ACADEMIC PLANNER & UNITIZATION OF SYLLABUS

ACADEMIC YEAR 2023-24(NEP)

DEPARTMENT: Mathematics, **CLASS: II Semester**

MONTH/YEAR	WEEK	PORTIONS	Teachers
March 2024	4	Algebraic structure - Groups	**LP**
		Modular systems- properties of groups	**LP**
		Reduction formula for $\int \sin^n x\,dx$ where n is a positive integer	**LP**
		Relation between Cartesian and polar coordinates	**KSR**
	1	Subgroups, Necessary and sufficient condition for a subset to be a sub group	**LP**
		Centre of a group, Integral powers of an element of a group	**LP**
		Reduction formula for $\int \cos^n x\,dx$ where n is a positive integer	**LP**
		Angle between the radius vector and the tangent at a point on a curve	**KSR**
	2	Order of an element of a group,	**LP**
		properties of the order of a group	**LP**
April 2024		Problems om reduction formulae	**LP**
		Perpendicular from the pole on to the tangent, p-r equation of the curve	**KSR**
	3	Coset decomposition of a group, cyclic groups	**LP**
		Prop of cyclic groups, Index of a sub group	**LP**
		Reduction formula for $\int \sin^m x \cos^n x\,dx$ x	**LP**
		To determine pedal equation of a curve whose Cartesian eq is given,	**KSR**
	4	Index of a subgp of a grp, Lagrange's thm.	**SSM**
		Consequences of Lagrange's Theorem	**SSM**
		Problems on reduction formulae	**LP**
		Derivative of an arc length	**KSR**
	1	Definition of Normal subgroups, examples	**SSM**
		Theorems on Normal subgroups	**SSM**
		Applications of Integral Calculus	**LP**
		Derivative of an arc length for polar, parametric curves	**KSR**

MONTH/YEAR	WEEK	PORTIONS	Teachers
May 2024	2	Theorems on Normal subgroups	**SSM**
		Theorems on Normal subgroups	**SSM**
		Rectification (lengths of arcs of a curve)	**LP**
		Curvature of a plane curve	**KSR**
	3	Internal Test	
		Internal Test	
		Internal Test	
		Radius of curvature for different forms of curves	**KSR**
	4	Results on Normal subgroups ,Centre of a group,	**SSM**
		Problems on Normal subgroups	**SSM**
		Area of plane curves: Quadrature	**LP**
		Radius of curvature in pedal forms, polar forms	**KSR**
	1	Quotient Group(Factor Group)	**SSM**
		Theorems on Factor group	**SSM**
		Area of plane curves: Quadrature	**LP**
		Centre of curvature,	**KSR**
	2	homomorphism of groups	**SSM**
		Theorem on homomorphism of groups, kernel	**SSM**
		Surface area of revolution	**LP**
		evolutes	**KSR**
June 2024	3	Isomorphism of groups, permutation group	**SSM**
		Properties on isomorphism of groups	**SSM**
		Surface area , volume of revolution	**LP**
		Asymptotes, asymptotes parallel to coordinate axes	**KSR**

	4	Model papers discussed	**SSM**
		Model papers discussed	**LP**
		Conducted mock test	
		Conducted preparatory	

ACADEMIC PLANNER & UNITIZATION OF SYLLABUS

ACADEMIC YEAR 2023-24

DEPARTMENT: Mathematics, CLASS: II Semester (OE) Commercial Mathematics

MONTH/YEAR	WEEK	PORTIONS	Teachers
March 2024	4	Sets - defn, types	**KSR**
		Fundamental principle of counting	**KSR**
		Percentage-defn	**LP**
	1	Operations on sets	**KSR**
		Factorial notation,Permutation ,problems	**KSR**
		Calculation of percentage	**LP**
	2	Venn diagrams	**KSR**
		Combination, problems	**KSR**
		Ratios, types	**LP**
April 2024	3	Relations	**KSR**
		Simple applications,random experiment	**KSR**
		Duplicate, Triplicate,Sub duplicate ratios	**LP**
	4	Types of relations	**KSR**
		Probability, sample spaces,events	**KSR**
		Proportion – defn ,properties	**LP**
	1	Problems on relations	**KSR**
		Rules of probability,problems	**KSR**
		Cross product and reciprocal property	**LP**
	2	Domain and range of a relation	**KSR**
		Occurrence of event- not, and,or	**KSR**
		United , continued proportion	**LP**
May 2024	3	Problems on domain and range	**KSR**
		Exhaustive events	**KSR**
		Problems on proportion	**LP**
	4	Functions-types	**KSR**
		Mutually exclusive events	**KSR**
		Problems on ratio	**LP**
	1	Problems on functions	**KSR**
		Axiomatic probability	**KSR**
		Problems on percentage	**LP**
	2	Problems on functions	**KSR**
		Probability of –and, or, not events	**KSR**
June 2024		Miscellaneous problems on ratio and proportion	**LP**
	3	Binary operation-problems	**KSR**

MONTH/YEAR	WEEK	PORTIONS	Teachers
		Conditional probability	**KSR**
		Miscellaneous problems on ratio and proportion	**LP**
	4	Revision of question bank	**KSR**
		Revision of question bank	**KSR**
		Conducted preparatory exam	

ACADEMIC PLANNER & UNITIZATION OF SYLLABUS
ACADEMIC YEAR 2023
DEPARTMENT: Mathematics, CLASS: Fourth Semester

MONTH/YEAR	WEEK	PORTIONS	Teachers
March 2024	4	Formation pf PDE	**LP**
		Elimination pf arbitrary constant	**LP**
		Definition of Laplace transform standard properties	**LP**
		Fourier Series definition Euler's formula	**KSR**
	1	Elimination of arbitrary functions	**LP**
		Elimination of arbitrary functions	**LP**
		Laplace transform of standard functions	**LP**
		Periodic functions ,Fourier coefiicients	**KSR**
	2	Linear P.D.E of first order	**LP**
		Linear P.D.E of first order-problems	**LP**
		Transforms of periodic functions	**LP**
		Fourier Series of functions with period 2pi	**KSR**
April 2024	3	Firstorder nonlinear p.d.e type I	**LP**
		Reducible to type I	**LP**
		Inverse Laplace tranforms	**LP**
		Fourier Series of functions with period 2pi	**KSR**
	4	Firstorder nonlinear p.d.e type II	**LP**
		Reducible to type II	**LP**
		Inverse Laplace tranforms	**LP**
		Fourier series of functions with period 2L	**KSR**
		Firstorder nonlinear p.d.e type III	**LP**
	1	Reducible to type III	**LP**
		Inverse Laplace tranforms	**LP**
		Fourier series of even and odd functions	**KSR**
May 2024	2	Firstorder nonlinear P.D.E type III &IV	**LP**
		Reducible to type III&IV, Charpit's method	**LP**
		The convolution theorem	**LP**
		Half range – expansion-sine -cosine	**KSR**
	3	Internal Test	
		Internal Test	

MONTH/YEAR	WEEK	PORTIONS	Teachers
June 2024		Internal Test	
		Finite Fourier transforms	**KSR**
	4	Second order linear pde in two variables wirhe constant coefficients	**LP**
		Finding complementary function	**LP**
		Transforms of derivatives	**LP**
		Finite Fourier transforms cosine and sin	**KSR**
	1	Finding complementary function	**LP**
		Finding particular integral	**LP**
		Transforms of derivatives	**LP**
		Finite Fourier transforms cosine and sin	**KSR**
	2	Finding particular integral	**LP**
		Solving linear PDE with constant coefficients	**LP**
		Transforms of integrals	**LP**
		Transforms derivatives	**KSR**
	3	Non-homogeneous linear equations with constant coefficients	**LP**
		Problem on the above	**LP**
		Transforms of integrals,Heaviside , unit step fn.	**LP**
		Inverse Fourier tranforms	**KSR**
	4	Solutions of one dimensional heat and wave equation using Fourier series	**LP**
		Wave equation –problems,revision model papers	**LP**
		Conducted mock test	
		Conducted preparatory exam	

ACADEMIC PLANNER & UNITIZATION OF SYLLABUS

ACADEMIC YEAR 2023-24

DEPARTMENT: Mathematics, CLASS: Fourth Semester (OE) Quantitative Mathematics

MONTH/YEAR	WEEK	PORTIONS	Teachers
March 2024	4	Number system: Introduction	**LP**
		Theory of equations: Introduction & Basic defns	**KSR**
		Quantitative Aptitude: Introduction and simple problems	**KSR**
	1	Operations on numbers	**LP**
		Linear equations , problems	**KSR**
		Percentage, average, problems	**KSR**
	2	Tests on divisibility, problems	**LP**
		Quadratic equations , problems	**KSR**
		Average speed, problems	**KSR**
April 2024	3	Problems on tests on divisibility,HCF,LCM	**LP**
		Simultaneous equations in 2 variables, problems	**KSR**
		Speed, Time, problems	**KSR**
	4	Problems on HCF and LCM	**LP**
		Simple application problems	**KSR**
		Time-distance problems	**KSR**
	1	Problems on decimals	**LP**
		Application problems on different types of equations	**KSR**
		Problems on Time-Distance	**KSR**
	2	Problems on fractions	**LP**
		Problems on ages	**KSR**
May 2024		Application problems on Time-Distance	**KSR**
	3	Problems on simplification of decimals and fractions	**LP**
		Problems on conditional ages	**KSR**
		Application problems on trains	**KSR**
	4	Problems on square roots	**LP**
		Application problems on conditional age calculations	**KSR**
		Problems on work and time	**KSR**
	1	Problems on cube roots	**LP**
		Problems on present and past age calculations	**KSR**

MONTH/YEAR	WEEK	PORTIONS	Teachers
June 2024		Application problems on work and time	**KSR**
	2	Application problems on square roots and cube roots	**LP**
		Application problems on past and present age calculations	**KSR**
		Problems on work and wages, clock and calendar	**KSR**
	3	Problems on surds	**LP**
		Revision on main chapters	**KSR**
		Problems on clock and calendar	**KSR**
	4	Mock test in unit 1	**LP**
		Mock test in unit 2	**KSR**
		Mock test in unit 3	**KSR**

ACADEMIC PLANNER & UNITIZATION OF SYLLABUS

ACADEMIC YEAR 2023-24

DEPARTMENT: Mathematics, **CLASS: VI Semester Paper 6.1**

MONTH/YEAR	WEEK	PORTIONS	Teachers
April 2024	1	Defn and properties of rings	**KSR**
		Rings of integers modulo n	**KSR**
		Subrings	**KSR**
		Defn Variation of a function, functional	**LP**
	2	Ideals defn and types	**KSR**
		Examples of ideals	**KSR**
		Properties of ideals	**KSR**
		Properties of variation , extremal defn	**LP**
	3	Homomorphism , isomorphism of rings	**KSR**
		Properties . Defn of Quotient rings, Integral domain, Field	**KSR**
		Examples on Integral domain and field	**KSR**
		Extremal of a functional, variational problem	**LP**
	4	Properties of Integral domain and field	**KSR**
		Fundamental theorem of homomorphism of rings	**KSR**
		Every field is an integral domain and converse with examples	**KSR**
		Euler's equation and particular forms	**LP**
May 2024	1	Vector spaces defn and examples	**KSR**
		Properties and problems	**KSR**
		Subspaces examples	**KSR**
		Problems on Euler's equation and particular forms	**LP**
	2	Criterion for a subspace and examples	**KSR**
		Linear combination and problems on it	**KSR**
		Linear span , linear dependence and independence and problems on it,Basis and dimension	**KSR**
		Problems on Euler's equation and particular forms	**LP**
	3	Properties of linear dependence and independence	**KSR**
		Internal Test	
		Internal Test	

MONTH/YEAR	WEEK	PORTIONS	Teachers
		Internal Test	
	4	Quotient space and examples	**KSR**
		Sum and direct sum of subspaces	**KSR**
		Theorems on subspaces	**KSR**
		Standard geodesics	**LP**
June 2024	1	Linear transformation defn and examples	**KSR**
		Linear transformation to matrix form	**KSR**
		Matrix form to linear transformation	**KSR**
		Minimal surface of revolution, hanging chain problem	**LP**
	2	Defn of rank, nullity, Null space, range space	**KSR**
		Rank Nullity theorem and problems on it	**KSR**
		Problems on finding rank, nullity, Null space, range space	**KSR**
		Brachistochrone problem	**LP**
	3	Eigen values and eigen vectors of linear transformation	**KSR**
		Problems on Eigen values and eigen vectors	**KSR**
		Problems on Eigen values and eigen vectors	**KSR**
		Isoperimetric problem, problems on it	**LP**
	4	Revision of Model papers	**KSR**
		Revision of Model papers	**KSR**
		Conducted mock test	
		Conducted preparatory exam	

ACADEMIC PLANNER & UNITIZATION OF SYLLABUS

ACADEMIC YEAR 2023-24

DEPARTMENT: Mathematics, **CLASS: VI Semester Paper 6.2**

MONTH/YEAR	WEEK	PORTIONS	Teachers
April 2024	1	Errors, types of errors	**LP**
		Gauss elimination	**LP**
		Finite differences	**LP**
		Formula for derivatives based on interpolation	**KSR**
	2	Related problems on errors	**LP**
		Gauss Jordan method	**LP**
		Problems on finite differences	**LP**
		Derivatives using Newton's forward and backward interpolation	**KSR**
	3	General error formula and related problems	**LP**
		Gauss Jacobi method	**LP**
		Forward and backward difference	**LP**
		Problems based on derivatives	**KSR**
	4	Taylor's series	**LP**
		Gauss Seidel method	**LP**
		Shift operator ,Properties	**SSM**
		Problems based on derivatives	**KSR**
May 2024	1	Bisection method	**LP**
		Successive over relaxation method	**LP**
		Problems on operators	**SSM**
		Numerical integration, general quadrature formula	**KSR**
	2	Problems on bisection method	**LP**
		Power method	**LP**
		Newton Gregory forward difference formula and problems	**SSM**
		Trapezoidal rule	**KSR**
	3	Regula falsi method	**LP**
		Internal Test	
		Internal Test	
		Internal Test	
	4	Newton Raphson method	**LP**
		Problems on power method	**LP**

MONTH/YEAR	WEEK	PORTIONS	Teachers
		Newton Gregory backward difference formula and problems	**SSM**
		Simpson's 1/3rd rule	**KSR**
June 2024	1	Secant method	**LP**
		Miscellaneous problems	**LP**
		Lagrange's interpolation formula and problems	**SSM**
		Simpson's 3/8th rule	**KSR**
	2	Miscellaneous problems	**LP**
		Miscellaneous problems	**LP**
		Newton's divided differences and problems	**SSM**
		Weedle's rule	**KSR**
	3	Miscellaneous problems	**LP**
		Miscellaneous problems	**LP**
		Newton's general interpolation formula	**SM**
		Miscellaneous problems	**KSR**
	4	Revision of Model papers	**LP**
		Revision of Model papers	**LP**
		Revision of Model papers	**SSM**
		Revision of Model papers	**KSR**

MONTH/YEAR	WEEK	PORTIONS	Teachers
July 2024	1	Conducted preparatory exam	
		Conducted mock test	