LESSON PLAN 1

Course Title:	Introduction to Matrix Theory			
Course Code:	MTL SE 102			
Course Coordinator	Dr. Surender Singh			
Credits	2-0-0=2			
Evaluation Scheme Total 100 Marks				
Quiz (Total 20 Marks)	Assignment/Project (Total 20 marks) (Minimum Two Assignments or one Project)	Mid-Term	Major Examination	Total
Quiz I (5 marks)Quiz II (5 marks)Quiz III (5 marks)Quiz IV (5 marks)		20 marks) (1 <sup>1/2</sup> Hour Duration)	(40 marks) (3 Hour Duration	100 Marks
WEEKS	TOPICS TO BE COVERED			
Week 1	Trace and Transpose of a Matrix, Problem solving based on Trace and Transpose			
Week 2	Symmetric, Skew-Symmetric Matrix and their properties			
Week 3	Hermitian, Skew-Hermitian Matrix and their properties			
Week 4	Problem solving based on Rank of matrix and Elementary Transformations			
Week 5	Matrix reduced to normal form			
Week 6	System of linear equations and their solution by Matrix Method, Augmented Matrix			
Week 7	Solution of the system of linear equations by rank method,			
Week 8	Gauss Elimination Method and its application			
Week 9	Partition of Matrices and Inverse of Partition			
Week 10	Problem solving based on above methods			
Week 11 (17 <sup>th</sup> -21 <sup>st</sup> March, 2025)	Mid-Term			
2 <sup>nd</sup> April, 2025	Showing of Mid-Term Answer Sheets			
Week 13	Cayley- Hamilton Theorem, Inverse by Cayley-Hamilton Theorem			
Week 14	Eigen Values and Eigen Vectors of Matrix			
Week 15	Diagonalization of Matrices			

Week 16	Problem-Solving based on Eigen values and diagonalization	
Week 17 (5 <sup>th</sup> -9 <sup>th</sup> May, 2025)	Revision Week	
Week 18 (13 <sup>th</sup> – 22 <sup>nd</sup> May, 2025)	Major Examinations	
29 <sup>th</sup> May, 2025	Showing of Major Exams Answer Sheets	

**Course Outcomes:** 

CO1:

**CO2:** 

**CO3:** 

## **Recommended Books:**

1. Shanti Narayan, P.K. Mittal, A Text Book of Matrices, S. Chand, 2017

2.

https://archive.nptel.ac.in/courses/111/108/111108157/

Calendar of Quizzes/Assignment etc. to be provided as per below details and exact dates to be fixed in consultation with other course coordinators to avoid overlap of Quizzes of different courses.

Component	Date	
Quiz-I	27 <sup>th</sup> -31 <sup>st</sup> , January 2025	
Quiz-II	24 <sup>th</sup> -28 <sup>th</sup> February, 2025	
Assignment-I	10 <sup>th</sup> -12 <sup>th</sup> February, 2025	
Mid-Term	17-21 <sup>st</sup> March, 2025	
Assignment-II/	21 <sup>st</sup> – 24 <sup>th</sup> April, 2025	
Project Submission		
Quiz-III	7 <sup>th</sup> – 11 <sup>th</sup> April, 2025	
Quiz-IV	28 <sup>th</sup> April-2nd, May, 2025	
Major Exam	13 <sup>th</sup> – 22 <sup>nd</sup> May, 2025	
Notos		

Note:

1. One surprise Quiz may be fixed out of Quiz-II, Quiz-III or Quiz-IV.

2. In case of any deviation in evaluation methodology for courses such as AEC/VAC/SEC shall be mentioned accordingly. Thus, same shall be approved by the next BOS of school if not done earlier.

Signature of Course Coordinator :