

Vivekanand College, Kolhapur (An Empowered Autonomous Institute)

STATEMENT OF SYLLABUS COVERED

Year: 2025- 2026

Name of the Teacher: Dr. S. P. Thorat

Term: 1st

Department: Mathematics

Class	Subject	Syllabus Assigned (Units)	Syllabus Covered	Syllabus Not to Covered	Remark
		I] Successive			
BSc. I	Calculus	II] Differentiation	All	None	
(sem. I)		III] Higher order Derivative.			
		IV] Leibnitz's Theorem and its examples			
		V] Partial differentiation and its examples			
		VI] Geometrical interpretation of partial derivatives of first order.			
BSc. I	2DSC03MATH19	Examples of n^{th} derivative	All	None	
(sem I)		Examples on Leibnitz's Theorem			
		Examples on partial differentiation.			

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Name and Sign of Teacher
(Dr. S. P. Thorat)

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Class	Subject	Syllabus Assigned (Units)	Syllabus Covered	Syllabus Not to Covered	Remark
Bsc. II	2MIN03MAT32	I] Improper Integrals	All	None	
(Sem III)	Improper	• Gamma Function:			
	Integrals &	Some identities			
	Special Functions	Gamma Function			
		• Beta Function:			
		Some identities			
		Beta Function.			
		II] Improper Integrals			
		involving a parameter			
		and the Error Functions			
		• Defination and			
		examples of improper			
		integral involving			
		a parameter.			
		• Error Function			
		Integral $\text{erf}(x)$			
		• Expression for $\text{erf}(x)$			
		in series			
		• Properties of error-			
		integral function.			
		• Examples.			

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BSc. II (Sem III)	2MIND3MAT39	I] Gamma function	All	None.	
		II] Defination of beta function			
		III] Identities of Beta function.			
		IV] Differentiation under integral sign.			
BSc. III (Sem V)	DSC03MAT53	I] Linear partial Differential Equation of order one.	All	None.	
		II] Non-linear Partial differential equation of order one.			
		III] Homogeneous linear Partial Differential equations with constant coefficient.			
		IV] Non-Homogeneous PDE with constant coefficient.			

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Year: 2025- 2026

Name of the Teacher: Mr. G. B. kolhe

Term: Ist

Department: Mathematics

Class	Subject	Syllabus Assigned (Units)	Syllabus Covered	Syllabus Not to Covered	Remark
B.Sc. I Sem I	Basic Algebra	I] Algebra of complex numbers	All	None	
B.Sc. II sem II	Numerical Methods	I] Solution of Algebraic and Transcendental equations, Interpolation II] Numerical Integration, Numerical solution of ODE	All	None	
B.Sc. II (sem III)	2DSC03MAT39	III] Examples on numerical methods	All	None	
B.Sc. III (sem V)	Numerical Methods	I] Numerical Interpolation (For unequal intervals) II] Numerical Interpolation (For equal intervals) III] Numerical differentiation and integration IV] Solution of first order ordinary differential equation	All	None	

G. B. kolhe

Name and Sign of Teacher

(Mr. Gaurav B. kolhe)

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Class	Subject	Syllabus Assigned (Units)	Syllabus Covered	Syllabus Not to Covered	Remark
M.Sc.I	Research	I] Mathematical Writing	All	None	
	Methodology	II] Writing a paper			
		III] Publishing a paper			
		IV] Quality Indices of Research Publication			
M.Sc.II	Classical Mechanics	I] Lagrangian eq ⁿ of motion	All	None	
		II] Calculus of variation			
		III] Hamilton's Principle			
		IV] The kinematics of rigid body motion			

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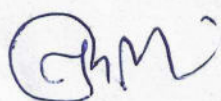
Year: 2025- 2026

Name of the Teacher: Mr. M.A.Jadhav

Term: 1st

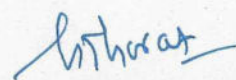
Department: Mathematics

Class	Subject	Syllabus Assigned (Units)	Syllabus Covered	Syllabus Not to Covered	Remark
B.Sc.I Sem I	Basic Algebra	Matrices (1) Def ⁿ & properties of Hermitian & Skew - Hermitian Matrix (2) Rank of matrix (3) System of Homogeneous & Non-homogeneous matrix (4) eigen value & eigen vector (5) Caley Hamilton th ^m	All	None	
B.Sc.II Sem II	Computational Mathematics.	(I) Partial derivatives and Jacobians (II) Vector calculus Curl, divergence, Gradient definition and properties	All	None	



(Jadhav M.A.)

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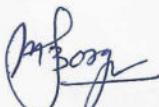
Year: 2025- 2026

Name of the Teacher: Dr. S. M. Bargir

Term: 1st

Department: Mathematics

Class	Subject	Syllabus Assigned (Units)	Syllabus Covered	Syllabus Not to Covered	Remark
B. SC. II (Sem III)	2DSC03MAT39	Introduction to Programming in Scilab	All	None	
B. SC. III	Real Analysis	I) Sequences of real numbers.	All	None.	
		II) series of Real numbers			
		III) Riemann integral			
		IV) Improper integral			
B. SC. III	DSC Mathematic ^{lap.} DSC03MAT59	Examples on Sequences & series, Riemann Integral & Improper integral.	All	None	
B. SC. III	VSC03MAT59	Introduction to scilab program.	All	None.	


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Year: 2025- 2026

Name of the Teacher: Dr. S.M. Bangar

Term: 1st

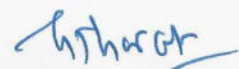
Department: Mathematics

Class	Subject	Syllabus Assigned (Units)	Syllabus Covered	Syllabus Not to Covered	Remark
B.Com I	Business	1) Matrix	All	None.	
(Sem I)	Mathematics-I	(Def ⁿ of matrix, types of matrices, operations on matrix, inverse matrix, solution of system of linear equation by matrix method of Cramer's rule.)			
		2) Linear Programming problem			
		(Def ⁿ , formulation of L.P.P, solution of L.P.P by graphically & simplex method.			
B.Sc. I	20EC03MIS II	1) Examples on sets, Relation & function	All	None	
(Sem I)		2) Examples on Midpoint distance, Section formula.			
		Examples on Geogebra.			



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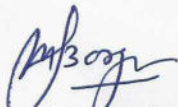
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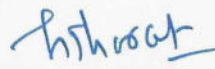
Name of the Teacher: Dr. S.M. Bangar

Term: 1st

Department: Mathematics

Class	Subject	Syllabus Assigned (Units)	Syllabus Covered	Syllabus Not to Covered	Remark
M.Sc.I (Sem I)	Operation's Research	1) Exo Concept of convex set, vector, convex cone, General form of L.P.P. 2) Simplex method for solving L.P.P. 3) Dynamic programming 4) some method's for solving nonlinear programming	All	None.	
M.Sc.II (Sem II)	Functional Analysis	1) Banach space 2) conjugate space & some theorems 3) Hilbert Space 4) Operator's (self adjoint operator Normal & unitary operator).	All	None.	


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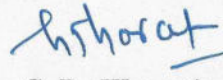
Name of the Teacher: Mr. A. A. Patil

Term: 1st

Department: Mathematics

Class	Subject	Syllabus Assigned (Units)	Syllabus Covered	Syllabus Not to Covered	Remark
M.Sc.-I	Measure & Integration	I] Lebesgue outer Measure	All	None	
		II] Measurable functions			
		III] Lebesgue Integral			
		IV] Absolutely Continuous Functions			
M.Sc.-II	Complex Analysis	I] Analytic Functions	All	None	
Sem-III		II] Cauchy integral			
		III] singularities			
		IV] Residues			


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Year: 2025- 2026

Name of the Teacher: Ms. A.D. Patil

Term: 1st

Department: Mathematics

Class	Subject	Syllabus Assigned (Units)	Syllabus Covered	Syllabus Not to Covered	Remark
M.Sc.-I	Modern	I] Groups , Normal	All	None	
Sem-I	Algebra	subgroups, Solvable			
		group & Nilpotent gr.			
		subnormal series			
		II] Group Action			
		III] Ring of Polynomials			
		IV] Modules			
M.Sc.I	Numerical	I] Transcendental f	All	None	
Sem -I	Analysis - I	Polynomial equations			
		II] system of linear algebraic			
		Eq ⁿ & Eigen value problem			
M.Sc.II	Lattice	I] Basic Concepts of lattice	All	None	
Sem-III	Theory	Theory			
		II] special types of lattices			
		III] Ideal theory			
		IV] Stone Algebra			
M.Sc.-II	Advanced Discrete	I] Graph Theory	All	None	
Sem-III	Mathematics	II] Adjacency Matrix, Trees			


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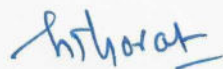
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Term: Ist

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Class	Subject	Syllabus Assigned (Units)	Syllabus Covered	Syllabus Not to Covered	Remark
B.Com.I	Business	1] Arithmetic Progression,	All	None	
Sem-I	Mathematics-II	Geometric Progression,			
		Ratio, Proportion,			
		Percentage, Simple			
		& Compound Interest			
		2] Set Theory, set,	All	None	
		Types of sets,			
		operations on set,			
		Relation, function			


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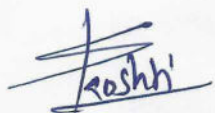
Year: 2025- 2026

Name of the Teacher: Ms. S. J. Koshti

Term: 1st

Department: Mathematics

Class	Subject	Syllabus Assigned (Units)	Syllabus Covered	Syllabus Not to Covered	Remark
B.Sc.I	Calculus	(I) Mean Value Theorem			
Sem I		(i) Rolle's Mean Value th ^m			
		(ii) Langrange's Mean Value th ^m	All	None	
		(iii) Cauchy's Mean Value th ^m			
		(II) Meaning of sign of derivative			
		III) Indeterminant form			
		(i) L'Hospital rule $\frac{0}{0}, \frac{\infty}{\infty}$			
		ii) $0 \times \infty, \infty - \infty, 0^0, 1^\infty, \infty^0$			
		IV) Expansion of fun ⁿ -			
		Maclaurin's theorem &			
		Taylor's theorem			
		(statement only)			
B.Sc.I	2DSC03MAT19	(I) Examples on Langrange's			
Sem I		Mean Value th ^m , Rolle's			
		Mean Value theorem,	All	None	
		Cauchy's Mean Value			
		theorem, @ Examples			
		on L-Hospital rule,			
		③ examples on expansion of function.			


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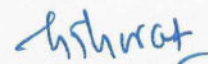
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B.Sc.II	Differential	I) Equations of first			
Sem III	Equations-II	order but not first			
		degree - Solvable			
		for x, y & P ,	All	None	
		clairaut's form			
		II) Homogeneous linear			
		eq's or cauchy euler's			
		equations, Legendre's			
		linear Equations			
		III) Linear D.E. of			
		second order.			
		IV) Simultaneous D.E.			
B.Sc.II	2DSC03MAT39	Examples of Differen			
Sem III		tial equation -			
		(i) Examples on Solvable	All	None	
		for x, y & P			
		II) examples on cauchy -			
		euler's and legendre's			
		eqn			
		III) Examples on DIFF ⁿ			
		eqn of first order			
		but not first degree.			



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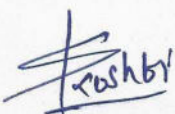
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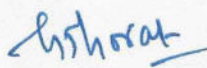
Name of the Teacher: MS. S. J. Koshh'

Term: 1st

Department: Mathematics

Class	Subject	Syllabus Assigned (Units)	Syllabus Covered	Syllabus Not to Covered	Remark
B.Sc.II Sem III	20EC03MTS31	Number system, Simplification, Squareroot & cuberoot, calendar clocks, Boat & stream, Probability, Simplification, Simple & compound Interest	All	None	
M.Sc I Sem I	Ordinary differ- ential Equations.	Linear D.E. with constant coe., initial value problem, Wronskian, Sturm Liouville's theory, Legendre's equations, Euler's equations, Lipschitz condition, Beselle's equation,	All	None	
B.Sc.III Sem IV	DSC03MAT59	Examples on Partial Differential equation.	All	None	


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