

**PANIPAT INSTITUTE OF ENGINEERING AND TECHNOLOGY**  
**PANIPAT**  
**DEPARTMENT OF APPLIED SCIENCES & HUMANITIES**

**LESSON PLAN**

**Name: - Ms. Tamanna Sethi**

**Subject Name: - Calculus and Linear Algebra**

**Branch/Semester: -1<sup>th</sup> Sem. (Session 2021-22)**

**Subject Code:- BS-133A**

Sr. No.	Lecture No.	Description of Topic	Lecture plan date	Executed date	Methodology	Course Outcome
1	L1	<i>Introduction-CO, subject, books, exam pattern</i>	2/11/21		Discussion and Board	
2	L2	Matrices, vectors: addition and scalar multiplication	8/11/21		Lecture method	CO1
3	L3	Matrix multiplication	9/11/21		Lecture method	
4	L4	Linear systems of equations	10/11/21		Lecture method	CO1
Content beyond syllabus		<b>Synthetic division</b>	10/11/21		Flip learning	
5	L5	Linear systems of equations	11/11/21		Lecture method	CO1
6	L6	Linear systems of equations	12/11/21		Lecture method	
7	L7	Linear Independence of Vectors	15/11/21		Lecture method	CO5
8	L8	Rank of a matrix	16/11/21		Lecture method	CO4
9	L9	Cramer's Rule	17/11/21		Lecture method	CO1
10	L10	Problems	18/11/21		Lecture method	
11	L11	Inverse of a matrix	19/11/21		Lecture method	CO4

12	L12	Problems	22/11/21		Lecture method	
13	L13	Gauss elimination and Gauss Jordan	23/11/21		Lecture method	CO4
14	L14	Test 1	29/11/21		Lecture method	
15	L15	Problems	30/11/21		Lecture method	
16	L16	<b>Unit 4: Vector Space:Introduction</b>	1/12/21		Lecture method	
17	L17	Eigenvalues	2/12/21		Lecture method	CO4
18	L18	Eigenvalues Problems	3/12/21		Lecture method	
19	L19	Eigenvectors	6/12/21		Lecture method	
20	L20	Eigenvectors Problems	7/12/21		Lecture method	
21	L21	Symmetric, skew-symmetric matrices	8/12/21		Lecture method	
22	L22	Symmetric, skew-symmetric matrices Problems	9/12/21		Flip Learning	
23	L23	Orthogonal Matrices	10/12/21		Lecture method	
24	L24	Eigenbases	13/12/21		Lecture method	
25	L25	Diagonalization	14/12/21		Lecture method	
Content beyond syllabus		Cayley Hamilton theorem	15/12/21		Lecture method	
26	L27	Inner product spaces	16/12/21		Lecture method	CO5
27	L28	Inner product spaces problems	17/12/21		Lecture method	
		1 <sup>st</sup> Sessional	18/12/21-21/12/21			
28	L28	Problems	22/12/21		Lecture method	
29	L29	Unit 1: Introduction Beta and Gamma Function	23/12/21		Lecture method	CO2

30	L30	Properties of Beta and Gamma Function	24/12/21		Lecture method	CO2
31	L31	Properties of Beta and Gamma Function	27/12/22		Lecture method	
32	L32	Problems	28/12/22		Lecture method	
33	L33	Applications of definite integrals to evaluate surface areas.	29/12/22		Lecture method	CO2
34	L34	Continued.....	30/12/22		Lecture method	
35	L35	Applications of definite integrals to evaluate volumes of revolutions.	3/1/22		Lecture method	
36	L36	Continued.....	04/1/22		Lecture method	
37	L37	Rolle's Theorem	05/1/22		Lecture method	CO3
38	L38	Mean value theorems	06/1/22		Lecture method	
39	L39	Problems	07/1/22		Lecture method	
40	L40	Indeterminate forms	10/1/22		Lecture method	
41	L41	L'Hospital's rule.	11/1/22		Lecture method	
42	L42	Test 2	12/1/22			
43	L43	<b>Unit 3: Vector Space: Introduction</b>	16/1/22		Lecture method	
Content beyond syllabus		<b>Group and Field</b>	16/1/22		Lecture method	
		linear dependence of vectors	17/1/22		Lecture method	CO5
44	L44	Basis, dimension	18/1/22		Lecture method	
45	L45	Linear transformations (maps)	19/1/22		Lecture method	
46	L46	range and kernel of a linear map	20/1/22		Lecture method	

47	L47	rank and nullity	21/1/22		Lecture method	CO5
48	L48	rank and nullity	24/1/22		Lecture method	
49	L49	Inverse of a linear transformation	25/1/22		Lecture method	
		2 <sup>nd</sup> sessional	27/1/22- 29/1/22			
50	L50	rank nullity theorem	1/2/22		Lecture method	CO5
51	L51	composition of linear maps	2/2/22		Lecture method	
52	L52	<b>Test 3</b>	3/2/22			
53	L53	<b>Revise Unit 1</b>	4/2/22		Flip learning	
54	L54	<b>Revise Unit 1</b>	7/2/22		Flip learning	
55	L55	<b>Revise Unit 1</b>	8/2/22		Flip learning	
56	L56	<b>Revise Unit 2</b>	9/2/22		Flip learning	
57	L-57	<b>Revise Unit 2</b>	10/2/22		Flip learning	
58	L-58	<b>Revise Unit 2</b>	11/2/22		Flip learning	
		<b>Revise Unit 2</b>	14/2/22		Flip learning	
		<b>Revise Unit 3</b>	15/2/22		Flip learning	
		<b>Revise Unit 3</b>	16/2/22		Flip learning	
		<b>Revise Unit 3</b>	17/2/22		Flip learning	
		<b>Revise Unit 3</b>	18/2/22		Flip learning	
		<b>Revise Unit 4</b>	21/2/22		Flip learning	
		<b>Revise Unit 4</b>	22/2/22		Flip learning	
		<b>Revise Unit 4</b>	23/2/22		Flip learning	

		3 <sup>rd</sup> sessional	24/2/22- 26/2/22			

**\*Highlighted part represents Content beyond Syllabus topics**

**\* Quizzes on Saturdays**

Subject In charge