



# 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 : **II**

Question Number	List of Questions	Bloom's Taxonomy Levels
1	Explain the importance of variance and standard deviation in understanding data dispersion with a suitable example.	BTL-2
2	Describe Factor Analysis. How does it differ from PCA in terms of assumptions and output components?	BTL-2
3	Analyze how evolutionary learning through Genetic Algorithms can be used to solve optimization problems. Provide a real-world application example.	BTL-4
4	Differentiate between Proposal Distribution and Target Distribution in Markov Chain Monte Carlo (MCMC) methods. Why is the choice of proposal distribution important?	BTL-2
5	Define Hidden Markov Models (HMM). List its three main problems and briefly state the methods used to solve them	BTL-1

Actual Date of Submission: **30.04.2025**

Last Date of Submission: **07.05.2025**