St. MARTIN'S ENGINEERING COLLEGE

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DEPARTMENT OF ARTIFICIAL INTELLIGENCE AND DATA SCIENCE (AI & DS)

ASSIGNMENT-II

Course Name : Machine Learning

Course Code : CS602PC

Batch : IV

Question Number	List of Questions	Bloom's Taxonomy Levels
1	Analyze the impact of initial centroid selection on the final clustering outcome in the K-means algorithm.	BTL-4
2	Apply PCA on a given dataset with high dimensionality and explain how it transforms the data into a lower-dimensional space. Illustrate with a hypothetical example.	BTL-3
3	Illustrate the working principle of Locally Linear Embedding (LLE) and Isomap. How do they preserve neighborhood relationships in the lower-dimensional space?	BTL-2
4	Analyze how the Markov property simplifies computations in Graphical Models. Compare how this property manifests in Bayesian Networks and Markov Random Fields.	BTL-4
5	Evaluate the effectiveness of tracking methods that use Hidden Markov Models. What are the advantages and limitations in dynamic environments?	BTL-5

Actual Date of Submission: 30.04.2025
Last Date of Submission:07.05.2025