

# JEEVAN CHANAN MAHILA MAHAVIDYALAYA, ASSANDH

## DEPARTMENT OF MATHEMATICS

### LESSON PLAN (SESSION 2025-2026)

Name of the Teacher:- Ms. K.D. Sharma

Class/Semester:- BA/B.Sc. 2<sup>nd</sup> sem

Name of the Course:- Algebra & Number Theory

Course Code:- B23-MAT-201

#### Lesson Plan of Bridge Course

S.No	Period	Topics to Bridge Course	Academic Activity to be Organized
1	1 - 15 January, 2026	Basic of matrix types of matrix , determinant of a matrix, rank and inverse of a matrix, quadratic equation, find roots of quadratic	Discussion

#### Lesson Plan of Regular Course

S.No	Period	Topics to be Covered	Academic Activity to be Organized
1	16 - 31 Jan, 2026	Unit – I Symmetric, Skew symmetric, Hermitian and skew Hermitian matrices, Elementary operations on matrices, Rank of a matrix, Inverse of a matrix, Linear dependence and independence of rows and columns of matrix, Row rank and column rank of a matrix,	Group Discussion

		Eigen values, Eigen vectors and characteristic equation of a matrix,	
2	1-14 Feb,2026	Minimal polynomial of a matrix, Cayley–Hamilton theorem and its use in finding the inverse of a matrix, Unitary and orthogonal matrices. Unit – II Relations between the roots and coefficients of general polynomial equation in one variable, Solutions of polynomial equations having conditions on roots,	Open book test Assignment 1
3	15-28Feb,2026	Common roots and multiple roots, Transformation of equations, Nature of the roots of an equation, Descartes’s rule of signs.	Class test 1 Black board presentation
4	1-15 March,2026	Unit – III Solutions of cubic equations (Cordon’s method), Biquadratic equations and their solutions, Divisibility,	Assignment 2
5	16-31 March,2026	Greatest common divisor (gcd), Least common multiple (lcm), Prime numbers, Fundamental theorem of arithmetic	Class test 2 Quiz Competition
6	1-30 April,2026	Unit – IV Linear congruence’s, Fermat’s theorem, Euler’s theorem, Wilson’s theorem and its converse, Chinese Remainder theorem, Linear Diophantine equations in two variables.	Mid – term exam Revision

# JEEVAN CHANAN MAHILA MAHAVIDYALAYA, ASSANDH

## DEPARTMENT OF MATHEMATICS

### LESSON PLAN (SESSION 2025-2026)

Name of the Teacher:- K.D. Sharma

Class/Semester:- B.sc. 4<sup>th</sup> sem

Name of the Course:- Analytics geometry and vector calculus

Course Code:- B23-MAT-401

#### Lesson Plan of Bridge Course

S.No	Period	Topics to Bridge Course	Academic Activity to be Organized
1	1-15 January, 2026	Basic concepts about sphere Cylinder, cone, tangent, orthogonality, Intersection, vectors, product of vectors	

#### Lesson Plan of Regular Course

S.No	Period	Topics	Activity
1	16-31 January 2026	Unit-1 General equation of second degree: classification of conic section, centre, asymptotes, axis, eccentricity, foci, and directrices of conics, tangent at any point to a conic, chord of contact, pole of line to a conic, director circle of a conic, polar equation of a conic, tangent and normal to a conic, confocal conics	Class test and lab practice

2	1-20, February ,2026	<p><b>Unit-2</b></p> <p><b>Sphere:</b> general form, plane section of a sphere, sphere through a given circle. Intersection of two spheres, tangent plane, and line, polar plane and line, orthogonal spheres, radical plane of two Spheres and Co-axial system of spheres</p> <p><b>Cone:</b> equation of a cone, right circular cone, quadratic cone , enveloping cone, tangent plane and condition of tangent</p>	Group discussion and lab practice
		<b>Unit-3</b>	
3	21 Feb – 10 March ,2026	<p><b>Cylinder:</b> right circular cylinder and enveloping cylinder</p> <p><b>Central conicoids:</b> Resham of tangent plane. Director sphere normal to a conicoids. Polar plane of a point. Enveloping cone of a conicoid, enveloping cylinder of a conical, conicoid, Reduction of second degree equation</p>	MCQ quiz and lab practice
4	11 March – 10 April ,2026	<p><b>Unit-4</b></p> <p><b>Scalar and vector product of three vectors, for vectors, reciprocal vector, vector differentiation and derivative along a curve, directional derivative, gradient of a scalar point function, divergent and curl of vector point function, their geometrical meaning and vector identities.</b></p> <p><b>Vector integration:</b> line integral, surface integral and volume integral, theorem of Gauss, Green Stoke and problem based on these</p>	Group discussion, class test and lab practice
6	11-30 April,2026	Revision	Unit test and lab practice

# JEEVAN CHANAN MAHILA MAHAVIDYALAYA, ASSANDH

## DEPARTMENT OF MATHEMATICS

### LESSON PLAN (SESSION 2025-2026)

Name of the Teacher:- K.D. Sharma

Class/Semester:- B.Sc./ B.A. 6<sup>th</sup>

Name of the Course:- Numerical Analysis

Course Code:- B23-MAT-601

#### Lesson Plan of Bridge Course

S.No	Period	Topics to Bridge Course	Academic Activity to be Organized
1	1 - 15 January, 2026	Basic of Computer arithmetic and errors , Basics of linear equations, Basics of quadratic equations, Basics of Ordinary differential equations	

#### Lesson Plan of Regular Course

S.No.	Period	Topics to be Covered	Academic Activity to be Organized
1	16 - 31 Jan, 2026	Unit 1 :- Round-off error and computer arithmetic, local and global truncation errors, algorithms and convergence.  Numerical methods for solving algebraic and transcendental equations: bisection method, false position method, fixed point iteration method, Newton- Raphson method and secant method	Group Discussion

2	1-14 Feb,2026	<p>Newton's iterative method for finding nth root of a number.</p> <p>Unit 2:-</p> <p>Numerical methods for solving simultaneous linear equation: Gauss-elimination method, Gauss- Jordan method, Triangularization method, Crout's method , Cholesky decomposition method.</p>	<p>Quiz Competition</p> <p>Assignment 1</p>
3	15-28Feb,2026	<p>Iterative methods: Jacobi's method, Gauss-Seidal method , Relaxation method.</p> <p>Unit 3:-</p> <p>Finite difference is operator and their relations, interpolation with equal interval: Gregory-Newton forward and backward difference interpolations.</p>	<p>Board presentation</p> <p>Class test 1</p>
4	1-20 March,2026	<p>Interpolation with equal intervals: Newton's divided difference formula, Lagrange's interpolation formulae. Central: Gauss forward and Gauss backward interpolation formulae, Sterling formulae</p>	<p>Open book test</p> <p>Assignment 2</p>
5	21-31 March,2026	<p>Bessel's formula. Piecewise linear interpolation, Cubic spline interpolation.</p> <p>Numerical differentiation: first and second derivative of a function using interpolation formula</p>	<p>Class test 2</p> <p>Group Discussion</p>
6	1-30 April,2026	<p>Unit 4:-</p> <p>Numerical integration: Newton-Cote's quadrature formula, trapezoidal rule, Simpson's one-third and three three-eighth rule, Chebychev formula, Gauss Quadratic formula.</p> <p>Numerical solution of ordinary differential equations: single step methods – Picard's methods, Taylor's series method, Euler's method , Runge - Kutta method .</p> <p>Multiple step methods: Predictor-corrector method, Modified Euler's methods, Milne- Simpson' s method</p>	<p>Mid – term exams</p> <p>Revision of Syllabus</p>

# JEEVAN CHANAN MAHILA MAHAVIDYALAYA, ASSANDH

## DEPARTMENT OF MATHEMATICS

### LESSON PLAN (SESSION 2025-2026)

Name of the Teacher:- Ms. Bharti

Class/Semester:- BCA 2<sup>nd</sup> Sem

Name of the Course:- Mathematical foundation for Computer Science

Course Code:-

#### Lesson Plan of Bridge Course

S.No	Period	Topics to Bridge Course	Academic Activity to be Organized
1	1 - 15 January,2026	Basic Formulas of integration , Mean , Mode , Median or Presentation of data	Discussion

#### Lesson Plan of Regular Course

S.No	Period	Topics to be Covered	Academic Activity to be Organized
1	16 - 31 Jan,2026	Integration of simple algebraic , trigonometric, and exponential functions. Presentation of data: Frequency distribution and cumulative frequency distribution, Diagrammatic and graphical presentation of data, Construction of bar	Group Discussion
2	1-14 Feb,2026	Pie chart , Histogram, frequency polygon , frequency curve and Ogives. Unit 2 :- Measure of central tendency : Arithmetic mean, Median ,Mode, Geometric mean	Open book test Assignment 1

		and Harmonic mean for ungrouped and grouped data.	
3	15-28Feb,2026	Measure of dispersion: Concept of dispersion, Mean deviation and its coefficient, Range ,Variance and its coefficient, Standard deviation.	Class test 1 Black board presentation
4	1-15 March,2026	Unit 3:-Correlation: Concept and types of correlation, Methods of finding correlation Scatter diagram	Assignment 2
5	16-31 March,2026	Karl Pearson's coefficients of correlation, Rank correlation.	Class test 2 Quiz Competition
6	1-30 April,2026	Unit 4:- Linear regression: Principle of least square , fitting of straight line , two lines of regression, regression coefficients.	Mid – term exam Revision

# JEEVAN CHANAN MAHILA MAHAVIDYALAYA, ASSANDH

## DEPARTMENT OF MATHEMATICS LESSON PLAN (SESSION 2025-2026)

Name of the Teacher :- Bharti Valecha

Class/Semester :- B.Com 2nd Sem.

Name of the Course :- Elements of Business Mathematics.

Course Code:- B23-COM-204

### Lesson Plan of Bridge Course

SNO.	Period	Topic of Bridge Course	Academic Activities to be Organized
1	1Jan.- 14Jan,2026	Revise formulae of Differentiation and Integration.	Group Discussion & Revision

### Lesson Plan of Regular Course

SNO.	Period	Topics to be Covered	Academic Activities to be Organized
1	15Jan -15Feb,2026	Unit-1:Differentiation;derivative of simple functions and other functions having applications in business studies;	Class test & Revision
2	16Feb-15March,2026	Unit-1:Maxima and minima of Revenue,cost,demand,production,profit functions and other functions related to business and commerce.	Group Discussion & Class test
3	16March -15 April.2026	Unit-2:Integration:Definite and Indefinite ,basic rules of integration,Application of integration in commercial and business problems.	Group Discussion & Class test
4	15-30April.2026	Unit-3:Binomial theorem; Permutations and Combinations.	Class test
5	1-15 May.2026	Unit-4:Linear Programming:Formulation of linear Programming problems and their solution by graphical and simplex methods.	Group Discussion
6	15-31 May.2026	Unit-4:Applications of linear programming in solving problems related to business and commerce.	Group Discussion & Class test

# JEEVAN CHANAN MAHILA MAHAVIDYALAYA, ASSANDH

## DEPARTMENT OF MATHEMATICS LESSON PLAN (SESSION 2025-2026)

Name of the Teacher :- Bharti Valecha

Class/Semester :- BBA-2 Sem

Name of the Course :- Elements of Business Mathematics

Course Code:- B23-BBA-204

### Lesson Plan of Bridge Course

SNO.	Period	Topic of Bridge Course	Academic Activities to be Organized
1	1-15 January,2026	Revise formulae of simple interest and compound interest and Logarithms Functions .	Group Discussion & Revision.

### Lesson Plan of Regular Course

SNO.	Period	Topics to be Covered	Academic Activities to be Organized
1	15-31 January, 2026	Unit-1:Average,Ratio and Proportion,Percentage,Profit and Loss,Commission,Discount,Brokerage	Class test & Revision
2	1-15 February,2026	Unit-2:Simple interest and compound interest.	Group Discussion & Class test
3	16 February – 8 March , 2026	Unit-2:Annuities:Types of Annuities, Present value and Amount of an Annuity, Valuation of simple loans and debentures, Problems related to Sinking funds.	Group Discussion & Class test
4	9-31 March ,2026	Unit-3:Indices& Logarithms, Arithmetic and Geometric Progressions and their Business Applications; sum of first n Natural Numbers, sum of squares and cubes of first n Natural Numbers.	Class test
5	1-15 April ,2026	Unit-4:Linear Programming: Formulation of linear Programming problems and their solution by graphical and simplex methods.	Group Discussion
6	16-30 April 2026	Unit-4:Applications of linear Programming in solving Business problems.	Group Discussion & Class test

# JEEVAN CHANAN MAHILA MAHAVIDYALAYA, ASSANDH

## DEPARTMENT OF MATHEMATICS LESSON PLAN (SESSION 2025-2026)

Name of the Teacher :-

Ms. Pooja Devi

Class/Semester :- BBA /B.Com 2<sup>nd</sup> sem

Name of the Course :- Vedic Mathematics

Course Code:- B23-SEC-203

### Lesson Plan of Bridge Course

SNO.	Period	Topic of Bridge Course	Academic Activities to be Organized
1	1-15 January,2026	History and achievements of Mathematician of ancient time	Group Discussion & Revision.

### Lesson Plan of Regular Course

SNO.	Period	Topics to be Covered	Academic Activities to be Organized
1	15-31 January, 2026	Unit - I History of Vedic Mathematics and introduction to its Sutras and Upsutras. Addition in Vedic Mathematics: Without Carrying, Dot method. Subtraction in Vedic Mathematics: Nikhilam Navatashcaramam Dashatah (All from 9 last 10). Fraction: Addition and Subtraction.	Class test & Revision
2	1-15 February,2026	Unit - II Multiplication of two numbers of two digits (Ekadhikena Purvena method), Multiplication of two numbers of three digits (Ekanyunena Purvena method, Urdhva	Group Discussion & Class test
3	16 February – 8 March , 2026	Tiryagbhyam method, Nikhilam Navatashcaramam Dashatah method), Combined Operations, Generating Tables (Nikhilam).	Group Discussion & Class test
4	9-31 March ,2026	Unit - III Division: Nikhilam Navatashcaramam Dashatah (two digits divisor),	Class test

		Paravartya Yojyet Method (three digits divisor). Divisibility: Ekadhikena Purvena Method (two digits divisor), Ekunnen Purvena Method (two digits divisor), LCM, HCF.	
5	1-15 April ,2026	Unit - IV Squares of any two digits numbers: Base method, Squares of numbers ending in 5: Ekadhikena Purvena Method.	Group Discussion
6	16-30 April 2026	Revision	Group Discussion & Class test

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## DEPARTMENT OF MATHEMATICS

### LESSON PLAN (SESSION 2025-2026)

Name of the Teacher:- Ms. Pooja Devi

Class/Semester:- BBA / B.Com 4th

Name of the Course:- Mathematics in Everyday life

Course Code:- B23-VAC-418

<b>Lesson Plan of Bridge Course</b>			
<b>S.No</b>	<b>Period</b>	<b>Topics to Bridge Course</b>	<b>Academic Activity to be Organized</b>
1	1 - 15 January,2026	Basic Formulas about Simple Interests , Sequence and Series, Profit and loss Mean , Mode , Median	Discussion
<b>Lesson Plan of Regular Course</b>			
<b>S.No</b>	<b>Period</b>	<b>Topics to be Covered</b>	<b>Academic Activity to be Organized</b>
1	16 - 31 Jan,2026	Simple interest, compound interest, equated monthly installment, direct tax calculation	Group Discussion
2	1-14 Feb,2026	Profit and loss, work, time and distance, coding and decoding, ratio and proportion, trigonometry and its applications	Assignment 1 Quiz Competition
3	15-28Feb,2026	Mensuration for practical purpose. Sequence and series, arithmetic progression	Board presentation Class test 1

<b>4</b>	<b>1-15 March,2026</b>	<b>Geometric progression</b>	<b>Assignment 2 Open book test</b>
<b>5</b>	<b>16-31 March,2026</b>	<b>Permutation and combination. Mean , Mode , Median, Standard Deviation.</b>	<b>Class test 2</b>
<b>6</b>	<b>1-30 April,2026</b>	<b>Variance. Bar graphs Pie charts, Frequency polygons, Ogive. Linear equation in two variables. Linear programming problems (LLP) : Graphical solution.</b>	<b>Unit test And Revise the syllabus</b>