

CBCS SCHEME

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21AU71

Seventh Semester B.E./B.Tech. Degree Examination, June/July 2025 AI and ML in Automotive Vehicles

Time: 3 hrs.

Max. Marks: 100

Note : Answer any FIVE full questions, choosing ONE full question from each module.

Module-1

- 1 a. Write a note on descriptive statistics. (10 Marks)
b. Explain about key attributes of mechanical systems in Industry 4.0. (10 Marks)

OR

- 2 a. Write a note on Inferential statistics. (10 Marks)
b. Describe Correlation Vs Regression and write its uses. (10 Marks)

Module-2

- 3 a. Describe key AI problems. Explain any 5. (10 Marks)
b. Write a note on recent advancement in AI. (10 Marks)

OR

- 4 a. Write a note on Uninformed search. Explain different uninformed search. (10 Marks)
b. Explain breadth first search. Brief how its work, advantages and disadvantages. (10 Marks)

Module-3

- 5 a. Describe steps in problem formulation. (10 Marks)
b. Write a note on state space representation. (10 Marks)

OR

- 6 a. Explain and compare forward chaining and backward chaining. (10 Marks)
b. Explain Baye's theorem and its applications. (10 Marks)

Module-4

- 7 a. Write a note on : i) Goal stack planning ii) Non – Linear planning. (10 Marks)
b. Write a note on : i) n – grams ii) Vector space models. (10 Marks)

OR

- 8 a. Describe Agent Architecture and compare reactive , layered and cognitive architecture. (10 Marks)
b. Write a note on Multi Agent System (MAS) and write its applications. (10 Marks)

Module-5

- 9 a. Explain about Linear regression. (10 Marks)
b. Explain about Neural Network in Machine learning. (10 Marks)

OR

- 10 a. Write a short note on : i) K – means clustering ii) C – means clustering. (10 Marks)
b. Write a note on cases of machine learning with respect to different mechanical systems. (10 Marks)

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Important Note : 1. On completing your answers, compulsorily draw diagonal cross lines on the remaining blank pages.
2. Any revealing of identification, appeal to evaluator and /or equations written eg, 42+8 = 50, will be treated as malpractice.