

III B. Tech II Semester Supplementary Examinations, December -2023
INTRODUCTION TO ARTIFICIAL INTELLIGENCE & MACHINE LEARNING
(Mechanical Engineering)

Time: 3 hours

Max. Marks: 70

Answer any **FIVE** Questions **ONE** Question from **Each unit**
All Questions Carry Equal Marks

UNIT-I

1. What is AI? Discuss the applications of AI. [14M]
(OR)
2. Explain ANN with a numerical illustration. How do you optimize weights of ANN? [14M]

UNIT-II

3. a) Discuss the Patterns in Propositional Logic. [7M]
b) What do you mean by rational agents? Explain. [7M]
(OR)
4. a) Write about Inference in First-Order Logic. [7M]
b) What do you mean by Knowledge based agents? Explain. [7M]

UNIT-III

5. Explain Naïve Bayes Classifier with an example. [14M]
(OR)
6. a) What are the maximum likelihood parameters for normal distribution? [7M]
b) Explain minimum description length principle. [7M]

UNIT-IV

7. a) Explain decision tree for a classification problem with an example. How do you overcome over fitting in decision tree? [7M]
b) Explain K-means algorithm. [7M]
(OR)
8. Discuss PCA with an example. [14M]

UNIT-V

9. What are the types of Deep generative models? Explain. [14M]
(OR)
10. a) What are Deep Boltzmann Machines? Explain. [7M]
b) What is bagging? Explain. [7M]

