

ACADEMIC PLANNER & UNITIZATION OF SYLLABUS

ACADEMIC YEAR 2023-24

DEPARTMENT: Mathematics, CLASS: I Semester (OE) Corporate Mathematics

MONTH/YEAR	WEEK	PORTIONS	Teachers
October 2023	1	Introduction , types of equations	MSN
		Frequency distribution -raw data,variables	KSR
		Tabulation	KSR
	2	Simple linear equations	MSN
		Classification of data, frequency distribution ,cumulative frequency	KSR
		Bar graphs	KSR
	3	Problems on linear equations	MSN
		Histogram,Ideal measures of tendency	KSR
		Pie charts	KSR
	4	Simultaneous equations in 2 variables	MSN
Arithmetic mean, median,mode for grouped data		KSR	
Line graphs,		KSR	
MONTH/YEAR	WEEK	PORTIONS	Teachers
November 2023	1	Elimination method	MSN
		Arithmetic mean, median,mode for ungrouped data	KSR
		Application problems	KSR
	2	Substitution method	MSN
		Combined mean, Merits and demerits of measures of central tendency	KSR
		Linear Programming -meaning	KSR
	3	Rule of cross multiplication	MSN
		Geometric mean, defn ,merits and demerits	KSR
		Linear inequalities and their graphs	KSR
	4	Problems on cross multiplication	MSN
		Harmonic mean,defn,merits and demerits	KSR
		Formation of LPP	KSR
MONTH/YEAR	WEEK	PORTIONS	Teachers
December 2023	1	Quadratic equations	MSN
		Choice of AM,GM,HM,Concept of dispersion	KSR
		Solution to LPP by graphical method	KSR
	2	Problems on quadratic equations	MSN

MONTH/YEAR	WEEK	PORTIONS	Teachers
		Measures of dispersion: Range, Variance,SD for grouped data	KSR
		Solution to LPP by graphical method	KSR
	3	Factorisation method	MSN
		Range, Variance,SD for ungrouped data	KSR
		Solution to LPP by graphical method	KSR
	4	Formula method	MSN
		Combined SD,Measures of relative dispersion	KSR
Solution to LPP by graphical method		KSR	
MONTH/YEAR	WEEK	PORTIONS	Teachers
January 2024	1	Application problems	MSN
		Coefficient of range,variation	KSR
		Revision of model papers	KSR
	2	Revision of model papers	MSN
		Revision of model papers	KSR
		Revision of model papers	KSR

**ACADEMIC PLANNER & UNITIZATION OF SYLLABUS
ACADEMIC YEAR 2023-24(NEP)**

DEPARTMENT: Mathematics

CLASS: 1 semester

MONTH/YEAR	WEEK	PORTIONS	Teachers
October 2023	1	Elementary row and column transformations - equivalent matrices	MSN
		Limits, continuity Problems on these	KSR
		Intermediate value theorems	KSR
		Functions of two or more variables	LP
	2	Theorems on matrices	MSN
		Differentiability and Properties	KSR
		Rolle's theorem	KSR
		Explicit functions and implicit functions and partial derivatives	LP
	3	Row reduced echelon form, Normal form of a matrix, rank of a matrix- Problems on Differentiability	MSN
		Problems on Rolle's theorem	KSR
		Explicit functions and implicit functions and partial derivatives	LP
		Rank of a matrix-Problems	MSN
	4	Properties of continuous functions	KSR
		Lagranges 's Mean Value theorem	KSR
		Problems on Explicit functions and implicit functions and partial derivatives	LP
		Homogeneous and non-homogeneous system of m-linear equations in n -unknowns	MSN
November 2023	1	Properties of continuous functions	KSR
		Problems on Lagranges 's Mean Value theorem	KSR
		Homogeneous functions- Euler's theorem-Problems	LP
		Consistency criterion-Problems	MSN
	2	nth derivative of standard functions	KSR
		Cauchy's Mean Value theorem	KSR
		Euler's theorem-Problems	LP
		Consistency criterion for uniqueness of solutions-Problems	MSN
	3	nth derivative of standard functions	KSR
		Problems on Cauchy's Mean Value theorem	KSR
		Euler's theorem-Problems	LP
		Eigen values and Eigen vectors of a square matrix of order 2	MSN

		nth derivative of standard functions	KSR	
		Taylor's theorem	KSR	
		Extension of euler's theorem and problems	LP	
December 2023	1	Eigen values and Eigen vectors of a square matrix of order 3	MSN	
		Problems on $e^{ax+b} \sin(bx + c), e^{ax+b} \cos(bx + c)$	KSR	
		Problems on Taylor's theorem	KSR	
		Total derivatives-differentiation of implicit and composite functions	LP	
	2	Cayley-Hamilton theorem-with proof	MSN	
		Leibnitz theorem	KSR	
		MacLaurin's series	KSR	
		Total derivatives-differentiation of implicit and composite functions	LP	
	3	Finding A^{-1} using C-H theorem	MSN	
		Leibnitz theorem and problems	KSR	
		Problems on MacLaurin's series	KSR	
		Total derivatives-differentiation of implicit and composite functions	LP	
	4	Finding A^{-2}, A^3, A^2	MSN	
		Leibnitz theorem and problems	KSR	
		Indeterminate forms	KSR	
		Jacobians and standard properties	LP	
	January 2024	1	Finding A^4 -Application problems	MSN
			Indeterminate forms	KSR
			Evaluation of limits using L'Hospital's rule	KSR
			Jacobians and standard properties and problems on it	LP
2		Question papers solved	MSN	
		Evaluation of limits using L'Hospital's rule	KSR	
		Evaluation of limits using L'Hospital's rule	KSR	
		Taylor's and Maclaurin's series for functions of two variables	LP	
3		Question papers solved	MSN	
		Question papers solved	KSR	
		Question papers solved	KSR	
		Maxima Minima of functions of two variables	LP	
4		Question papers solved	MSN	
		Question papers solved	KSR	
		Conducted preparatory exam		

**ACADEMIC PLANNER & UNITIZATION OF SYLLABUS
ACADEMIC YEAR 2023-24**

DEPARTMENT: Mathematics

CLASS: 3rd Semester

MONTH/YEAR	WEEK	PORTIONS	Teachers
Oct 2023	1	Recapitulation of diff equ first order first degree-exact eq	MSN
		LDE of nth order with constant coefficients	LP
		Definition of series-convergent, divergent, oscillatory	MSN
		Sequences of real numbers- bounded sequences-examples	LP
	2	Exact Differential equation, necessary and sufficient condition for the eq to be exact	MSN
		Complementary function for LDE	LP
		Cauchy's general principle of convergence-Geometric series	MSN
		Limit of a seq, convergent, divergent and oscillatory seq	LP
	3	Problems on exact diff eq	MSN
		Finding particular integral of exponential function and sine and cosine function	LP
		p-series(Harmonic series)	MSN
		Theorems on bounded seq	LP
	4	Equations reducible to exaxt	MSN
		Finding particular integral of x^v and e^{ax}	LP
		Comparison tests	MSN
		Monotonic sequences	LP
Nov 2023	1	Differential equations of first order and higher degree	MSN
		Problems on it	LP
		Problems on Comparison tests	MSN
		Theorems of monotonic sequences	LP
	2	Solvable for p	MSN
		Cauchy- Euler equations	LP
		D'Alemberts ratio tests-Proof	MSN
		Algebra of convergent sequences	LP
	3	Solvable for x	MSN
		Problems on Cauchy- Euler equations	LP
		Problem on D'Alemberts ratio test	MSN
		Algebra of convergent sequences	LP
	4	Solvable for y	MSN
		Legendte's LDE,	LP
		Raabe's test	MSN
		Bolzano Weierstrass theorem	LP

Dec 2023	1	Clairaut's equations and singular solutions	MSN
		Method of variation of parameters	LP
		Cauchy's root test	MSN
		Cauchy's general principle for convergence of a sequence	LP
	2	Orthogonal trajectories of Cartesian curves	MSN
		Method of variation of parameters	LP
		Cauchy's integral test-Alternating series	MSN
		Limit Superior and limit inferior of sequences	LP
	3	Orthogonal trajectories of polar curves	MSN
		Simultaneous linear differential equations with constant coefficients	LP
		Alternating series-Leibnitz's theorem	MSN
		Sub sequences – theorems	LP
	4	Revision of papers	MSN
		Revision of papers	LP
		Absolute convergent and conditional convergence	MSN
		Sub sequences – properties	LP
Jan 2024	1	Revision of papers	LP
		Revision of papers	LP
		Summation of binomial series	KSR
		Condition for intergrabiity of TDE	LP
	2	Revision of papers	LP
		Revision of papers	LP
		Summation of exponential series	KSR
		Solving TDE	LP
	3	Revision of papers	LP
		Revision of papers	LP
		Summation of logarithmic series	KSR
		Revision of papers	LP
	4	Model papers	LP
		Conducted mock test	
		Conducted preparatory exam	

**ACADEMIC PLANNER & UNITIZATION OF SYLLABUS
ACADEMIC YEAR 2023-24**

DEPARTMENT: Mathematics,

CLASS: V Semester, Paper 5.1

MONTH/YEAR	WEEK	PORTIONS	Teachers
October 2023	1	Improper integrals – Types with Examples	LP
		Complex numbers-cartesian and polar	MSN
		Geometrical representation Euler’s form	MSN
		Limits, Continuity	MSN
	2	Improper integral as limit of a proper integral	LP
		Differentiability	MSN
		Analytic functions	MSN
		CR equations in Cartesian form	MSN
	3	Problems on convergence	LP
		CR equations in polar form	MSN
		Problems on CR equations	MSN
		Harmonic function	MSN
	4	Gamma function defn, results	LP
		Orthogonal system	MSN
		Finding analytic function given real part	MSN
		Finding analytic function given imaginary part	MSN
November 2023	1	Beta function defn , results	LP
		Line integral problems	MSN
		Problems on line integral	MSN
		Cauchy’s integral theorem, problems	MSN
	2	Relation between Beta & Gamma functions	LP
		Cauchy’s integral formula, problems	MSN
		Cauchy’s generalised integral formula, problems	MSN
		Liouville’s theorem, Cauchy’s inequality	MSN
	3	Problems on relation	LP
		Fundamental theorem of algebra	MSN
		Transformations , conformal	MSN
		Elementary transformations	MSN
	4	Evaluation of definite integrals using Beta-Gamma function	LP
		Bilinear transformations, theorems	MSN
		Theorems on BT	MSN

MONTH/YEAR	WEEK	PORTIONS	Teachers
December 2023	1	Duplication formula problems	LP
		Cross ratio , theorems	MSN
		Problems on cross ratio	MSN
		Problems on BT	MSN
	2	Evaluation of definite integrals using Beta-Gamma function	LP
		Problems on BT	MSN
		Standard transformations	MSN
		Standard transformations	MSN
	3	Evaluation of definite integrals using Beta-Gamma function	LP
		Revision of model papers	MSN
		Revision of model papers	MSN
		Revision of model papers	MSN
	4	Revision of model papers	LP
		Revision of model papers	MSN
		Revision of model papers	MSN
		Revision of model papers	MSN
MONTH/YEAR	WEEK	PORTIONS	Teachers
January 2024	1	Revision of model papers	LP
		Revision of model papers	LP
		Revision of model papers	LP
		Revision of model papers	KSR
	2	Revision of model papers	LP
		Revision of model papers	KSR
		Revision of model papers	LP
		Revision of model papers	LP
	3	Conducted mock test	
		Conducted preparatory exam	

**ACADEMIC PLANNER & UNITIZATION OF SYLLABUS
ACADEMIC YEAR 2023-24**

DEPARTMENT: Mathematics,

CLASS: V Semester, Paper 5.2

MONTH/YEAR	WEEK	PORTIONS	Teachers
October 2023	1	Vector function of a scalar variable- space curve	LP
		Gradient	LP
		Line integral and problems	LP
		Planes: Standard forms	MSN
	2	Derivative, Tangent, normal, binormal	LP
		Directional derivative	LP
		Double integral and problems	LP
		Distance of a point from a plane and problems	MSN
	3	Problems on derivatives	LP
		Tangent plane and normal to the surface	LP
		Evaluation of double integral	LP
		Angle between 2 planes	MSN
	4	Curvature and Torsion defn , derivation	LP
		Divergence and problems	LP
		Change of order in double integral	LP
		Pair of planes	MSN
November 2023	1	Serret-Frenet formulae	LP
		Laplacian and problems	LP
		Change of variables in double integral	LP
		Bisectors of angle between 2 planes	MSN
	2	Problems on derivatives	LP
		Curl and problems	LP
		Find area using double integral	LP
		Equations of straight lines	MSN
	3	Internal Test	
		Internal Test	
		Internal Test	
		Internal Test	
	4	Problems on curvature	LP
		Problems involving curl, divergence	LP
		Find surface area and volume using double integral	LP
		Distance of a point from a line	MSN
December 2023	1	Problems on torsion	LP
		Miscellaneous problems	LP

MONTH/YEAR	WEEK	PORTIONS	Teachers
		Triple integral	LP
		Distance between 2 straight lines	MSN
	2	Orthogonal curvilinear coordinates	LP
		Vector identities	LP
		Change of variables in triple integral	LP
		Distance between a straight line and a plane	MSN
		Cylindrical and spherical polar coordinates	LP
	3	Vector identities	LP
		Green's theorem	LP
		Sphere- different forms	MSN
		Problems on Cartesian to cylindrical	LP
	4	Revision of model papers	LP
		Divergence theorem	LP
		Intersection of 2 spheres	MSN
		Problems on Cartesian to spherical	LP
	January 2024	1	Revision of model papers
Stoke's theorem			LP
Problems on Cartesian to spherical			KSR
Revision of model papers			LP
2		Revision of model papers	LP
		Revision of model papers	LP
		Revision of model papers	LP
		Revision of model papers	KSR
3		Conducted preparatory exam	
		Conducted mock test	