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DEPARTMENT OF MATHEMATICS CURRICULAR PLAN 2020-21
I B.Sc Paper-I, - Differential equations - Semester –I
(Sri Ch Bala Raju, Ch Venkatesh Gowd, P Bhagya Sri)

S.No	Month	Week	Syllabus	Additional input/ Value addition	Curricular Activity		Co-Curricular Activity	
					Activity	Hours Alloted	Activity	Hours Alloted
1.	Feb-21	Istweek	Bridge course: Fundamentals in Intermediate	Basics Useful formulas	Teaching	24	Assignment	1
		IIndweek	Bridge course: Fundamentals in Intermediate					
		IIIrdweek	Exact Differential Equations					
		IVthweek	Exact Differential Equations					
2.	Mar	Istweek	Integrating factors	Additional Problems Downloaded Material	Teaching	24	Assignment	1
		IIndweek	Integrating factors					
		IIIrdweek	Integrating factors					
		IVthweek	Integrating factors					
3.	April	Istweek	Linear Differential Equations	Additional Problems Downloaded Material	Teaching	24	Slip test Assignments	1 1
		IIndweek	Bernoulli's Differential Equations					
		IIIrdweek	Orthogonal trajectories					
		IVthweek	Differential equations solvable for p,y					
4.	May	Istweek	Differential equations solvable for p,y	Difficult Examples Downloaded Material	Online Teaching	24	Slip test Assignments Guest lecture	1 1 1
		IIndweek	Differential equations solvable for y,x					
		IIIrdweek	Differential equations of the first degree in x and y, Clairaut's equation					
		IVthweek	General Solution of f(D)y=0 and f(D)y=Q,					
5.	June	Istweek	P.I of f(D)y=Q when Q=be^{ax} and sinbx or cosbx	Counter Examples Downloaded Material	Online Teaching	24	Slip test Assignments	1 1
		IIndweek	P.I of f(D)y=Q when Q=bx^{k} and e^{ax}V					
		IIIrdweek	P.I of f(D)y=Q when Q=xV and x^{m}V					
		IVthweek	By inspection					
6	July	Istweek	Method of variation of parameters	Additional Problems	Online Teaching	24	Slip test Assignments	1 1
		IIndweek	Cauchy Euler Equation					
		IIIrdweek	Legendre's equation					
		IVthweek	Revision					

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DEPARTMENT OF MATHEMATICS CURRICULAR PLAN 2020-21
I B.Sc Paper-II, Semester –II
(Solid Geometry)
(Ch Bala Raju, P VenkataRao, Ch Venkatesh Gowd, A S L Bhavani)

S.No	Month	Week	Syllabus	Additional input/ Value addition	Curricular Activity		Co-Curricular Activity	
					Activity	Hours Alloted	Activity	Hours Alloted
1.	Sep	IIIrdweek	Introduction to coordinate axes	Basics	Teaching	12	Assignment	1
		IVthweek	The Plane					
2.	Oct	Istweek	The Straight Line	Examples Downloaded Materials	Teaching	24	Slip test Assignments Quiz Seminars	1 1 1 1
		IIndweek	The Sphere					
		IIIrdweek	The Sphere					
		IVthweek	The Sphere					
3.	Nov	Istweek	The Sphere	Additional Problems Downloaded Material	Teaching	24	Slip test Assignments	1 1
		IIndweek	The Cone					
		IIIrdweek	The Cone					
		IVthweek	The Cone					

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DEPARTMENT OF MATHEMATICS CURRICULAR PLAN 2020 – 21
II B.Sc Paper-III, (Group Theory) Semester –III
(Dr GSVS Saibaba, PK Parameswari, S Kusuma, Ch Venkatesh Gowd, P Bhagya Sri)

S.No	Month	Week	Syllabus	Additional input/ Value addition	Curricular Activity		Co-Curricular Activity	
					Activity	Hours Alloted	Activity	Hours Alloted
1.	August	IIIrdweek	Number system, Binary Operations	Useful results	Online Teaching	10	Assignment	1
		IVthweek	Functions					
2.	Sep	Istweek	Groups, properties	Additional Problems Downloaded Material	Online Teaching	24	Slip test Assignments	1 1
		IIndweek	Finite and Infinite groups-examples					
		IIIrdweek	Finite and Infinite groups-examples					
		IVthweek	Order of a group					
3.	Nov	IIndweek	Composition tables with examples	Difficult Examples Down Loaded Material	Teaching	24	Slip test Assignments Guest lecture	1 1 1
		IIIrdweek	Sub Groups					
		IVthweek	Sub Groups					
4.	Dec	Istweek	Cosets and Lagrange's theorem	Additional Problems Downloaded Material	Teaching	24	Slip test Assignments	1 1
		IIndweek	Normal Subgroups					
		IIIrdweek	Normal subgroups					
		IVthweek	Quotient groups					
5.	Jan	Istweek	Homomorphism of groups	Additional Problems Downloaded Material	Teaching	10	Slip test Assignments	1 1
		IIndweek	Isomorphism of groups					
6.	Feb	Istweek	Permutation of groups	Additional Problems Downloaded Material	Teaching	24	Slip test Assignments	1 1
		IIndweek	Permutation of groups					
		IIIrdweek	Cyclic groups					
		IVthweek	Cyclic groups					
7.	Mar	Ist Week	Revision	Additional Problems Downloaded	Teaching	6	Slip test Assignments	1 1

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DEPARTMENT OF MATHEMATICS CURRICULAR PLAN 2019-20
II B.Sc Paper-IV, Semester –IV
(Real Analysis)
(Dr GSVS Saibaba, S Kusuma, Ch Venkatesh Gowd)

S.No	Month	Week	Syllabus	Additional input/ Value addition	Curricular Activity		Co-Curricular Activity	
					Activity	Hours Alloted	Activity	Hours Alloted
1.	May	Istweek	Real Numbers	Downloaded Material Additional Problems	Teaching	10	Slip test Assignments Seminars	1 1 2
		IIndweek	Real Sequences					
		IIIrdweek	Infinite Series					
		IVthweek	Infinite Series					
2.	June	Istweek	Limits	Examples Downloaded Materials	Teaching	24	Slip test Assignments Quiz Prof.Srinivasa Ramanujan birthday Celebrations	1 1 1
		IIndweek	Continuous functions					
		IIIrdweek	Continuous functions					
		IVthweek	Differentiation					
3.	July	Istweek	Differentiation	Additional Problems Downloaded Material	Teaching	24	Slip test Assignments	1 1
		IIndweek	Mean value theorems					
		IIIrdweek	Generalized mean value theorems					
		IVthweek	Riemann Integration					
		IVthweek	Riemann Integration					

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DEPARTMENT OF MATHEMATICS CURRICULAR PLAN 2019-20

III B.Sc Paper-V, (Ring Theory & Vector Calculus) Semester –V

(Dr GSVS Saibaba, Ch Venkatesh Gowd, S Kusuma)

S.No	Month	Week	Syllabus	Additional input/ Value addition	Curricular Activity		Co-Curricular Activity	
					Activity	Hours Alloted	Activity	Hours Alloted
1.	Aug	IstWeek	Def of Ring and Basic Properties	Downloaded material Additional Problems	Online Teaching	10	Assignments	1
		IIndWeek	Basic Properties ,Boolean rings					
2	Sep	Istweek	Divisors of Zero and Cancellation of laws,	Additional Problems Downloaded Material	Online Teaching	24	Slip test Assignments Quiz Prof.Srinivasa Ramanujan birthday	1 1 1
		IIndweek	Integral Domain,					
		IIIrdweek	Division Ring and Fields					
		IVthweek	Sub Rings					
3	Nov	Istweek	Ideals	Additional Problems Downloaded Material	Teaching	24	Slip test Assignments	1 1
		IIndweek	Homomorphism, Properties of Homomorphism					
		IIIrdweek	Maximal and Prime ideals					
		IVthweek	Vector differentiation, ordinary derivatives of vectors					
4	Dec	Istweek	Space curves, continuity, differentiation	Additional Problems Downloaded Material	Teaching	24	Slip test Assignments Project works	1 1
		IIndweek	Gradient, divergence					
		IIIrdweek	Curl operators, formulae involving these operators.					
		IVthweek	Curl operators, formulae involving these operators.					
5	Jan	Istweek	Curl operators, formulae involving these operators.	Additional Problems Downloaded Material	Teaching	12	Slip test Assignments Project works	1 1
		IIndweek	Vector integration: Theorem on Gauss & problems					
6.	Feb	Istweek	Green's theorem and problems	Additional Problems Downloaded Material	Teaching	24	Slip test Assignments Project works	1 1
		IIndweek	Stocke's theorem and problems					
		IIIrdweek	Applications of Gauss, Green's and Stocke's theorems					
		IVthweek	Applications of Gauss, Green's and Stocke's theorems					
5.	Mar	Istweek	Revision	Counter Examples	Teaching	06	Slip test Assignments	1 1

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DEPARTMENT OF MATHEMATICS CURRICULAR PLAN 2019-20
III B.Sc Paper-VI, (Linear Algebra) - Semester –V
(Ch Bala Raju, PK Parameswari, Ch Venkatesh Gowd)

S.No	Month	Week	Syllabus	Additional input/ Value addition	Curricular Activity		Co-Curricular Activity	
					Activity	Hours Alloted	Activity	Hours Alloted
1.	Aug	IstWeek	Vector spaces, properties	Downloaded material Additional Problems	Online Teaching	10	Assignments	1
		IIndWeek	Vector spaces, properties					
2	Sep	Istweek	Sub spaces, characterization of Subspaces	Additional Problems Downloaded Material	Online Teaching	24	Slip test Assignments Quiz Prof.Srinivasa Ramanujan birthday Celebrations	1 1 1
		IIndweek	Sub spaces, characterization of Subspaces					
		IIIrdweek	Linear combination, Linearly independent and Dependent of vectors					
		IVthweek	Linear combination, Linearly independent and Dependent of vectors					
3	Nov	Istweek	Direct sum of two Subspaces of vector space	Additional Problems Downloaded Material	Teaching	24	Slip test Assignments	1 1
		IIndweek	Basis and dimension Vector space, Theorems on finite dimensional					
		IIIrdweek	Basis and dimension Vector space, Theorems on finite					
		IVthweek	Quotient space, Dimension of Quotient space.					
4	Dec	Istweek	Inner product spaces, Norm of a vector space	Additional Problems Downloaded Material	Teaching	24	Slip test Assignments Project works	1 1
		IIndweek	The Gram-Schmidt orthogonalisation process,					
		IIIrdweek	Orthogonal complements					
		IVthweek	Adjoint operators					
5	Jan	Istweek	Linear transformation	Additional Problems Downloaded Material	Teaching	12	Slip test Assignments Project works	1 1
		IIndweek	Rank and nullity of Linear transformation Linear transformation					
6.	Feb	Istweek	Isomorphism, Null space, Dimensions, problems	Additional Problems Downloaded Material	Teaching	24	Slip test Assignments Project works	1 1
		IIndweek	Matrices, Elementary matrix operations					
		IIIrdweek	Sylvester's law of nullity, Characteristic values and vectors					
		IVthweek	System of linear equations, Determinants, Diagnolisation					
5.	Mar	Istweek	Revison	Counter Examples	Teaching	06	Slip test Assignments	1 1

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DEPARTMENT OF MATHEMATICS CURRICULAR PLAN 2019-20
III B.Sc Paper-VII , Semester –VI
(Numerical Analysis)
(PK Parameswari , S Kusuma, Ch Venkatesh Gowd)

S.No	Month	Week	Syllabus	Additional input/ Value addition	Curricular Activity		Co-Curricular Activity	
					Activity	Hours Alloted	Activity	Hours Alloted
1.	May	Istweek	Errors in Numerical computation, Numbers and their accuracy, errors and their computation	Useful results	Online Teaching	24	Assignment	1
		IIndweek	Absolute, relative, percentage errors, a general error formulae, error in a series approximation					
		IIIrdweek	Solution of algebraic and transcendental equation, The Bisection method					
		IVthweek	Iterative method, the method of Regula -Falsi,					
2.	June	Istweek	Newton-Raphson method, Muller's method.	Additional Problems Downloaded Material	Online Teaching	24	Slip test	1
		IIndweek	Interpolation, Errors in polynomial interpolation					
		IIIrdweek	Newton forward difference formula, Backward difference formula					
		IVthweek	Central difference formula, Gauss forward and backward formulae					
3.	July	Istweek	Strilling's formula, Problems on finite differences	Difficult Examples	Online Teaching	24	Slip test Guest Lecture	1 1
		IIndweek	Divided differences, Newton divided difference formula					
		IIIrdweek	Lagrange's interpolation formula					
		IVthweek	Error's in Lagranges formulae,					

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DEPARTMENT OF MATHEMATICS CURRICULAR PLAN 2019-20
III B.Sc Paper-VIII A, Semester –VI
(Advanced Numerical Analysis)
(PK Parameswari)

S.No	Month	Week	Syllabus	Additional input/ Value addition	Curricular Activity		Co-Curricular Activity	
					Activity	Hours Alloted	Activity	Hours Alloted
1.	May	Istweek	Curve fitting: Least square methods, fitting a Straight line non linear curve fitting	Additional Problems	Online Teaching	10	Assignments	1
		IIndweek	Curve fitting by sum of exponentials					
		IIIrdweek	Numerical differentiation and Numerical Integration					
		IVthweek	Errors in numerical differentiation					
2.	June	Istweek	Max and min values of tabulated functions Simpson's $\frac{1}{3}$rd rule and $\frac{3}{8}$th rules	Additional Problems Downloaded Material	Online Teaching	24	Assignments	2 1
		IIndweek	Trapezoidal rule, Weddle's rule, Boole's rule.					
		IIIrdweek	Linear system of equations, solution of linear System					
		IVthweek	Direct methods, matrix inversion method					
3.	July	Istweek	Gaussian elimination method, method of Factorization, III-conditioned linear system	Additional Problems Downloaded Material	Online Teaching	24	Slip test Assignment	1 1
		IIndweek	Iterative method, Jacobi's method, Gauss-seidal method.					
		IIIrdweek	Differential equations in numerical analysis, Taylor's series, Euler's, Modified Euler's					
		IVthweek	Picard's method , Runge-Kutta methods					

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DEPARTMENT OF MATHEMATICS CURRICULAR PLAN 2019-20
III B.Sc Paper-VIII B, Semester –VI
(Special Functions)
(Ch Venkatesh Gowd)

S.No	Month	Week	Syllabus	Additional input/ Value addition	Curricular Activity		Co-Curricular Activity	
					Activity	Hours Alloted	Activity	Hours Alloted
1.	May	Istweek	Hermite Differential Equation, Solution of Hermite Equation, Generating function	Additional Problems	Online Teaching	24	Assignments	1
		IIndweek	Other forms of Hermite Polynomial, First few Hermite Polynomials,					
		IIIrdweek	Orthogonal properties and Recurrence formulae for Hermite Polynomials					
		IVthweek	Laguerre's Differential Equation, Solution of Laguerre's Polynomials,					
2.	June	Istweek	First few Laguerre Polynomials, Orthogonal property of the Laguerre Polynomials, Recurrence formulae	Additional Problems Downloaded Material	Online Teaching	24	Assignments	2 1
		IIndweek	Definition, Solution of Legendre's equation, Defintion of $P_n(x)$ & $Q_n(x)$, General sol of Legendre's eqn					
		IIIrdweek	$P_n(x)$ is the co efficientof h^n . Orthogonal properties of Legendre's eqn, Recurrence formulae,					
		IVthweek	Rodrigue's formula, Def, solution of Bessel's general Differential equation					
3.	July	Istweek	General Solution of Bessel's equation, Integration of Bessel's equation in series for n =0,	Additional Problems Downloaded Material	Online Teaching	24	Assignment	1 1
		IIndweek	Defintion of $J_n(x)$, Recurrence formulae for $J_n(x)$, Generating function for $J_n(x)$,					
		IIIrdweek	Euler's Integrals- Beta and Gamma functions, Elementary properties of functions, Transformation of Gamma functions,					
		IVthweek	Another form of Beta function, Relation between Beta and Gamma Functions, Other Transformation					