PANIPAT INSTITUTE OF ENGINEERING & TECHNOLOGY
Department of Applied Sciences and Humanities

Faculty Name: Dr. Anita **Subject Name: Multivariable Calculus and Linear Algebra**
Year/Semester: 1st/1st **Subject Code: BS-135A**

LESSON PLAN

Sr. No.	Lecture No.	Topics To Be Covered	Tentative Date	Methodology	Course Outcome
1	L-1	Unit IV Matrices- Rank of a Matrix, Basic of Matrices	7/10/22	Lecture method	CO1
2	L-2	Elementary transformation	10/10/22	Lecture method	
3	L-3	Elementary matrices	11/10/22	Lecture method	
4	L-4	Gauss Jorden method for finding the inverse using elementary transformation	12/10/22	Lecture method	
5	L-5	Normal form of a matrix	13/10/22	Lecture method	
6	L-6	Linear dependence of vectors	14/10/22	Lecture method	CO5
7	L-7	Linear independence of vectors	17/10/22	Flip learning	
8	L-8	Consistancy of linear equation	21/10/22	Lecture method	
9	L-9	Linear trasformation	28/10/22	Lecture method	
10	L-10	Ortogonal trasformation	31/10/22	Lecture method	
11	L-11	Eigen values and eigen vectors, Synthetic division	1/11/22	Lecture method	
12	L-12	Properties of eigenvalues	3/11/22	Lecture method	
13	L-13	Caley Hamilton theorem	4/11/22	Lecture method	

			8/11/22	Lecture method	
14	L-14	Caley Hamilton theorem application			
15	L-15	Unit III Multivariable Calculus (Differentiation): Taylor series	9/11/22	Lecture method	CO4
16	L-16	Series for exponential, lograthmic function	10/11/22	Lecture method	
17	L-17	Series for trigonometric function	11/11/22	Lecture method	
18	L-18	Partial Derivatives, Derivatives	14/11/22	Lecture method	
19	L-19	Total derivative	15/11/22	Lecture method	
20	L-20	Chain rule for differentiation	16/11/22	Lecture method	
21	L-21	Homogeneous function	17/11/22	Lecture method	
22	L-22	Eulers theorem	18/11/22	Lecture method	
23	L-23	Jacobian	21/11/22	Lecture method	
24	L-24	Maxima and minima	28/11/22	Lecture method	
25	L-25	Saddle points	29/11/22	Lecture method	
26	L-26	Method of Lagrange multipliers	30/11/22	Lecture method	
27	L-27	Unit I Calculus: Evalution of definite and improper integrals	1/12/22	Lecture method	
28	L-28	Revision	2/12/22	Lecture method	
30	L-30	Beta function and its properties	5/12/22	Lecture method	CO2

31	L-31	Gamma function and its properties	6/12/22	Lecture method	
32	L-32	Application of definite integrals to evaluate surface areas	7/12/22	Lecture method	
33	L-33	Application of definite integrals to evaluate surface areas	8/12/22	Lecture method	
34	L-34	Application of definite integrals to evaluate volume of revolution	9/12/22	Flip learning	
35	L-35	Application of definite integrals to evaluate volume of revolution	12/12/22	Flip learning	
36	L-36	Rolle's Theorem	13/12/22	Lecture method	
37	L-37	Application of Rolle's Theorem	14/12/22	Lecture method	
38	L-38	Mean value theorems	15/12/22	Lecture method	
39	L-39	Application of Mean value theorems	16/12/22	Lecture method	
40	L-40	Indeterminante forms	19/12/22	Lecture method	
41	L-41	Indeterminante forms	20/12/22	Lecture method	
42	L-42	L' Hospital's rule	21/12/22	Lecture method	
43	L-43	Unit II Convergence of sequence and series	22/12/22	Lecture method	CO3
44	L-44	Convergence of sequence and series	23/12/22	Lecture method	
45	L-45	Test of convergence	29/12/22	Lecture method	
46	L-46	Comarision test	30/12/22	Lecture method	
47	L-47	D'Alembert's ratio test	31/12/22	Lecture method	
48	L-48	Lograthmic test	2/1/23	Lecture	

				method	
49	L-49	Cauchy root test	3/1/23	Lecture method	
50	L-50	Raabes test	4/1/23	Lecture method	
51	L-51	Power series	6/1/23	Lecture method	
52	L-52	Fourier series: Introduction	9/1/23	Lecture method	
53	L-53	Fourier-Euler formula	10/1/23	Lecture method	
54	L-54	Drichelet condition	11/1/23	Lecture method	
55	L-55	Change of intervals	12/1/23	Lecture method	
56	L-56	Fourier series for odd function Fourier series for even function Half range sine series Half range cosine series	13/1/23	Lecture method	

		Revision I	17/2/22	Flip learning	
		Revision I	18/2/22	Flip learning	
		Revision I	21/2/22	Flip learning	
		Revision II	22/2/22	Flip learning	
		Revision II	23/2/22	Flip learning	
		3rd sessional	24/2/22-26/2/22		

*Highlighted part represents Content beyond Syllabus topics

* Quizzes on Saturdays

(COURSE INCHARGE)