Brahmans and temples; scared spaces and conflicts; courtly cultures (c) Issue of 'Foreign and Indian' : Arabs and Ghaznavaids in the north-west, Cholas in Southeast Asia	B.A. (Hons.) IInd Year	Core - History of India-III (c.750-1200)

		III. Foundation, expansion and consolidation of the Mughal state, c. 16th to 17th century: expansion and consolidation; Rajputs; Mansabdari and Jagirdari; imperial ideology: assessing Aurangzeb VII. Economy and integrated patterns of exchange: rural and urban linkages; maritime trade and non-agrarian production	B.A. (Prog.) IInd Year	Core - History of India, c. 1200-1700
	Tutorials:	Discussion with the tutorial groups on the topics already taken up in the lectures		
		Interaction and Queries		
SEPTEMBER	**Theory:**	III. Social and economic processes (a) Agricultural expansion; forest-dwellers, peasants and landlords (b) Expansion of *varna-jati* order and brahmanization (c) Forms of exchange; inter-regional and maritime trade (d) Processes of Urbanization	B.A. (Hons.) IInd Year	Core - History of India-III (c.750-1200)
		II. Regional political formations: Vijayanagara IV. 17th century transitions: Marathas; Sikhs	B.A. (Prog.) IInd Year	Core - History of India, c. 1200-1700
	Tutorials:	Discussion with regard to specific readings given for study		
	Assignment:	Critically analyse the major issues and arguments given by historians in the recent debates about characterising early medieval India.	B.A. (Hons.) IInd Year	Core - History of India-III (c.750-1200)
		1. Describe the relations between the sultan and the nobility in Sultanate period. 2. Critically analyze the evolution of Iqta system during the Delhi Sultanate. 3. Describe the role played by Sufism in the history of Delhi Sultanate. 4. Outline the evolution of Qutub Complex during the sultanate period.	B.A. (Prog.) IInd Year	Core - History of India, c. 1200-1700

OCTOBER	**Theory:**	IV. Religious, literary and visual cultures (a) Bhakti: Alvars and Nayanars (b) Puranic Hinduism; Tantra; Buddhism and Jainism	B.A. (Hons.) IInd Year	Core - History of India-III (c.750-1200)
		V. Art and architecture in medieval India: Qutub complex, Vijayanagara (Hampi);Fatepur Sikri; Mughal miniature painting	B.A. (Prog.) IInd Year	Core - History of India, c. 1200-1700
	Tutorials:	Discussion group for Hindi medium students		
	Mid Term Test:	Internal Class Test held on 7th November 2020	B.A. (Hons.) IInd Year	Core - History of India-III (c.750-1200)
		Internal Class Test held on 4th November 2020	B.A. (Prog.) IInd Year	Core - History of India, c. 1200-1700
NOVEMBER	**Theory:**	IV. Religious, literary and visual cultures (c) Sanskrit and regional languages: interactions (d) Art and architecture: temples - regional styles	B.A. (Hons.) IInd Year	Core - History of India-III (c.750-1200)
		VI. Society, culture and religion: Bhakti – Kabir and Mira Bai; Sufism – Nizamuddin Auliya and Sufism in popular literature from the Deccan: *Chakki-Nama* and *Charkha-Nama*	B.A. (Prog.) IInd Year	Core - History of India, c. 1200-1700
	Tutorials:	Revision of the courses		
		Discussion on previous year's question papers		

SEMESTER WISE TEACHING PLAN   SRI VENKATESWARA COLLEGE

July-November, (18th November 2020 to 6th March 2021 for I Semester)

July-November (revised academic calendar10th August to 28th November 2020 for III/V Semester)

Name of the Faculty: Dr. NINGMUANCHING

Department: HISTORY

Semester: I and V

Month		Topics	Course	Paper Code/Name
10th -31st August	**Theory:**	Introducing the course "Women in Indian History" Theory and Concepts: Understanding Gender and Patriarchy Unit II Women in Ancient India Historiography: Women's History in India	B.A. (Prog) Generic Elective	62315515/ Women in Indian History
September	**Theory:**	Unit II Women in Ancient India: Brahmanical Patriarchy in India, Women and Property Women and Work:Voices from Tamilakam	B.A. (Prog) Generic Elective	62315515/ Women in Indian History
	TUTORIAL	Q and A		
OCTOBER	**Theory:**	Unit III: Women in Medieval India: Historiography and politics of the harem and the household,	B.A. (Prog) Generic Elective	62315515/ Women in Indian History

		Imperial Women: Razia Sultan, Nur Jahan, Jahanara ,Women Bhaktas		
	Tutorial	Discussion		
NOVEMBER	**Theory**	Unit IV: Women in Modern India: Social Reforms and Women, Women and Indian Nationalism Women and Partition/ women refugees and rehabilitation	B.A. (Prog) Generic Elective	62315515/ Women in Indian History
	ASSIGNMENT	Test on Mughal Domesticity	B.A. (Prog) Generic Elective	62315515/ Women in Indian History
	Tutorial	discussion		
18th to 30th NOVEMBER 2020	**Theory:**	I. Evolution of humankind and Paleolithic cultures (a) Environmental context of human evolution	B.A. (Honours) HISTORY	12311104 Social Formations and Cultural Patterns of the Ancient World (NC) Admission from 2016
	Tutorials	A preliminary test taken to assess prior knowledge of students on the first topic. Another test on the same topic will be taken to show students' progress.	B.A. (Honours) HISTORY	Social Formations and Cultural Patterns of the Ancient World (NC) Admission from 2016
		Questions on topics covered, Active reading	B.A. (Honours) HISTORY	Social Formations and Cultural Patterns of the Ancient World (NC) Admission from 2016
	Assignment	Evolution of Hominins during the Pleistocene epoch	B.A. (Honours) HISTORY	Social Formations and Cultural Patterns of the Ancient World (NC) Admission from 2016

December		(b) Biological Evolution of Hominins (c)Social and Cultural Adaptations: mobility and migration; development of lithic and other technologies; changes in the hunting gathering economy; social organisation; art and graves	B.A. (Honours) HISTORY	12311104 Social Formations and Cultural Patterns of the Ancient World (NC) Admission from 2016
JANUARY		II. Understanding the Mesolithic (a)Mesolithic as a stage in prehistory (b)Environmental change and changes in subsistence strategies based on case studies in West Asia	B.A. (Honours) HISTORY	12311104 Social Formations and Cultural Patterns of the Ancient World (NC) Admission from 2016
FEBRUARY	**Theory**	IV(b)Ecological context of early civilizations (c)Aspects of social complexity: class, gender and economic specialization (d) Forms of kingship, religion and state V. Nomadic Pastoralism- (a)conceptualizing nomadic pastoralism b) The emergence of specialized pastoral economy in West Asia and its relationship to sedentary farming, third and second millennium BCE	B.A. (Honours) HISTORY	12311104 Social Formations and Cultural Patterns of the Ancient World (NC) Admission from 2016
	Tutorials:	Revision	B.A. (Honours) HISTORY	12311104 Social Formations and Cultural Patterns of the Ancient World (NC) Admission from 2016
	Assignment	Questions from Topic II,III,IV	B.A. (Honours) HISTORY	12311104 Social Formations and Cultural Patterns of the Ancient World

				(NC) Admission from 2016
1st to 6th MARCH, 2021	**Theory:**	V((c) Socia-political interactions between nomadic pastoralists and Urban state societies in west Asia, third and second millenium BCE	B.A. (Honours) HISTORY	12311104 Social Formations and Cultural Patterns of the Ancient World (NC) Admission from 2016
		IV. The Advent of Iron –its origins and implications		12311104 Social Formations and Cultural Patterns of the Ancient World (NC) Admission from 2016
	Tutorials:	Discussion		12311104 Social Formations and Cultural Patterns of the Ancient World (NC) Admission from 2016

SEMESTER WISE TEACHING PLAN (2020-21)

SRI VENKATESWARA   COLLEGE

July-November, 2020 for Modern China (Semester V)
November - March 2020-21 for GE-1 (Semester-1)

Name of the Faculty: NUTI NAMITA

Department: HISTORY

Semester: ODD Semester

Month		Topics	Course	Paper Code/Name
November 2020	**Theory:**	Course Content: Unit I: Between Myth and History -- Delhi's Early Pasts: Indraprastha, Lalkot (15 DAYS) Unit II: From settlements to cityscape – Understanding the Many cities of Delhi.	B.A(HONS.) FIRST YEAR	GE-1 DELHI THROUGH THE AGES: THE MAKING OF ITS EARLY MODERN HISTORY
July 2020		China and the Great Divergence. Imperialism and China during the 19th century Canton system,	B.A(HONS) THIRD YEAR HISTORY	DSE-IX, PAPER-9 HISTORY OF MODERN CHINA (1840-1960)
	Practicals:			
	Tutorials:	TUTORIALS/ QUESTION /ANSWER SESSIONS- REVISION		
		TUTORIALS/ QUESTION /ANSWER SESSIONS- REVISION		
December 2020	**Theory:**	III: Delhi's 13th and 14th Century settlements Case study of any two: 1) Dehli-ikuhna's masjid-ijami ʻ(old Delhi/Mehrauli), 2) Siri, 3) Ghiyaspur-Kilukhri, 4) Tughluqabad, 5) Jahanpanah, and 6) Firuzabad	B.A(HONS.) FIRST YEAR	GE-1 DELHI THROUGH THE AGES: THE MAKING OF ITS EARLY MODERN HISTORY
August 2020		Opium Wars. Taiping rebellion, Reform Movement; Self -Strengthening movement.; Reform Movement of 1898	B.A(HONS) THIRD YEAR HISTORY	DSE-IX, PAPER-9 HISTORY OF MODERN CHINA (1840-1960)

	Practicals:			
	Tutorials:	TUTORIALS/ QUESTION ANSWER SESSIONS/ QUIZZES		
		TUTORIALS/ QUESTION ANSWER SESSIONS/ QUIZZES		
January2021 September 2020	**Theory:**	Unit IV: Shajahanabad: Qila Mubarak (Red Fort) as a site of power and the morphology of the city.	B.A(HONS.) FIRST YEAR	GE-1 DELHI THROUGH THE AGES: THE MAKING OF ITS EARLY MODERN HISTORY
		Boxer movement; Revolution of 1911 Sun-Yat-Sen and his ideology; Warlordism May Fourth Movement	B.A(HONS) THIRD YEAR HISTORY	DSE-IX, PAPER-9 HISTORY OF MODERN CHINA (1840-1960)
	Practicals:			
	Tutorials:	QUESTION/ ANSWER SESSIONS. REMEDIAL CLASSES FOR HINDI MEDIUM STUDENTS		
		QUESTION/ ANSWER SESSIONS. REMEDIAL CLASSES FOR HINDI MEDIUM STUDENTS		
	<u>Assignment</u>	ASSIGNMENT WAS GIVEN TO STUDENTS. TOPIC: DESCRIBE ANY TWO CITIES OF DELHI IN THE 13TH AND 14TH CENTURIES.	B.A(HONS.) FIRST YEAR	GE-1 DELHI THROUGH THE AGES: THE MAKING OF ITS EARLY MODERN HISTORY
		Assignment was given to students on the causes and historiography of Opium Wars in China	B.A(HONS) THIRD YEAR HISTORY	DSE-IX, PAPER-9 HISTORY OF MODERN CHINA (1840-1960)

February 2021	**Theory**	Unit V: 18th century Delhi: political upheaval and social empowerment − complicated understandings of 'decline'.	B.A(HONS.) FIRST YEAR	GE-1 DELHI THROUGH THE AGES: THE MAKING OF ITS EARLY MODERN HISTORY
October 2020		Nationalism and Communism; 1921-1927, Formation of CCP, Re-organization of the KMT, First United Front; 1928-1949- Kiangsi Soviet, Peasant Nationalism, Communist Victory	B.A(HONS) THIRD YEAR HISTORY	DSE-IX, PAPER-9 HISTORY OF MODERN CHINA (1840-1960)
	Practicals:			
	Tutorials:	QUESTION/ ANSWER SESSIONS		
		QUESTION/ ANSWER SESSIONS		
	Mid Term Test	NA		
		NA		
March 2021	**Theory:**	Unit V: 18th century Delhi: political upheaval and social empowerment − complicated understandings of 'decline'.	B.A(HONS.) FIRST YEAR	GE-1 DELHI THROUGH THE AGES: THE MAKING OF ITS EARLY MODERN HISTORY
November 2020		Building Socialism, China in the World; Relations with Socialist Countries/ Third world, Non-Alignment Great Leap Forward	B.A(HONS) THIRD YEAR HISTORY	DSE-IX, PAPER-9 HISTORY OF MODERN CHINA (1840-1960)
	Practicals:			

	Tutorials:	TUTORIALS/ REVISION		
		TUTORIALS/ REVISION		

SEMESTER WISE TEACHING PLAN
SRI VENKATESWARA COLLEGE
July-November 2020
Revised Academic Calendar November-March
2020-21Calendar

Name of the Faculty: NEERAJ SAHAY

Department: HISTORY

Semester: I & III

Month		Topics	Course	Paper Code/Name
JULY	**Theory:**	UNIT I 1. Definitions: Antiquity and Archaeological Sites	B.A. Honours II	SEC/Paper-Understanding Heritage
	Practicals:	N/A		
	Tutorials:	N/A	B.A. Honours II	SEC/Paper-Understanding Heritage
AUGUST	**Theory:**	UNIT I 1. Definitions: Tangible and intangible heritage, Art Treasure UNIT II 1. Heritage Legislations: Evolution of acts and conventions 2. Institutional Support 3. Conservation History	B.A. Honours II	SEC/Paper-Understanding Heritage
	Practicals:	N/A		
	Tutorials:	N/A	B.A. Honours II	SEC/Paper-Understanding Heritage
SEPTEMBER	**Theory:**	UNIT III 1. Challenges to Heritage: Antiquity Smuggling, conflicts and 'development'	B.A. Honours II	SEC/Paper-Understanding Heritage

		Practicals:	N/A		
		Tutorials:	N/A	B.A. Honours II	SEC/Paper-Understanding Heritage
		Assignment	1. Field studies taken by different groups of students to visit heritage sites, fill questionnaires, take still and video pictures and data collation for topics decided	B.A. Honours II	SEC/Paper-Understanding Heritage
OCTOBER		**Theory**	UNIT IV 1. Heritage and Travel: Viewing Heritage Sites	B.A. Honours II	SEC/Paper-Understanding Heritage
		Practicals:	N/A		
		Tutorials:	N/A	B.A. Honours II	SEC/Paper-Understanding Heritage
		Mid Term Assessment	Group Projects Deliberations 1. Food Culture of Old Delhi 2)Vocal Traditions in India 3)Vandalism and Graffiti 4)Sufism in Delhi	B.A. Honours II	SEC/Paper-Understanding Heritage
NOVEMBER		**Theory:**	UNIT IV 2. Heritage, Landscape and Travel; recent trends	B.A. Honours II	SEC/Paper-Understanding Heritage
		Practicals:	N/A		
		Tutorials:	Group Projects Submission and presentation of Individual Reports	B.A. Honours II	SEC/Paper-Understanding Heritage

NOVEMBER DECEMBER	**Theory:**	UNIT I 1. Reconstructing Ancient Indian History: landscapes and environment, Sources and methods 2. Reconstructing Ancient Indian History: Changing Historical Interpretation and early Indian Historical Traditions UNIT II 1. Palaeolithic Culture: Sequence, distribution and technology 2. Mesolithic Culture: Sequence, distribution and technology 3. Mesolithic Art	B.A. Honours I	Core Course I, Paper- History of India-I
	Practicals:	N/A		
	Tutorials :	Discussions on changing perspectives from colonial to recent times, *Itihasa-Purana* tradition, questions-answers sessions	B.A. Honours I	Core Course I, Paper- History of India-I
JANUARY	**Theory:**	UNIT III 1. Food Production (Neolithic): Distribution of sites, regional variations and special reference to Mehrgarh 2. Chalcolithic Cultures: regional distribution, features and variations UNIT IV Harappan Civilization: origins and decline, society, polity, agriculture, trade,, technology, religion, art	B.A. Honours I	Core Course I, Paper- History of India-I
	Practicals :	N/A		

	Tutorials:	Discussions on diffusion and internal dynamics of food production, regional variations of chalcolithic cultures, questions-answers sessions	B.A. Honours I	Core Course I, Paper- History of India-I
	Assignment	1. Critically evaluate the merit and demerits of archaeological and literary sources for the reconstruction of Indian history.	B.A. Honours I	Core Course I, Paper- History of India-I
FEBRUARY	**Theory**	UNIT IV Harappan Civilization: origins and decline, society, polity, agriculture, trade,, technology, religion, art	B.A. Honours I	Core Course I, Paper- History of India-I
	Practicals:	N/A		
	Tutorials:	Discussion of evidences and problems in constriction of various aspects of Harappan civilization. Questions-answers sessions	B.A. Honours I	Core Course I, Paper- History of India-I

	Mid Term Test	Any Two Questions to be attempted 1. With reference to literary and archaeological sources, critically analyze their relative merits and demerits for the reconstruction of early Indian history. 2. Define Paleolithic. Write an essay covering the major aspects of this culture in India. 3. In what ways do Mesolithic cultures mark an intermediate phase in Indian prehistory? 4. Write short notes on any two of the following: a) Advances in the field of archaeology b)Rock art c)Significance of Mehrgarh d)Ecological variations in Chalcolithic cultures	B.A. Honours I	Core Course I, Paper- History of India-I
MARCH	**Theory**	UNIT V 1. Aryan Debate 2. Vedic: Rig Vedic and later Vedic; geography, economy, polity , society, religion 3. Megaliths: typology, distribution and features	B.A. Honours I	Core Course I, Paper- History of India-I
	Practicals:	N/A		
	Tutorials:	Discussion of two cultures: Harappan and Vedic. Problems of paucity of archaeological sources, megalithic economy. Questions-answers session	B.A. Honours I	Core Course I, Paper- History of India-I

SEMESTER WISE
TEACHING PLAN
SRI VENKATESWARA
COLLEGE
November 2020-March, 2021
(Revised July-December Calendar)

Name of the Faculty: PREETI GULATI

Department: HISTORY

Semester: I

Month		Topics	Course	Paper Code/Name

November-December	**Theory:**	UNIT I
		  1. Reconstructing Ancient Indian History: landscapes and environment
		  2. Early Indian notions of History: Source and Methods
		UNIT 2
		  1. Introduction to Prehistory: Paleolithic and Mesolithic cultures, sequence, distribution and technology.
			B.A. Honours I	Core Course I, Paper- History of India-I

		UNIT I
		  1. Interpreting Ancient India – periodisation, survey of sources
		UNIT 2
		  2. Prehistoric Cultures: Paleolithic, Mesolithic, Neolithic, Rock Art
			B.A. Programme I	Core Course I: History of India up to c. 300 CE

	Practicals:	N/A		
	Tutorials:	Discussion on geography-history interrelationship, critical examination of sources, questions-answers session	B.A. Honours I	Core Course I, Paper- History of India-I
		Discussion on periodisation of Indian history, sources, question-answer sessions	B.A. Programme I	Core Course I: History of India up to c. 300 CE

JANUARY	**Theory:**	UNIT II
		    1.Mesolithic Art
		    2.Prehistoric Mind: Funerary Practices
		    and Cultural-Religious Practices
		UNIT III:
		    1. Advent of food Production,
		       understanding changes in subsistence
		       patterns
		    2. Neolithic-Chalcolithic Cultures :
		       subsistence, patterns of exchange and
		       interaction
			B.A. Honours I	Core Course I, Paper- History of India-I

		UNIT III:
		    1. Harappan Civilisation: Origins,
		       extent, town planning, economic
		       base, craft technologies, society and
		       religion, decline and post-Harappan
		       cultures. *(2 wks)*
		    2. Iron Age and Megalithic Cultures
		    3. Introduction to early and Later Vedic
		       literature: understanding polity,
		       economy, society and religion in
		       north India c.1500-600 BCE
			B.A. Programme I	Core Course I: History of India up to c. 300 CE

	Practicals:	N/A		
	Tutorials:	Discussions on prehistoric funerary practices as sources of history; discussions on rock art based on pictures from Bhimbedtka, question-answer session	B.A. Honours I	Core Course I, Paper- History of India-I
		Discussions early religious practices and beliefs based on pictures of Harappan terracottas and Deccan megaliths; discussions on relevant extracts from Rg Veda to understand texts as source of history, question-answer session	B.A. Programme I	Core Course I: History of India up to c. 300 CE

FEBRUARY	Theory:	UNIT IV 1.Harappan Civilisation : Historiographical perspectives on origins, settlement patterns and town planning, agrarian base, craft production and trade, social and political organisation, religious beliefs and practices, art, problem of urban decline, tracing continuities in late/post-Harappan traditions	B.A. Honours I	Core Course I, Paper- History of India-I
		UNIT V 1. 600BCE: emergence of state society, mahajanapadhas with special focus on Magadha, understanding inter-linkages between material and social changes, doctrines of Buddhism and Jainism UNIT VI: 1. The Mauryas: state and administration, society, economy, Ashoka's Dhamma, decline, art and architecture	B.A. Programme I	Core Course I: History of India up to c. 300 CE
	Practicals:	N/A		
	Tutorials:	Discussions on understanding religious practices across time, various perspectives on harappan religion, questions-answers sessions	B.A. Honours I	Core Course I, Paper- History of India-I
		Discussions on Megasthenes and Kautilya as sources of history, understanding linkages between textual and archaeological evidences, question-answer session	B.A. Programme I	Core Course I: History of India up to c. 300 CE

	Assignment	Q. Write an essay on the prehistoric mind with special reference to art and funerary practices. OR Q. The Harappan civilization was a product of, and culmination of, a long process of technological and socio-cultural developments. Examine this statement in the light of the early Harappan cultures of the subcontinent. OR Q. Write an essay on the urban life in Harappan civilization, with a special focus on town planning and trade.	B.A. Honours I	Core Course I, Paper- History of India-I	
		Q1. Were Neolithic cultures across the Indian subcontinent uniform? Elaborate your answer in an essay highlighting the main features of Neolithic cultures in India. OR Q2. What was the economic basis of the Harappan civilisation? Describe with special reference to agriculture and trade.	B.A. Programme I	Core Course I: History of India up to c. 300 CE	
MARCH	**Theory**	UNIT V: Cultures in transition up to c. 600 BCE 1. The Aryan question, OCP cultures, settlement patterns and technological changes, megaliths, differential patterns in North India, Central India, Deccan and South India.	B.A. Honours I	Core Course I, Paper- History of India-I	
		UNIT VI: 1. Tamilakam : Sangam literature, *tinai* classification, economy, polity and society 2. Satavahanas and Kushanas: polity, economy, society c. 300 BCE-300 CE	B.A. Programme I	Core Course I: History of India up to c. 300 CE	
	Practicals:	N/A			
	Tutorials:	Discussions based on relevant extracts from textual sources to understand the 'Aryan' question. Question-answer sessions	B.A. Honours I	Core Course I, Paper- History of India-I	
		Discussions based on visuals of sculptures and coins of Kushana kings to understand nature of polity and changing notions of kingship	B.A. Programme I	Core Course I: History of India up to c. 300 CE	
		(Following DU notification, only a single assessment conducted)			

Name of the Faculty: RAJNI CHANDIWAL

Department: HISTORY

Semester: III

Month		Topics	Course	Paper Code/Name
August	**Theory: 1**	Transition From Feudalism to Capitalism −Problems and Theory	Core Course-VI	Rise of Modern West-I
November	**2**	Interpreting Ancient India Survey of Sources.	CC-1	History of India from Earliest Times to upto C.-300 CE
	Practicals:	NA		
	Tutorials:	Discussion on the Topic		
September	**Theory: 1**	Early Colonial Expansion-Motives Beginning of the Era of Expansion, Mining and Plantation, African Slaves. Renaissance-in Italy its Social Roots, Humanism and Its Spread in Europe, Art		
December	**2.**	Survey of Paleolithic, Mesolithic and Neolithic Cultures-Rock Art. Harappan Civilization-Origin and Extent , urban Features, Town Planning, Economy , Society, Religion, Decline.		

		Practicals:	NA		
		Tutorials:	Discussion, Selected documentary and Art Visual class.		
October		Theory:	Origin Course and the Results of European Reformation in 16th Century. Economic Developments of the 16th Century		
		Practicals:	NA		
		Tutorials:	Discussion and Question and Answers		
		Assignment	Taken on the Transition Debate		
November		Theory	Shift of the Economic Balance From the Mediterranean to the Atlantic, Commercial Revolution.		

	Practicals:	NA		
	Tutorials:	Discussion on the topics covered		
	Mid Term Test	Taken From all the above Covered Topics		
December	**Theory:**	Emergence of the European State Systems with the two case Studies Spain and England .		
	Practicals:	NA		
	Tutorials:	Presentations and discussions. Revision.		

SEMESTER WISE
TEACHING PLAN
SRI VENKATESWARA
COLLEGE
July-November, 2020

Name of the Faculty: Vandana Joshi　　　　　**Department:** History

Semester: V

Month		Topics	Course	Paper Code/Name
JULY	**Theory:**	1. The French Revolution [a] Crisis of the Ancien Regime [b] Intellectual currents 　2.	BA HONS Core Course XI History	Modern European History
		I. Key concepts and historical background [a] The idea of the early Modern; perspectives on culture in history 　1. [b] An overview of the classical and medieval legacy	BA Programme DSE	Cultural Transformation in Early Modern Europe
	Practicals:			
	Tutorials:	The French Revolution	BA HONS	Modern European History
		The idea of Early Modern Europe	BAP /DSE	Cultural Transformation in Early Modern Europe
AUGUST	**Theory:**	[c] Social classes and emerging gender relations [d] Phases of the French Revolution 1789-99 [e] Art and culture of the French Revolution [f] Napoleonic consolidation –reform and empire	BA HONS Core Course	Modern European History
		II. The Renaissance [a] Society and politics in Italian city states [b] Humanism in art and literature [c] Developments in science and philosophy	BAP/DSE	Cultural Transformation in Early Modern Europe

	Practicals:			
	Tutorials:	Presentations and assignments		
		Presentations and assignments		
SEPTEMBER	**Theory:**	II. Restoration and revolution: c 1815-1848 [a] Forces of conservatism and restoration of old hierarchies [b] Social, political and intellectual currents [c] Revolutionary and radical movements 1830-1848 III. Capitalist industrialization and social and economic transformation (Late 18th century to AD 1914) [a] Process of capitalist development in industry and agriculture: case studies of Britain, France, the German States and Russia.	BA HONS	Modern European History
		[d] Renaissance beyond Italy III. Upheaval in religion [a] The Papacy and its critics [b] The spread of Protestant sects in Northern Europe	BAP/DSE	Cultural Transformation in Early Modern Europe
	Practicals:			
	Tutorials:	Presentations and assignments		
		Presentations and assignments		
	Assignment			

OCTOBER	**Theory**	[b] Evolution and differentiation of social classes: bourgeoisie, proletariat, landowning classes and peasantry. [c] Changing trends in demography and urban patterns [d] Family, gender and process of industrialization IV Liberal democracy, working class movements and Socialism in the 19th and 20th Centuries: 39 [a] The struggle for parliamentary democracy and civil liberties in Britain: popular movements – chartists and suffragettes	BA HONS	Modern European History
		[c] Counter Reformation and religious strife [d] The economic and cultural impact of the Reformations	BAP/DSE	Cultural Transformation in Early Modern Europe
	Practicals:			
	Tutorials:	Presentations and class test		
		Presentations and assignments		
	Mid Term Test			

NOVEMBER	Theory:	[b] The making of democratic and constitutional rights [c] Forms of protest: food riots in France and England in early nineteenth century, Luddism; trends in labour movements: Britain, France and Germany [d] Early socialist thought, Marxian Socialism and the First and Second International.	BA HONS	Modern European History
		IV. The Conquest of the New World: material, social and cultural aspects	BAP	Cultural Transformation in Early Modern Europe
	Practicals:			
	Tutorials:	Presentations and assignments		
		Presentations and assignments		

SEMESTER WISE TEACHING PLAN
SRI VENKATESWARA COLLEGE
Odd Semester 2020-2021

Name of Faculty: Dr. Veena Budhraja   Department: Statistics
Semester: I, III, V

Month		Topics	Course	Paper Code/Name
JULY	**Theory:**	Probability Distributions: Generating functions, Bivariate probability generating functions.(Unit-I)	B.Sc. (H) Statistics	STAT-C-501 Stochastic Processes and Queuing Theory
		Real Analysis: Representation of real numbers as points on the line and the set of real numbers as complete ordered field. Bounded and unbounded sets, neighborhoods and limit points	B.Sc. (H) Statistics	STAT-C-303: Mathematical Analysis
	Practicals:	To find p_n from probability generating function	B.Sc. (H) Statistics	STAT-C-501 Stochastic Processes and Queuing Theory
	Tutorials:			
AUGUST	**Theory:**	Stochastic Process: Introduction, Stationary Process, Markov Chains: Definition of Markov Chain with examples, transition probability matrix, order of Markov chain, Markov chain as graphs	B.Sc. (H) Statistics	STAT-C-501 Stochastic Processes and Queuing Theory
		Supremum and infimum, derived sets, open and closed sets, sequences and their convergence, limits of some special sequences such as and Cauchy's general principle of convergence, Cauchy's first theorem on limits, monotonic sequences, limit superior and limit inferior of a bounded sequence.	B.Sc. (H) Statistics	STAT-C-303: Mathematical Analysis
	Practicals:	To form transition probability matrix for given problem	B.Sc. (H) Statistics	
	Tutorials:			
SEPTEMBER	**Theory:**	Higher transition probabilities. Generalization of independent Bernoulli trials, classification of states and chains,Stability of Markov system, Poisson Process: postulates of Poisson process, properties of Poisson process, inter- arrival time,	B.Sc. (H) Statistics	STAT-C-501 Stochastic Processes and Queuing Theory
		Infinite series, positive termed series and their convergence, Comparison test, D'Alembert's ratio test, Cauchy's nth root test, Raabe's test. Gauss test, Cauchy's condensation test and integral test (Statements and Examples only). (Unit-II)	B.Sc. (H) Statistics	STAT-C-303: Mathematical Analysis
	Practicals:	To classify the state and to find the stability of Markov system	B.Sc. (H) Statistics	STAT-C-501 Stochastic Processes and Queuing Theory

	Tutorials:			
	Assignment	Assignment on p.g.f's and Markov chain and Poisson process	B.Sc. (H) Statistics	STAT-C-501 Stochastic Processes and Queuing Theory
		Assignment based on neighborhoods, open set, closed set, sequences, series		
OCTOBER	**Theory**	Pure birth process, Yule Furry process, birth and death process, pure death process, Queuing System: General concept, steady state distribution, queuing model, M/M/1 with finite and infinite system capacity, waiting time distribution	B.Sc. (H) Statistics	STAT-C-501 Stochastic Processes and Queuing Theory
		Absolute convergence of series, Leibnitz's test for the convergence of alternating series, Conditional convergence. Review of limit, continuity and differentiability, uniform Continuity and boundedness of a function. Rolle's and Lagrange's Mean Value theorems. Taylor's theorem with lagrange's and Cauchy's form of remainder. (Unit-III)	B.Sc. (H) Statistics	STAT-C-303: Mathematical Analysis
	Practicals:	To find birth and death process for different values of λ, and to find p_n for M/M/1 model		
	Tutorials:			
	Mid Term Test	Unit I and Unit II		
NOVEMBER	**Theory:**	Gambler's Ruin Problem: Classical ruin problem, expected duration of the game.	B.Sc. (H) Statistics	STAT-C-501 Stochastic Processes and Queuing Theory
		Taylor's and Maclaurin's series expansions of sinx, cosx, log (1+x), Unit-III	B.Sc. (H) Statistics Semester III	STAT-C-303: Mathematical Analysis
	Practicals:	Based on Ruin Problem		
	Tutorials:			

Name of the Faculty: Dr. M.K. Sukla   Department: Statistics

Semester: I/III/V

Month		Topics	Course	Paper Code/Name
AUGUST	**Theory:**	Introduction and Objective behind building Econometric Models, General linear models.	Bachelor of Statistics (H) Semester V	STAT-DSE 2-(B): Econometrics
		Analysis of variance, One-way and two-way classification.	Generic Elective	STAT-GE-3: Basics of Statistical Inference
	Practicals:	Estimators of population mean.	Generic Elective	STAT-GE-3: Basics of Statistical Inference
	Tutorials:			
SEPTEMBER	**Theory:**	Estimation under linear restrictions,	Bachelor of Statistics (H) Semester V	STAT-DSE 2-(B): Econometrics
		Brief exposure of three basic principles of design of experiments, treatment, plot and block.	Generic Elective	STAT-GE-3: Basics of Statistical Inference
	Practicals:	Problems related to consequences of Multicollinearity. Diagnostics of Multicollinearity.	Bachelor of Statistics (H) Semester V	STAT-DSE 2-(B): Econometrics
		Confidence interval for the parameters of a normal distribution (one sample and two sample	Generic Elective	STAT-GE-3: Basics of Statistical Inference
	Tutorials:			
OCTOBER	**Theory:**	Multicollinearity, Concepts, Consequences,	Bachelor of Statistics (H) Semester V	STAT-DSE 2-(B): Econometrics
		Completely randomized design (CRD)	Generic Elective	STAT-GE-3: Basics of Statistical Inference
	Practicals:	Diagnostics of Multicollinearity. Problems related to consequences of Autocorrelation (AR(I)).	Bachelor of Statistics (H) Semester V	STAT-DSE 2-(B): Econometrics
		Tests of hypotheses for the parameters of a normal distribution (one sample and two sample problems), ANOVA	Generic Elective	STAT-GE-3: Basics of Statistical Inference
	Tutorials:			

Assignment	Assignments will be based on unsolved Problems.	Bachelor of Statistics (H) Semester V	STAT-DSE 2-(B): Econometrics
		Generic Elective	STAT-GE-3: Basics of Statistical Inference
Mid Term Test	. Course covered up to mid-term break.	Bachelor of Statistics (H) Semester V	STAT-DSE 2-(B): Econometrics
		Generic Elective	STAT-GE-3: Basics of Statistical Inference

NOVEMBER

Theory	Tests for detection and Remedies.	Bachelor of Statistics (H) Semester V	STAT-DSE 2-(B): Econometrics
	Completely randomized design (CRD), Randomized complete block design (RCBD), Bioassay.	Generic Elective	STAT-GE-3: Basics of Statistical Inference
Practicals:	Diagnostics of Autocorrelation. Estimation of General linear model under Autocorrelation Problems related to consequences Heteroscedasticity, Diagnostics of Heteroscedasticity, Estimation of problems of General linear model under Heteroscedastic disturbance terms, Problems concerning specification errors as a reason for induction of Autocorrelation, Heteroscdasticity and Multicollinearity, Problems related to General linear model under (Aitken Estimation). Problems on Autoregressive and Lag models.	Bachelor of Statistics (H) Semester V	STAT-DSE 2-(B): Econometrics
	Chi-square test of proportions. Chi-square tests of association. Chi-square test of goodness-of-fit. Test for correlation coefficient. Sign test for median, Sign test for symmetry, Wilcoxon two-sample test, CRD, RBD	Generic Elective	STAT-GE-3: Basics of Statistical Inference
Tutorials:			

SEMESTER WISE TEACHING PLAN
SRI VENKATESWARA COLLEGE
July-November, 2020
November – March 2020-21

Name of the Faculty: Akash Varshney

Department: Statistics

Semester: I/III/V

Month		Topics	Course	Paper Code/Name
JULY November	**Theory:**	Introduction to times series data, application of time series from various fields, Components of a times series, Decomposition of time series.	B.Sc.(H) Statistics Sem-V	STAT-DSE – 1 (A): Time Series Analysis
		Integration Revision	B.Sc.(H) Statistics Sem-I	STAT-C-102: CALCULUS
		Numerical Analysis: Factorial, finite differences and interpolation. Operators, and divided difference.	B.Sc.(H) Statistics Sem-III	STAT-C-303: Mathematical Analysis
	Practicals:	Estimation of trend by free hand curve method, method of semi averages, fitting mathematical curve and growth curves.	B.Sc.(H) Statistics Sem-V	STAT-DSE – 1 (A): Time Series Analysis
		1.Fitting and plotting of modified exponential curve by different methods	B.Sc.(H) Statistics Sem-V	STAT-DSE – 1 (A): Time Series Analysis
		Formation of difference table, fitting of polynomial and missing terms for equal interval of differencing	B.Sc.(H) Statistics Sem-III	STAT-C-303: Mathematical Analysis
	Tutorials:	Practice Questions and Doubt Clearing for above topics	B.Sc.(H) Statistics Sem-I	STAT-C-102: CALCULUS
AUGUST December	**Theory:**	Estimation of trend by method of moving averages. Detrending: effect of elimination of trend on other components of a time series.	B.Sc.(H) Statistics Sem-V	STAT-DSE – 1 (A): Time Series Analysis
		Integral Calculus: Review of integration and definite integral. Differentiation under integral sign.	B.Sc.(H) Statistics Sem-I	STAT-C-102: CALCULUS
		Newton's forward, backward and divided differences interpolation,	B.Sc.(H) Statistics Sem-III	STAT-C-303: Mathematical Analysis

		Seasonal Component: Estimation of seasonal component by the methods of - simple averages, Ratio to Trend, Ratio to Moving Averages and Link Relative method. Deseasonalization. Practical work.	B.Sc.(H) Statistics Sem-V	STAT-DSE – 1 (A): Time Series Analysis
	Practicals:	2.Fitting and plotting of Gompertz curve by different methods. 3. Fitting and plotting of logistic curve by different methods 4. Fitting of trend by Moving Average Method for given extent and for estimated extent. 5. Fitting of trend by Spencer's 15-point and 21-point formulae 6. Measurement of Seasonal indice	B.Sc.(H) Statistics Sem-V	STAT-DSE – 1 (A): Time Series Analysis
		Based on Newton's Gregory forward difference interpolation formula . Based on Newton's backward difference interpolation formula	B.Sc.(H) Statistics Sem-III	STAT-C-303: Mathematical Analysis
	Tutorials:			
SEPTEMBER January	**Theory:**	Cyclic Component: Harmonic Analysis.Random Component: Variate difference method.	B.Sc.(H) Statistics Sem-V	STAT-DSE – 1 (A): Time Series Analysis
		Double integral, change of order of integration, transformation of variables Beta and Gamma functions: properties and relationship between them.	B.Sc.(H) Statistics Sem-I	STAT-C-102: CALCULUS
		Central differences, Derivation of Gauss and Stirling interpolation formulae. formulae. Lagrange's interpolation formulae.	B.Sc.(H) Statistics Sem-III	STAT-C-303: Mathematical Analysis
		Stationary Time series: Weak stationarity, autocorrelation function and the correlogram. Some Special Processes: Moving-average (MA) process and Autoregressive (AR) processes. Estimation of the	B.Sc.(H) Statistics Sem-V	STAT-DSE – 1 (A): Time Series Analysis
	Practicals:	. Measurement of Seasonal indices ● Simple Averages method. ● Ratio-to-Trend method ● Ratio-to-Moving Average method ● Link Relative method	B.Sc.(H) Statistics Sem-V	STAT-DSE – 1 (A): Time Series Analysis
		Practicals Based on Newton's divided difference and Lagrange's interpolation formula Based on Gauss forward, Gauss backward central difference interpolation formula Based on Stirling's central difference interpolation formula Based on Lagrange's Inverse interpolation formula	B.Sc.(H) Statistics Sem-III	STAT-C-303: Mathematical Analysis

	Assignment	Q1 Different Methods of fitting of Logistic Curve (i) Yule's Method (ii) Hotelling's Method (iii) Successive approximation Method Q. Periodogram and Harmonic Analysis	B.Sc.(H) Statistics Sem-V	STAT-DSE – 1 (A): Time Series Analysis
		Questions based on Differtiation under Integral sign	B.Sc.(H) Statistics Sem-I	STAT-C-102: CALCULUS
		divided difference. Newton's divided differences interpolation, Central differences, Gauss forward,Gauss Backward formulae	B.Sc.(H) Statistics Sem-III	STAT-C-303: Mathematical Analysis
OCTOBER **February**	**Theory**	Introduction to methods of Forecasting a time series. Forecasting by the methods of Exponential smoothing	B.Sc.(H) Statistics Sem-V	STAT-DSE – 1 (A): Time Series Analysis
		Formation and solution of a partial differential equations. Equations easily integrable. Linear partial differential equations of first order. Non-linear partial differential equation of first order and their different forms. Charpit's method.	B.Sc.(H) Statistics Sem-I	STAT-C-102: CALCULUS
		Numerical integration. Trapezoidal rule, Simpson's one-third rule, three-eights rule, Weddle's rule with error terms. Stirling's Formulae. Euler-Maclaurin summation formula.	B.Sc.(H) Statistics Sem-III	STAT-C-303: Mathematical Analysis
		Introduction to ARMA and ARIMA models. Short-term forecasting method: Brown's discounted regression.	B.Sc.(H) Statistics Sem-V	STAT-DSE – 1 (A): Time Series Analysis
	Practicals:	Estimation of variance of the random component by variate difference method 8. Forecasting by exponential smoothing 9. Plotting of Correlogram of moving average.	B.Sc.(H) Statistics Sem-V	STAT-DSE – 1 (A): Time Series Analysis
		Practical : Based on method of successive approximation or iteration Based on method of reversion of series Based on Trapezoidal Rule, Simpson's one-third rule, Simpson's three-eighth rule, Weddle's rule	B.Sc.(H) Statistics Sem-III	STAT-C-303: Mathematical Analysis
	Tutorials:			

	Mid Term Test	Cyclic Component: Harmonic Analysis.Random Component: Variate difference method. Estimation of the parameters of AR (1) and AR (2). Autocorrelation functions of AR(1) and AR(2) processes.	B.Sc.(H) Statistics Sem-V	STAT-DSE – 1 (A): Time Series Analysis
		Beta Gamma Function, Double Integral.	B.Sc.(H) Statistics Sem-I	STAT-C-102: CALCULUS
		Topics based on Central Difference Formulae, Numerical Integration.	B.Sc.(H) Statistics Sem-III	STAT-C-303: Mathematical Analysis
NOVEMBER March	**Theory:**	Short-term forecasting method: Box-Jenkins method. Short-term forecasting method: Bayesian forecasting	B.Sc.(H) Statistics Sem-V	STAT-DSE – 1 (A): Time Series Analysis
		Homogeneous linear partial differential equations with constant coefficients. Different cases for complimentary functions and particular integrals.	B.Sc.(H) Statistics Sem-I	STAT-C-102: CALCULUS
		Solution of difference equations of first order. Revision	B.Sc.(H) Statistics Sem-III	STAT-C-303: Mathematical Analysis
	Practicals:	Forecasting by exponential smoothing 9. Plotting of Correlogram of moving average. Revision of Practicals.	B.Sc.(H) Statistics Sem-V	STAT-DSE – 1 (A): Time Series Analysis
		To find sum by Euler-Maclaurin summation formula. Revision of Practicals.	B.Sc.(H) Statistics Sem-III	STAT-C-303: Mathematical Analysis
	Tutorials:			

Name of the Faculty: Dr. Dipika   **Department: Statistics**
Semester: I, III, V

Month		Topics	Course	Paper Code/Name
August	**Theory**	Concept of population and sample, complete enumeration versus sampling, sampling and non-sampling errors. Types of sampling: non-probability and probability sampling, basic principle of sample survey, Simple random sampling with and without replacement, definition and procedure of selecting a sample, estimates of: population mean, total and proportion, variances of these estimates, estimates of their variances and sample size determination.	. B.Sc.(H) Statistics	STAT-C-302: Survey Sampling and Indian Official Statistics
		Introduction to R, Installation of packages and modules, loading of data, playing with arithmetic expressions. Introduction to data types.	B.Sc.(H) Statistics	STAT-SEC-2: Statistical Data Analysis Using R
		Analysis of variance, One-way and two-way classification.	Generic Elective	STAT-GE-3: Basics of Statistical Inference
	Practicals	To select SRS with and without replacement, For a population of size 5, estimate population mean, population mean square and population variance. Enumerate all possible samples of size 2 by WR and WOR and establish all properties relative to SRS.	. B.Sc.(H) Statistics	STAT-C-302: Survey Sampling and Indian Official Statistics
		Estimators of population mean.	Generic Elective	STAT-GE-3: Basics of Statistical Inference
	Tutorials			
September	**Theory**	Stratified random sampling: Technique, estimates of population mean and total, variances of these estimates, proportional and optimum allocations and their comparison with SRS. Practical difficulties in allocation, estimation of gain in precision, post stratification and its performance, Collapsed strata, Systematic Sampling: Technique, estimates of population mean and total, k).×variances of these estimates (N = n*k)	. B.Sc.(H) Statistics	STAT-C-302: Survey Sampling and Indian Official Statistics
		Graphical representation and interpretation viz. bar-plot, pie-chart, and box plot, stem-leaf, histograms (equal class intervals and unequal class intervals), frequency polygon, ogives with graphical summaries of data, Generate automated reports giving detailed descriptive statistics.	B.Sc.(H) Statistics	STAT-SEC-2: Statistical Data Analysis Using R
		Brief exposure of three basic principles of design of experiments, treatment, plot and block.	Generic Elective	STAT-GE-3: Basics of Statistical Inference
	Practicals	For SRSWOR, estimate mean, standard error, the sample size, Stratified Sampling: allocation of sample to strata by proportional and Neyman's methods Compare the efficiencies of above two methods relative to SRS, Estimation of gain in precision in stratified sampling.	. B.Sc.(H) Statistics	STAT-C-302: Survey Sampling and Indian Official Statistics
		Based on Plotting Graphs and Descriptive Statistics	B.Sc.(H)	STAT-SEC-2:

		using R.	Statistics	Statistical Data Analysis Using R
		Confidence interval for the parameters of a normal distribution (one sample and two sample problems), Analysis of Variance of a one way classified data.	Generic Elective	STAT-GE-3: Basics of Statistical Inference
	Tutorials			
OCTOBER	**Theory**	Comparison of systematic sampling with SRS and stratified sampling in the presence of linear trend and corrections. Circular systematic sampling (only definition), Introduction to ratio and regression methods of estimation, first approximation to the population mean and total (for SRS of large size), variances of these estimates and estimates of these variances, variances in terms of correlation coefficient for regression method of estimation and their comparison with SRS.	. B.Sc.(H) Statistics	STAT-C-302: Survey Sampling and Indian Official Statistics
		Import data, code editing, Scatter plot; correlation and lines of regression, Curvilinear regression, User defined functions, Introduction to flow control: if(), for() and while() loop.	B.Sc.(H) Statistics	STAT-SEC-2: Statistical Data Analysis Using R
		Completely randomized design (CRD)	Generic Elective	STAT-GE-3: Basics of Statistical Inference
	Practicals	Comparison of systematic sampling with stratified sampling and SRS in the presence of a linear trend and using end's correction, Ratio and Regression estimation: Calculate the population mean or total of the population. Calculate mean squares. Compare the efficiencies of ratio and regression estimators relative to SRS.	. B.Sc.(H) Statistics	STAT-C-302: Survey Sampling and Indian Official Statistics
		Based on Random Number generation, fitting curves and simple statistical analysis using R software.	B.Sc. (H) Statistics, Semester III	STAT-SEE-2, Statistical Data Analysis Using R
		Tests of hypotheses for the parameters of a normal distribution (one sample and two sample problems), Analysis of Variance of a two way classified data, Analysis of a CRD.	Generic Elective	STAT-GE-3: Basics of Statistical Inference
	Tutorials			
	Assignment	Assignments will be based on units I & II	B.Sc.(H) Statistics	STAT-C-302: Survey Sampling and Indian Official Statistics
		Assignments will be based on analysis of Data using R	B.Sc.(H) Statistics	STAT-SEC-2: Statistical Data Analysis Using R
		Assignments will be based on Two way ANOVA	Generic Elective	STAT-GE-3: Basics of Statistical Inference
	Test		. B.Sc.(H) Statistics	STAT-C-302: Survey Sampling and Indian Official Statistics
		Course covered up to mid-term break.	B.Sc.(H) Statistics	STAT-SEC-2: Statistical Data Analysis Using

					R
				Generic Elective	STAT-GE-3: Basics of Statistical Inference
NOVEMB ER	**Theory**	Cluster sampling (equal clusters only) estimation of population mean and its variance, comparison (with and without randomly formed clusters). Relative efficiency of cluster sampling with SRS in terms of intra class correlation. Concept of sub sampling.		. B.Sc.(H) Statistics	STAT-C-302: Survey Sampling and Indian Official Statistics
		Random number generation and sampling procedures. Application problems based on fitting of suitable distribution, Q-Q plot, Multiple Regression, Basics of statistical inference in order to understand hypothesis testing, compute p-values and confidence intervals, Simple analysis and create and manage statistical analysis projects.		. B.Sc.(H) Statistics	STAT-SEC-2: Statistical Data Analysis Using R
		Randomized complete block design (RCBD), Bioassay.		Generic Elective	STAT-GE-3: Basics of Statistical Inference
	Practical s	Cluster sampling: estimation of mean or total, variance of the estimate, estimate of intra-class correlation coefficient, efficiency as compared to SRS.		. B.Sc.(H) Statistics	STAT-C-302: Survey Sampling and Indian Official Statistics
		Based on Plotting Graphs and Descriptive Statistics using R, Based on Random Number generation, fitting curves and simple statistical analysis using R software.		B.Sc.(H) Statistics	STAT-SEC-2: Statistical Data Analysis Using R
		Chi-square test of proportions. Test for correlation coefficient, Sign test for median, Analysis of an RBD, Sign test for symmetry, Wilcoxon two-sample test, Chi-square tests of association, Chi-square test of goodness-of-fit.		Generic Elective	STAT-GE-3: Basics of Statistical Inference
	Tutorials				

SEMESTER WISE TEACHING PLAN
SRI VENKATESWARA COLLEGE
Teaching Plan 2020-21

Name of the Faculty: Dr. Alok Kumar Singh

Department: Statistics

Semester: I and V

Month		Topics	Course	Paper Code/Name
JULY	**Theory:**	Overview of C, Constants, Variables and Data Types	**B.Sc. (Hons) Statistics**	**STAT-C-502 Statistical Computing Using C/C++ Programming**
	Practicals:	Plotting of a graph Roots of a quadratic equation (with imaginary roots also)	**B.Sc. (Hons) Statistics**	**STAT-C-502 Statistical Computing Using C/C++**
AUGUST	**Theory:**	Operators and Expressions, Managing Input and Output Operations, Decision Making and Branching, Develop programs to do statistical computing	**B.Sc. (Hons) Statistics**	**STAT-C-502 Statistical Computing Using C/C++ Programming**
	Practicals:	Sorting of an array and hence finding median Mean, Median and Mode of a Grouped Frequency Data Variance and coefficient of variation of a Grouped Frequency Data Preparing a frequency table	**B.Sc. (Hons) Statistics**	**STAT-C-502 Statistical Computing Using C/C++ Programming**
SEPTEMBER	**Theory:**	Decision Making and Looping, Develop programs to do statistical computing, Arrays, Develop programs to do statistical computing related to arrays, matrices etc, Character Arrays, Strings	**B.Sc. (Hons) Statistics**	**STAT-C-502 Statistical Computing Using C/C++ Programming**
	Practicals:	Value of n! using recursion Matrix addition, subtraction, multiplication Transpose and Trace Chi-square contingency table	**B.Sc. (Hons) Statistics**	**STAT-C-502 Statistical Computing Using C/C++ Programming**
	Assignment	Based on topic covered up to September		

OCTOBER	**Theory**	File Management in C, Develop programs to do statistical computing using files input/output files, User- defined Functions, Develop programs to do statistical computing using user defined functions, recursion.	**B.Sc. (Hons) Statistics**	**STAT-C-502 Statistical Computing Using C/C++ Programming**
	Practicals:	t-test for difference of means Paired t-test, F-ratio test	**B.Sc. (Hons) Statistics**	**STAT-C-502 Statistical Computing Using C/C++ Programming**
	Mid Term Test	Based on Unit 1 to Unit 3		
NOVEMBER	**Theory:**	Structure and Pointers, Develop programs to do statistical computing with the concept of structures and pointers, Dynamic Memory Allocation and the Preprocessor	**B.Sc. (Hons) Statistics**	**STAT-C-502 Statistical Computing Using C/C++ Programming**
	Practicals:	Multiple and Partial correlation. Compute ranks and then calculate rank correlation Fitting of lines of regression	**B.Sc. (Hons) Statistics**	**STAT-C-502 Statistical Computing Using C/C++ Programming**

¶

SEMESTER 1

Month		Topics	Course	Paper Code/Name
December	Theory	Introduction to statistics, development, importance and scope of statistics Measurement scales and types of data	GE-1	GE-1, Statistical Methods
	Practicals	Graphical representation of data	GE-1	GE-1, Statistical Methods
	Tutorials	--	--	--
January	Theory	Presentation of data by tables and graphs Measures of central tendency, cumulative frequency distributions	GE-1	GE-1, Statistical Methods
	Practicals	Problems based on measures of central tendency	GE-1	GE-1, Statistical Methods
	Tutorials	--	--	--

Month		Topics	Course	Paper Code/Name
February	Theory	Bivariate data, scatter diagram, principle of least squares and curve fitting, Pearson's correlation, rank correlation,		
	Practicals	Practicals based on measures of dispersion	GE-1	GE-1, Statistical Methods
	Assignment	Assignment based on Unit I and Unit II	GE-1	GE-1, Statistical Methods
	Tutorials	--	--	--
March	Theory	Fitting of polynomials, exponential curves Karl Pearson correlation coefficient Partial and multiple correlations		
	Practicals	Regression, Multiple and partial correlation	GE-1	GE-1, Statistical Methods
	Assignment Test	Practical Assignment Test	GE-1	GE-1, Statistical Methods
	Tutorials	--	--	--

SEMESTER WISE TEACHING PLAN
SRI VENKATESWARA COLLEGE
July-November, 2020

Name of the Faculty: Dr. Ramesh Kumar

Department: **Statistics**

Semester: III

Month		Topics	Course	Paper Code/Name
AUGUST	Theory:	Limit laws, different types of convergence and their inter relations, Central Limit Theorem (CLT), applications and examples based on CLT, Order statistics: distribution of rth order, largest and smallest order statistics and joint distribution of two order statistics,	Bachelor of Statistics (Hons.)	STAT-C-301: SAMPLING DISTRIBU-TIONS
		Estimation of population mean, confidence intervals for the parameters of a normal distribution (one sample and two sample problems). The basic idea of significance test. Null		STAT-GE-3: BASICS OF STATISTICAL INFERENCE
	Practicals:	Practical based on different types of convergence and Central Limit Theorem (CLT)		
	Tutorials:	Discuss problems related to theory		
SEPTEMBER	Theory:	Order statistics: Distribution of sample median and range. Examples based on theory Sampling distributions: definition of parameter, statistic, standard error and their concepts, Sampling distribution of various statistics, Introduction to hypothesis testing (classical and p value approach): formulation of null and alternative hypothesis, type I and Type II errors, level of significance and critical region. Examples based on these	Bachelor of Statistics (Hons.)	STAT-C-301: SAMPLING DISTRIBU-TIONS
		. Type I & Type II errors, level of significance, Concept of pvalue, Tests of hypotheses for the parameters of a normal distribution (one sample and two sample problems)		STAT-GE-3: BASICS OF STATISTICAL INFERENCE
	Practicals:	Practical based on Sampling distributions		
	Tutorials:			

OCTOBER	Theory:	Chi square distribution: Definition and derivation of p.d.f. of χ^2 with n degrees of freedom (d.f.) using m.g.f., nature of p.d.f. curve for different degrees of freedom, mean, variance, m.g.f., cumulant generating function, mode, additive property and limiting form of χ^2 distribution.Tests of significance and confidence intervals based on Chi-Square Distribution. Includes examples and practical work		STAT-C-301: SAMPLING DISTRIBU-TIONS
		Large sample tests: for single mean, single proportion, difference of two means, difference of two proportions, difference of two standard deviations all with examples Examples and practical work based on these tests Categorical data: Tests of proportions,	Bachelor of Statistics (Hons.)	BASICS OF STATISTICAL INFERENCE
	Practicals:	Practical based on theory		
	Mid Term Test	Test based on Unit-I and Unit-II		
	Assignment	Assignment related to testing of significance		
NOVEMBER	Theory	Student's and Fishers t-distribution: Derivation of p.d.f., nature of probability curve with different degrees of freedom, mean, variance, moments and limiting form of the distribution, Distribution of sample correlation coefficient when population correlation coefficient is zero. Tests of significance and confidence intervals based on t distribution. Distribution of F statistic: derivation of p.d.f., nature of probability curve with different degrees of freedom, mean, variance, moments, mode and limiting form of the distribution, points of inflexion. Distribution of 1/F(n1,n2). Relationship between t, F and χ^2 distributions. tests of association and goodness-of-fit using , chi square Test, Yates' correction	Bachelor of Statistics (Hons.)	STAT-C-301: SAMPLING DISTRIBU-TIONS STAT-GE-3: BASICS OF STATISTICAL INFERENCE
	Practicals:	Practical based on Sampling distributions Chi square distribution		
	Tutorials:			

Name of the Faculty: Dr. Tanuja Sriwastava
Department: Statistics

Semester: I

Month		Topic	Course	Paper Code/ Name
December	**Theory**	Limits of function, continuous functions, properties of continuous functions, partial differentiation and total differentiation. Indeterminate forms: LHospital's rule, Leibnitz rule for successive differentiation. Euler's theorem on homogeneous functions.	B.Sc. (H) Statistics, Smester I	STAT-C-102, Calculus
	Practical			
	Tutorials	Practice Questions and Doubt Clearing for above topics	B.Sc. (H) Statistics, Smester I	STAT-C-102, Calculus
January	**Theory**	Maxima and minima of functions of one and two variables, constrained optimization techniques (with Lagrange multiplier) along with some problems. Jacobian, concavity and convexity, points of inflexion of function, singular points.Exact differential equations, Integrating factors, change of variables, Total differential equations, Differential equations of first order and first degree, Differential equations of first order but not of first degree, Equations solvable for x, y, q,	B.Sc. (H) Statistics, Smester I	STAT-C-102, Calculus
	Practical			
	Tutorials	Practice Questions and Doubt Clearing for above topics	B.Sc. (H) Statistics, Smester I	STAT-C-102, Calculus
February	**Theory**	Equations of the first degree in x and y, Clairaut's equations. Higher Order Differential Equations: Linear differential equations of order n, Homogeneous and non-homogeneous linear differential equations of order n with constant coefficients, Different forms of particular integrals, Linear differential equations with non-constant coefficients, Reduction of order method.	B.Sc. (H) Statistics, Smester I	STAT-C-102, Calculus
	Practical			
	Tutorials	Practice Questions and Doubt Clearing for above topics	B.Sc. (H) Statistics, Smester I	STAT-C-102, Calculus
Till 6th, March	**Theory**	The Cauchy-Euler's equation of order n, Legendre's linear equation.	B.Sc. (H) Statistics, Smester I	STAT-C-102, Calculus
	Practical			
	Tutorials	Practice Questions and Doubt Clearing for above topics	B.Sc. (H) Statistics, Smester I	STAT-C-102, Calculus

SRI VENKATESWARA COLLEGE
SEMESTER WISE TEACHING
PLAN (2020-2021)

Name of the Faculty: Theory: Ms. Kanika Verma   **Department:** Statistics

Course: B.Sc. (Hons)Statistics
Semester: Odd Semester (Semester-I)

Month		Topics	Course	Paper Code/Name
December	Theory	Introduction to statistics, development, importance and scope of statistics. Concept of Measurement scales and types of data. Concepts of statistical population and sample. Data: quantitative and qualitative, attributes, variables, scales of measurement - nominal, ordinal, interval and ratio.	B.Sc. (Hons) Statistics	GE-1, Statistical Methods
	Practicals	Presentation of data by tables and graphs.	B.Sc. (Hons) Statistics	GE-1, Statistical Methods
	Tutorials	--	--	--
January	Theory	Presentation: tabular and graphic, including histogram and ogives. Measures of Central Tendency: Mean, Median, Mode	B.Sc. (Hons) Statistics	GE-1, Statistical Methods
	Practicals	Practical based on measures of central tendency	B.Sc. (Hons) Statistics	GE-1, Statistical Methods
	Tutorials	--	--	--

February	Theory	Measures of Dispersion: range, quartile deviation, mean deviation, standard deviation, coefficient of variation, moments, skewness and kurtosis.	B.Sc. (Hons) Statistics	GE-1, Statistical Methods
	Practicals	Practicals based on measures of dispersion	B.Sc. (Hons) Statistics	GE-1, Statistical Methods
	Assignment	Assignment based on Unit I and Unit II	B.Sc. (Hons) Statistics	GE-1, Statistical Methods
	Tutorials	--	--	--
March	Theory	Theory of attributes, consistency of data, independence and association of attributes, measures of association and contingency.	B.Sc. (Hons) Statistics	GE-1, Statistical Methods
	Practicals	Practical based on theory of attributes.	B.Sc. (Hons) Statistics	GE-1, Statistical Methods
	Assignment Test	Practical Assignment Test	B.Sc. (Hons) Statistics	GE-1, Statistical Methods
	Tutorials	--	--	--

SEMESTER WISE TEACHING PLAN

SRI VENKATESWARA COLLEGE

Teacher Name: Parul Saini **Department: Statistics**
Semester: Odd Semester (Semester I, III &V)

Month		Topics	Course	Paper Code/Name
20,Sept.	**Theory**	Present official Statistical system in India,	B.Sc. (Hons.) Statistics	STAT-C-302: Survey Sampling and Indian Official Statistics
	Theory	Queuing System: General concept,	B.Sc. (Hons.) Statistics	STAT-501: Stochastic Processes and Queuing Theory
	Practical	Tests of hypotheses for the parameters of a normal distribution (one sample and two sample problems).	B.Sc. (Hons.) Statistics	STAT-GE-3: Basics of Statistical Inference
	Practical	R **Practical**		
	Practical	MK Sir		
	Practical	Value of n! using recursion Matrix addition, subtraction, multiplication Transpose and Trace Chi-square contingency table	B.Sc. (Hons) Statistics	STAT-C-502 Statistical Computing Using C/C++ Programming
	Practical	Practical based on Sampling distributions	B.Sc. (Hons.) Statistics	STAT-C 301: Sampling Distributions
Oct.	**Theory**	Methods of collection of official Statistics, their reliability and limitation Role of Ministry of Statistics& Program Implementation (MOSPI),Central Statistics Office (CSO),	B.Sc. (Hons.) Statistics	STAT-C-302: Survey Sampling and Indian Official Statistics
	Theory	Steady State distribution, queuing model, M/M/1 with finite and infinite system capacity, waiting time distribution	B.Sc. (Hons.) Statistics	STAT-501: Stochastic Processes and Queuing Theory
	Practical	Chi-square test of proportions. Chi-square tests of association.	B.Sc. (Hons.)	STAT-GE-3: Basics of

Month		Topics	Course	Paper Code/Name
		Chi-square test of goodness-of-fit. Test for correlation coefficient.	Statistics	Statistical Inference
	Practical	R **Practical**		
	Practical	MK Sir		
	Practical	t-test for difference of means Paired t-test, F-ratio test	B.Sc. (Hons) Statistics	STAT-C-502 Statistical Computing Using C/C++ Programming
	Practical	Practical based on theory	B.Sc. (Hons.) Statistics	STAT-C 301: Sampling Distributions
Nov.	**Theory**	National Sample Survey Office (NSSO), National Statistical Commission, Government of India's Principal publication containing data on the topics such as population, industry and finance	B.Sc. (Hons.) Statistics	STAT-C-302: Survey Sampling and Indian Official Statistics
	Theory	Gambler's Ruin Problem: Classical ruin problem, expected duration of the game.	B.Sc. (Hons.) Statistics	STAT-501: Stochastic Processes and Queuing Theory
	Practical	Sign test for median. Sign test for symmetry. Wilcoxon two-sample test.	B.Sc. (Hons.) Statistics	STAT-GE-3: Basics of Statistical Inference
	Practical	R **Practical**		
	Practical	MK Sir		
	Practical	Multiple and Partial correlation. Compute ranks and then calculate rank correlation Fitting of lines of regression	B.Sc. (Hons) Statistics	STAT-C-502 Statistical Computing Using C/C++ Programming
	Practical	Practical based on Sampling distributions Chi square distribution	B.Sc. (Hons.) Statistics	STAT-C 301: Sampling Distributions

Semester I

Month		Topics	Course	Paper Code/Name
Nov.	**Practical**	Presentation of data in: a) Discrete &Continuous frequency table b) Cumulative frequency table	B.Sc. (Hons.) Statistics	STAT-C-101: Descriptive Statistics

Dec.	**Practical**	Graphical representation of data
		   a) frequency curve, frequency polygon and histogram
		   b) ogives
			B.Sc. (Hons.) Statistics	STAT-C-101: Descriptive Statistics

Jan.	**Practical**	Measures of Dispersion Coefficient of dispersion and variation Combined mean and combined variance and Raw moments	B.Sc. (Hons.) Statistics	STAT-C-101: Descriptive Statistics
	Theory	Bivariate data, simple, partial correlation	B.Sc. (Hons.) Statistics	STAT-GE-1: Statistical Methods
	Practical	Problems based on measures of central tendency. Problems based on measures of dispersion. Problems based on combined mean and variance and coefficient of variation.	B.Sc. (Hons.) Statistics	STAT-GE-1: Statistical Methods
	Test	--	B.Sc. (Hons.) Statistics	STAT-GE-1: Statistical Methods
Feb.	**Practical**	Moments about any arbitrary point Central Moments Moments using relation between Raw moments, Moments about any arbitrary point andCentral Moments Correct moments involving wrong data	B.Sc. (Hons.) Statistics	STAT-C-101: Descriptive Statistics
	Theory	Multiple Correlation, Rank Correlation, Principle of least square, fitting of polynomials and exponential curves.	B.Sc. (Hons.) Statistics	STAT-GE-1: Statistical Methods
	Practical	Problems based on Moments, skewness and kurtosis. Fitting of polynomials, exponential curves. Karl Pearson correlation coefficient. Partial and multiple correlations. Spearman rank correlation with and without ties.	B.Sc. (Hons.) Statistics	STAT-GE-1: Statistical Methods
Mar.	**Practical**	Skewness based on mean, median, mode and standard deviation Skewness and kurtosis based on moments. Problem based on missing frequencies Theory of attributes	B.Sc. (Hons.) Statistics	STAT-C-101: Descriptive Statistics
	Theory	Simple Linear Regression, angle	B.Sc.	STAT-GE-1:

		between lines	(Hons.) Statistics	Statistical Methods
	Practical	Correlation coefficient for a bivariate frequency distribution. Lines of regression, angle between lines and estimated values of variables. Checking consistency of data and finding association among attributes.	B.Sc. (Hons.) Statistics	STAT-GE-1: Statistical Methods