SMRJ Government College, Siwani (Bhiwani)
(Affiliated to Chaudhary Bansi Lal University, Bhiwani)
Session: 2025-26

Lesson Plan

(Department of Mathematics)

Teacher: Dr. Ranjeet	**Course Type & Title:**
Class: B.Com. 1	**Course Code: 24UN-Com 104 Business Mathematics**
Semester: 01	**Credits:** 2
Maximum Marks: 50	**Internal Assessment Marks:** 15
End Term Exam Marks: 35	**Practical Marks:** NA

Course Outcomes:

Various Types of sets and application of Set Theory shall be discussed .

Application of Matrices and determinants shall also be discussed.

Compound Interest and related applications shall be covered.

Sr. No.	Week/Month, 2025	Unit/ Topic/ Chapter to be covered	Assignment/ Test/ Remarks, if any
1	01.08.2025 – 02.08.2025	Set Theory and its applications	
2	04.08.2025 – 09.08.2025	Set Theory and its applications	
3	11.08.2025 – 16.08.2025	Set Theory and its applications	
4	18.08.2025 – 23.08.2025	Matrices and its Applications	
5	25.08.2025 – 30.08.2025	Matrices and its Applications	
6	01.09.2025 – 06.09.2025	Matrices and its Applications	
7	08.09.2025 – 13.09.2025	Determinants and its Applications	
8	15.09.2025 – 20.09.2025	Determinants and its Applications	

9	22.09.2025 – 27.09.2025	A.P. And G.P.	
10	29.09.2025 – 04.10.2025	A.P. And G.P.	
11	06.10.2025 – 11.10.2025	A.P. And G.P.	
12	13.10.2025 – 18.10.2025	Matrices and its Applications	**Minor Test**
13	27.10.2025 – 01.11.2025	Determinants and its Applications	**Assignment**
14	03.11.2025 – 08.11.2025	Compound Interest	
15	10.11.2025 – 15.11.2025	Compound Interest	
16	17.11.2025 – 22.11.2025	Annuities	
17	24.11.2025 – 29.11.2025	Revision of Syllabus	

Recommended Books/ E resources/ LMS:

V.K. Kapoor Sultan Chand and Sons

Elements of Business Mathematics Jeevan Sons Publications

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Signature of the teacher concerned

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Head of the Department

SMRJ Government College, Siwani (Bhiwani)
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Session: 2025-26

Lesson Plan
(Department of athematics)

Teacher: Dr. Ranjeet Singh
Class: BA/BSc1
Semester: 1
Maximum Marks: 100
End Term Exam Marks: 50

Course Type & Title:
Course Code: 24UNMTH101 Calculus
Credits: 4
Internal Assessment Marks: 30
Practical Marks: 20

Course Outcomes:
Various types of functions and their continuity differentiability shall be discussed

and their graphical solutions also studied in the course

Sr. No.	Week/Month, 2025	Unit/ Topic/ Chapter to be covered	Assignment/ Test/ Remarks, if any
1	01.08.2025 – 02.08.2025	Limit and Continuity	
2	04.08.2025 – 09.08.2025	Limit and Continuity	
3	11.08.2025 – 16.08.2025	Derivative of higher order and its applications	
4	18.08.2025 – 23.08.2025	Derivative of higher order and its applications	
5	25.08.2025 – 30.08.2025	Asymptotes	
6	01.09.2025 – 06.09.2025	Asymptotes	
7	08.09.2025 – 13.09.2025	Curvature	
8	15.09.2025 – 20.09.2025	Curvature	
9	22.09.2025 – 27.09.2025	Multiple points	
10	29.09.2025 – 04.10.2025	Multiple points	

11	06.10.2025 – 11.10.2025	Curve Tracing	
12	13.10.2025 – 18.10.2025	Curvature	**Minor Test**
13	27.10.2025 – 01.11.2025	Asymptotes	**Assignment**
14	03.11.2025 – 08.11.2025	Curve Tracing	
15	10.11.2025 – 15.11.2025	Reduction Formula	
16	17.11.2025 – 22.11.2025	Quadrature	
17	24.11.2025 – 29.11.2025	Pappu and Guilden Theorem	

Recommended Books/ E resources/ LMS:

Howard Anton, I. Bivens & Stephan Davis (2021). Calculus (12th edition). J. Wiley & Sons.

Monty J. Strauss, Gerald L. Bradley & Karl J. Smith (2002). Calculus (3rd edition). Dorling Kindersley (India) Pvt. Ltd.

Signature of the teacher concerned.

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Lesson Plan
(Department of Mathematics)

Teacher:Dr. Ranjeet Singh
Class:BA/Bsc 2
Semester: 03
Maximum Marks: 100
End Term Exam Marks: 50

Course Type & Title:
Course Code: 24UNMTH 301
Credits: 04
Internal Assessment Marks: 30
Practical Marks: 20

Course Outcomes:

Various types of solutions of ordinary differential

and partial; differential equations shall be obtained and discussed.

Sr. No.	Week/Month, 2025	Unit/ Topic/ Chapter to be covered	Assignment/ Test/ Remarks, if any
1	01.08.2025 – 02.08.2025	Basic concepts and genesis of ordinary differential equations, Order and degree of a differential equation, Solutions of differential equations of first order and first degree	
2	04.08.2025 – 09.08.2025	Basic concepts and genesis of ordinary differential equations, Order and degree of a differential equation, Solutions of differential equations of first order and first degree	
3	11.08.2025 – 16.08.2025	Orthogonal trajectories of oneparameter families of curves in a plane	
4	18.08.2025 – 23.08.2025	Orthogonal trajectories of oneparameter families of curves in a plane	
5	25.08.2025 – 30.08.2025	Solutions of linear ordinary differential equations with constant coefficients	
6	01.09.2025 – 06.09.2025	Solutions of linear ordinary differential equations with constant coefficients	
7	08.09.2025 – 13.09.2025	Solution of simultaneous differential equations, total differential equations. Genesis of Partial differential equations (PDE),	
8	15.09.2025 – 20.09.2025	Solution of simultaneous differential equations, total differential equations. Genesis of Partial differential	

		equations (PDE),	
9	22.09.2025 – 27.09.2025	Lagrange's method for PDEs of the form: $P(x, y, z)\, p + Q(x, y, z)\, q = R(x, y, z)$, where $p=\partial z/\partial x$ and $q=\partial z/\partial y$.	
10	29.09.2025 – 04.10.2025	Lagrange's method for PDEs of the form: $P(x, y, z)\, p + Q(x, y, z)\, q = R(x, y, z)$, where $p=\partial z/\partial x$ and $q=\partial z/\partial y$.	
11	06.10.2025 – 11.10.2025	Revision of above syllabus	
12	13.10.2025 – 18.10.2025	Solution of simultaneous differential equations, total differential equations. Genesis of Partial differential equations (PDE),	**Minor Test**
13	27.10.2025 – 01.11.2025	Orthogonal trajectories of oneparameter families of curves in a plane	**Assignment**
14	03.11.2025 – 08.11.2025	Integral surfaces passing through a given curve. Surfaces orthogonal to a given system of surfaces.	
15	10.11.2025 – 15.11.2025	Integral surfaces passing through a given curve. Surfaces orthogonal to a given system of surfaces.	
16	17.11.2025 – 22.11.2025	Jacobi's method. Second Order Partial Differential Equations with Constant Coefficients.	
17	24.11.2025 – 29.11.2025	Revision of above syllabus	

Recommended Books/ E resources/ LMS:

1. Erwin Kreyszig (2011). Advanced Engineering Mathematics (10th edition). J. Wiley & Sons.

2. B. Rai & D. P. Choudhury (2006). Ordinary Differential Equations - An Introduction. Narosa Publishing House Pvt. Ltd. New Delhi.

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Session: 2025-26

Lesson Plan
(Department of Mathematics.)

Teacher: Dr. Ranjeet Singh	**Course Type & Title:**
Class: BA/Bsc III	**Course Code: 20UMTH 501 Statics and Dynamics**
Semester: 05	**Credits: 2**
Maximum Marks: 50	**Internal Assessment Marks: 10**
End Term Exam Marks: 40	**Practical Marks:** NA

Course Outcomes:

Various Topics related to Friction, Gravity and Motion will be discussed Deeply.

And clear understanding of above topics will be attained practically and theoretically.

Sr. No.	Week/Month, 2025	Unit/ Topic/ Chapter to be covered	Assignment/ Test/ Remarks, if any
1	01.08.2025 – 02.08.2025	Friction	
2	04.08.2025 – 09.08.2025	Friction	
3	11.08.2025 – 16.08.2025	Friction	Minor Test 1
4	18.08.2025 – 23.08.2025	Centre of Gravity	
5	25.08.2025 – 30.08.2025	Centre of Gravity	
6	01.09.2025 – 06.09.2025	Centre of Gravity	Assignment 1
7	08.09.2025 – 13.09.2025	Projectile motion of a particle.	
8	15.09.2025 – 20.09.2025	**Vector angular velocity**	
9	22.09.2025 – 27.09.2025	Forces in three dimension	
10	29.09.2025 – 04.10.2025	Forces in three dimension	

11	06.10.2025 – 11.10.2025	Wrenches	
12	13.10.2025 – 18.10.2025	Wrenches	**Minor Test 2**
13	27.10.2025 – 01.11.2025	Wrenches	**Assignment**
14	03.11.2025 – 08.11.2025	Null Lines	
15	10.11.2025 – 15.11.2025	Null Lines	
16	17.11.2025 – 22.11.2025	Null Planes	
17	24.11.2025 – 29.11.2025	Null Planes	

Recommended Books/ E resources/ LMS:

SL Loney 1912 Statics Cambride University Press.

Verma R.S. A text book on Statics Pothisala PVT Ltd.

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SMRJ Government College, Siwani (Bhiwani)
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Session: 2025-26

Lesson Plan
(Department of Mathematics.)

Teacher: Dr. Ranjeet Singh
Class: BA/Bsc III
Semester: 05
Maximum Marks: 50
End Term Exam Marks: 40

Course Type & Title:
Course Code: 20UMTH 502 **Mathematical Analysis**
Credits: 2
Internal Assessment Marks: 10
Practical Marks: NA

Course Outcomes:
Various topics related to Number system , Sequences and Series and extended complex planes will be discussed thoroughly.

Sr. No.	Week/Month, 2025	Unit/ Topic/ Chapter to be covered	Assignment/ Test/ Remarks, if any
1	01.08.2025 – 02.08.2025	Bounded ness of real numbers	
2	04.08.2025 – 09.08.2025	LUB And GLB	
3	11.08.2025 – 16.08.2025	Bounded ness of real numbers	Minor Test 1
4	18.08.2025 – 23.08.2025	Neighborhood of points	
5	25.08.2025 – 30.08.2025	Interior and exterior points	
6	01.09.2025 – 06.09.2025	Interior and exterior points	Assignment 1
7	08.09.2025 – 13.09.2025	Sequences and its Behavior	
8	15.09.2025 – 20.09.2025	Sequences and its Behavior	
9	22.09.2025 – 27.09.2025	Infinite Series	
10	29.09.2025 – 04.10.2025	Infinite Series	
11	06.10.2025 – 11.10.2025	Alternating Series	

12	13.10.2025 – 18.10.2025	Alternating Series	**Minor Test 2**
13	27.10.2025 – 01.11.2025	Sequences and its Behavior	**Assignment**
14	03.11.2025 – 08.11.2025	Extended complex plane	
15	10.11.2025 – 15.11.2025	Functions of Complex variable	
16	17.11.2025 – 22.11.2025	Functions of Complex variable	
17	24.11.2025 – 29.11.2025	Continuity of complex functions	

Recommended Books/ E resources/ LMS:

Goldberg R.R. Real Analysis IBH Publishing Comp. New Delhi

Malik S.C. and Arora S. 1992 Mathematical Analysis New age international India

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Lesson Plan
(Department of Mathematics.)

Teacher: Dr. Ranjeet Singh
Class: BA/Bsc III
Semester: 05
Maximum Marks: 50
End Term Exam Marks: 40

Course Type & Title:
Course Code: 20UMTH 505 Mathematical Lab V
Credits: 2
Internal Assessment Marks: 10
Practical Marks: NA

Course Outcomes:
Various topics related to Number system , Sequences and Series and extended complex planes will be discussed thoroughly.

Sr. No.	Week/Month, 2025	Unit/ Topic/ Chapter to be covered	Assignment/ Test/ Remarks, if any
1	01.08.2025 – 02.08.2025	Practical's Related to Bounded ness of real numbers	
2	04.08.2025 – 09.08.2025	Practical's Related to Bounded ness of real numbers	
3	11.08.2025 – 16.08.2025	Practical's Related to LUB And GLB	Minor Test 1
4	18.08.2025 – 23.08.2025	Practical's Related to LUB And GLB	
5	25.08.2025 – 30.08.2025	Practical's Related to Neighborhood of points	
6	01.09.2025 – 06.09.2025	Practical's Related to Neighborhood of points	Assignment 1
7	08.09.2025 – 13.09.2025	Practical's Related to Interior and exterior points	
8	15.09.2025 – 20.09.2025	Practical's Related to Interior and exterior points	
9	22.09.2025 – 27.09.2025	Practical's Related to Sequences and its Behavior	
10	29.09.2025 – 04.10.2025	Practical's Related to Infinite Series	
11	06.10.2025 – 11.10.2025	Practical's Related to Alternating	

		Series	
12	13.10.2025 – 18.10.2025	Practical's Related to Extended complex plane	**Minor Test 2**
13	27.10.2025 – 01.11.2025	Practical's Related to Extended complex plane	**Assignment**
14	03.11.2025 – 08.11.2025	Practical's Related to Functions of Complex variable	
15	10.11.2025 – 15.11.2025	Practical's Related to Functions of Complex variable	
16	17.11.2025 – 22.11.2025	Practical's Related to Continuity of complex functions	
17	24.11.2025 – 29.11.2025	Practical's Related to Continuity of complex functions	

Recommended Books/ E resources/ LMS:

Goldberg R.R. Real Analysis IBH Publishing Comp. New Delhi

Malik S.C. and Arora S. 1992 Mathematical Analysis New age international India

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