



SRI Y.N.COLLEGE(Autonomous),Narasapur
Affiliated to Adikavi Nannayya University
Thrice Accredited by NAAC with 'A' Grade
Recognized by UGC as 'College with potential for Excellence'
DEPARTMENT OF MATHEMATICS CURRICULAR PLAN 2018-19
I B.Sc Paper-I, Semester -I
(Differential equations)

S.No	Month	Week	Syllabus	Additional input/ Value addition	Curricular Activity		Co-Curricular Activity	
					Activity	Hours Alloted	Activity	Hours Alloted
1.	June	I st week	Bridge course: Fundamentals in Intermediate	Basics Useful formulas	Teaching	08	Assignment	1
		II nd week	Exact Differential Equations					
2.	July	I st week	Integrating factors	Additional Problems Downloaded Material	Teaching	24	Slip test Assignments	1 1
		II nd week	Linear Differential Equations					
		III rd week	Bernoulli's Differential Equations					
		IV th week	Orthogonal trajectories					
3.	Aug	I st week	Differential equations solvable for p,y	Difficult Examples Downloaded Material	Teaching	24	Slip test Assignments Guest lecture	1 1 1
		II nd week	Differential equations solvable for y,x					
		III rd week	Differential equations of the first degree in x and y, Clairaut's equation					
		IV th week	General Solution of $f(D)y=0$ and $f(D)y=Q$, when Q is a function of x					
4.	Sep	I st week	P.I of $f(D)y=Q$ when $Q=be^{ax}$ and $\sin bx$ or $\cos bx$	Counter Examples Downloaded Material	Teaching	24	Slip test Assignments	1 1
		II nd week	P.I of $f(D)y=Q$ when $Q=bx^k$ and $e^{ax}V$					
		III rd week	P.I of $f(D)y=Q$ when $Q=xV$ and x^mV					
		IV th week	Method of variation of parameters					
5.	Oct	I st week	Cauchy Euler Equation	Additional Problems	Teaching	10	Slip test Assignments	1 1
		II nd week	Revision					



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DEPARTMENT OF MATHEMATICS CURRICULAR PLAN 2018-19
I B.Sc Paper-II, Semester –II
(Solid Geometry)

S.No	Month	Week	Syllabus	Additional input/ Value addition	Curricular Activity		Co-Curricular Activity	
					Activity	Hours Alloted	Activity	Hours Alloted
1.	Nov	III rd week	Introduction to coordinate axes		Teaching	10	Assignment	1
		IV th week	The Plane					
2.	Dec	I st week	The plane	Examples Downloaded Materials	Teaching	24	Slip test Assignments Quiz Seminars Prof.Srinivasa Ramanujan birthday Celebrations	1 1 1 1
		II nd week	The plane					
		III rd week	The Straight Line					
		IV th week	The Straight Line					
3.	Jan	I st week	The Straight Line	Additional Problems Downloaded Material	Teaching	14	Slip test Assignments	1 1
		II nd week	The Sphere					
		III rd week	The Sphere					
		IV th week	The Sphere					
4.	Feb	I st week	The Sphere	Difficult Examples	Teaching	24	Slip test Assignments	1 1
		II nd week	The Cone					
		III rd week	The Cone					
		IV th week	The Cone					
5.	March	I st week	Revision	Counter Examples	Teaching	06	Slip test Assignments	1 1



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DEPARTMENT OF MATHEMATICS CURRICULAR PLAN 2018-19
II B.Sc Paper-III, Semester –III
(Group Theory)

S.No	Month	Week	Syllabus	Additional input/ Value addition	Curricular Activity		Co-Curricular Activity	
					Activity	Hours Alloted	Activity	Hours Alloted
1.	June	I st week	Number system, Binary Operations	Useful results	Teaching	10	Assignment	1
		II nd week	Groups, properties					
2.	July	I st week	Finite and Infinite groups-examples	Additional Problems Downloaded Material	Teaching	24	Slip test Assignments	1 1
		II nd week	Order of a group					
		III rd week	Composition tables with examples					
		IV th week	Sub Groups					
3.	Aug	I st week	Sub Groups ,Cosets and Lagrange's theorem	Difficult Examples Down Loaded Material	Teaching	24	Slip test Assignments Guest lecture	1 1 1
		II nd week	Normal Subgroups					
		III rd week	Normal subgroups					
		IV th week	Quotient groups					
4.	Sep	I st week	Homomorphism of groups	Additional Problems Downloaded Material	Teaching	24	Slip test Assignments	1 1
		II nd week	Isomorphism of groups					
		III rd week	Permutation of groups					
		IV th week	Permutation of groups, Cyclic groups					
5.	Oct	I st week	Cyclic groups	Additional Problems Downloaded Material	Teaching	10	Slip test Assignments	1 1
		II nd week	Revision					



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DEPARTMENT OF MATHEMATICS CURRICULAR PLAN 2018-19
II B.Sc Paper-IV, Semester –IV
(Real Analysis)

S.No	Month	Week	Syllabus	Additional input/ Value addition	Curricular Activity		Co-Curricular Activity	
					Activity	Hours Alloted	Activity	Hours Alloted
1.	Nov	I st Week	Real Numbers	Downloaded Material Additional Problems	Teaching	10	Slip test	1
		II nd Week	Real Sequences				Assignments Seminars	1 2
2.	Dec	I st week	Real Sequences	Examples Downloaded Materials	Teaching	32	Slip test	1
		II nd week	Infinite Series				Assignments	1
		III rd week	Infinite Series				Quiz	1
		IV th week	Limits				Prof.Srinivasa Ramanujan birthday Celebrations	
3.	Jan	I st week	Continuous functions	Additional Problems Downloaded Material	Teaching	32	Slip test	1
		II nd week	Continuous functions				Assignments	1
		III rd week	Differentiation					
		IV th week	Mean value theorems					
4.	Feb	I st week	Mean value theorems	Difficult Examples	Teaching	32	Slip test	1
		II nd week	Generalized mean value theorems				Assignments	1
		III rd week	Riemann Integration					
		IV th week	Riemann Integration					
5.	March	I st week	Revision	Downloaded Material Additional Problems	Teaching	10	Slip test Assignments	1 1



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DEPARTMENT OF MATHEMATICS CURRICULAR PLAN 2018-19
III B.Sc Paper-V, Semester –V
(Ring Theory & Vector Calculus)

S.No	Month	Week	Syllabus	Additional input/ Value addition	Curricular Activity		Co-Curricular Activity	
					Activity	Hours Alloted	Activity	Hours Alloted
1.	Jun	I st Week	Def of Ring and Basic Properties	Downloaded material Additional Problems	Teaching	10	Assignments	1
		II nd Week	Boolean rings, Divisors of Zero and Cancellation of laws,					
2.	Jul	I st week	Integral Domain, Division Ring and Fields	Additional Problems Downloaded Material	Teaching	24	Slip test Assignments Quiz Prof..Srinivasa Ramanujan birthday Celebrations	1 1 1
		II nd week	Sub Rings, Ideals					
		III rd week	Homomorphism, Properties of Homomorphism					
		IV th week	Maximal and Prime ideals					
3.	Aug	I st week	Vector differentiation, ordinary derivatives of vectors	Additional Problems Downloaded Material	Teaching	24	Slip test Assignments	1 1
		II nd week	Space curves, continuity, differentiation					
		III rd week	Gradient, divergence					
		IV th week	curl operators, formulae involving these operators.					
4.	Sep	I st week	Vector integration: Theorem on Gauss & problems	Additional Problems Downloaded Material	Teaching	24	Slip test Assignments Project works	1 1
		II nd week	Green's theorem and problems					
		III rd week	Stocke's theorem and problems					
		IV th week	Applications of Gauss, Green's and Stocke's theorems					
5.	Oct	I st week	Applicaitons on Gauss, Green's and Stocke's theorems	Counter Examples	Teaching	06	Slip test Assignments	1 1
		II week	Revision					



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DEPARTMENT OF MATHEMATICS CURRICULAR PLAN 2018-19
III B.Sc Paper-VI, Semester –V
(Linear Algebra)

S.No	Month	Week	Syllabus	Additional input/ Value addition	Curricular Activity		Co-Curricular Activity	
					Activity	Hours Alloted	Activity	Hours Alloted
1.	June	I st week	Vector spaces, properties	Useful results	Teaching	10	Assignments	1
		II nd week	Sub spaces, characterization of Subspaces					
2.	July	I st week	Linear combination, Linearly independent and Dependent of vectors	Additional Problems Downloaded Material	Teaching	24	Slip test	1
		II nd week	Direct sum of two Subspaces of vector space					
		III rd week	Basis and dimension Vector space, Theorems on finite dimensional					
		IV th week	Quotient space, Dimension of Quotient space.					
3.	Aug	I st week	Inner product spaces, Norm	Difficult Examples Down Loaded Material	Teaching	24	Slip test Assignments Guest Lecture	1 1 1
		II nd week	The Gram-Schmidt orthogonalisation process,					
		III rd week	Orthogonal complements					
		IV th week	Adjoint operators					
4.	Sep	I st week	Linear transformation	Additional Problems Downloaded Material	Teaching	24	Slip test Assignments	1 1
		II nd week	Rank and nullity of Linear transformation					
		III rd week	Isomorphism, Null space, Dimensions, problems					
		IV th week	Matrices, Elementary matrix operations					
5.	Oct	I st week	Sylvester's law of nullity, Characteristic values and vectors	Additional Problems Downloaded Material	Teaching	1	Slip test Assignments	1 1
		II nd week	System of linear equations, Determinants, Diagonalisation					



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DEPARTMENT OF MATHEMATICS CURRICULAR PLAN 2018-19
III B.Sc Paper-VIIB, Semester –VI
(Numerical Analysis)

S.No	Month	Week	Syllabus	Additional input/ Value addition	Curricular Activity		Co-Curricular Activity	
					Activity	Hours Alloted	Activity	Hours Alloted
1.	Nov	I st week	Errors in Numerical computation, Numbers and their accuracy, errors and their computation	Useful results	Teaching	10	Assignment	1
		II nd week	Absolute, relative, percentage errors, a general error formulae, error in a series approximation					
2.	Dec	I st week	Solution of algebraic and transcendental equation, The Bisection method	Additional Problems Downloaded Material	Teaching	24	Slip test	1
		II nd week	Iterative method, the method of Regula -Falsi,					
		III rd week	Newton-Raphson method, Generalized Newton-Raphson method					
		IV th week	Ramanujan's method, Muller's method.					
3.	Jan	I st week	Interpolation, Errors in polynomial interpolation	Difficult Examples	Teaching	24	Slip test Guest Lecture	1 1
		II nd week	Newton forward difference formula, Backward difference formula					
		III rd week	Central difference formula, Gauss forward and backward formulae's					
		IV th week	Strilling's formula, Problems on finite differences					
4.	Feb	I st week	Divided differences	Additional Problems	Teaching	24	Slip test	1
		II nd week	Newton divided difference formula					
		III rd week	Lagrange's interpolation formula					
		IV th week	Lagrange's interpolation formula					
5.	Mar	I st week	Error's in Lagranges formulae, Derivation of Governing equations	Additional Problems	Teaching	6	Slip test	1



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DEPARTMENT OF MATHEMATICS CURRICULAR PLAN 2018-19
III B.Sc Paper-VIIIB-1, Semester –VI
(Advanced Numerical Analysis)

S.No	Month	Week	Syllabus	Additional input/ Value addition	Curricular Activity		Co-Curricular Activity	
					Activity	Hours Alloted	Activity	Hours Alloted
1.	Nov	I st Week	Curve fitting: Least square methods, fitting a Straight line non linear curve fitting	Additional Problems	Teaching	10	Assignments	1
		II nd Week	Curve fitting by sum of exponentials					
2.	Dec	I st week	Numerical differentiation and Numerical Integration	Additional Problems Downloaded Material	Teaching	24	Assignments Quiz Prof.Srinivasa Ramanujan birthday Celebrations	2 1
		II nd week	Errors in numerical differentiation					
		III rd week	Max and min values of tabulated functions Simpson's $\frac{1}{3}$ rd rule and $\frac{3}{8}$ th rules					
		IV th week	Trapezoidal rule, Weddle's rule, Boole's rule.					
3.	Jan	I st week	Linear system of equations, solution of linear System	Additional Problems Downloaded Material	Teaching	24	Slip test Assignment	1 1
		II nd week	Direct methods, matrix inversion method					
		III rd week	Gaussian elimination method, method of Factorization, III-conditioned linear system					
		IV th week	Iterative method, Jacobi's method, Gauss-seidal method.					
4.	Feb	I st week	Differential equations in numerical analysis	Additional Problems Downloaded Material	Teaching	24	Slip test Assignment Project works	1 1
		II nd week	Taylor's series, Euler's, Modified Euler's					
		III rd week	Picard's method					
		IV th week	Runge-Kutta methods					
5.	March	I st week	Revision	Counter Examples	Teaching	6	Slip test Assignment	1 1



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DEPARTMENT OF MATHEMATICS CURRICULAR PLAN 2018-19
III B.Sc Paper-VIIIB-2, Semester –VI
(Special Functions)

S.No	Month	Week	Syllabus	Additional input/ Value addition	Curricular Activity		Co-Curricular Activity	
					Activity	Hours Alloted	Activity	Hours Alloted
1.	Nov	I st Week	Hermite Differential Equation, Solution of Hermite Equation	Additional Problems	Teaching	10	Assignments	1
		II nd Week	Generating function, Other forms of Hermite Polynomial					
2.	Dec	I st week	First few Hermite Polynomials, Orthogonal properties of Hermite Polynomials	Additional Problems Downloaded Material	Teaching	24	Assignments Quiz Prof.Srinivasa Ramanujan birthday Celebrations	2 1
		II nd week	Recurrence formulae for Hermite Polynomials					
		III rd week	Laguerre's Differential Equation, Solution of Laguerre's Polynomials,					
		IV th week	First few Laguerre Polynomials, Orthogonal property of the Laguerre Polynomials, Recurrence formulae					
3.	Jan	I st week	Definition, Solution of Legendre's equation, Defintion of $P_n(x)$ & $Q_n(x)$	Additional Problems Downloaded Material	Teaching	24	Slip test Assignment	1 1
		II nd week	General sol of Legendre's eqn $P_n(x)$ is the co efficient of h^n . Orthogonal properties of Legendre's eqn					
		III rd week	Recurrence formulae, Rodrigue's formula.					
		IV th week	Def, solution of Bessel's general Differential equation General Solution of Bessel's equation,					
4.	Feb	I st week	Integration of Bessel's equation in series for $n=0$, Defintion of $J_n(x)$, Recurrence formulae for $J_n(x)$	Additional Problems Downloaded Material	Teaching	24	Slip test Assignment Project works	1 1
		II nd week	Generating function for $J_n(x)$, Euler's Integrals- Beta and Gamma functions, Elementary properties of functions					
		III rd week	Transformation of Gamma functions, Another form of Beta function					
		IV th week	Relation between Beta and Gamma Functions, Other Transformation					
5.	March	I st week	Revision	Counter examples	Teaching	6	Slip test	1

