Class: SYAIML (2023-24) **Sem –III**

Subject: Linear Algebra and Optimization

TA3 Component (25 marks):

Use of programing language to understands the concepts of Mathematics

Student have to use python programing language to understand the practical approach of Linear algebra in machine learning

Following are the topics.

Last digit of your roll number	Topics
0	Basic Matrix Algebra
1	Diagonalization
2	Eigenvalues and Eigenvectors
3	Gram Schmidt Process
4	Inner Product and Orthogonality
5	Linear Combination
6	Linear Independence
7	The Singular Value Decomposition
8	Vector Addition Subtraction and Scalar Multiplication
9	Vector Space and Subspace

Evaluation Components:

Evaluation Component	Concept Understanding	Problem Analysis	Used of Modern tool	Accuracy	Content organization
PO Mapped	PO-1	PO-2	PO4, PO-5	PO-9	PO-05, PO-11
Marking Scale	5	5	5	5	5

Evaluation Indicators:

1) **Concept understanding:** Understanding of Mathematical concept
2) **Problem Analysis:** Analysis of problem given.
3) **Knowledge of Modern tool:** Knowledge of Programming language.
4) **Accuracy:** Accuracy of the code for mathematical concept
5) **Content organization:** Overall organization of contents by own way with required sequence/flow of the topic