Seat No.

Total No. of Pages : 3

MAR_APR 2026 SUMMER EXAMINATION

11731 Bachelor of Technology (NEP-2.0)

Sub. Name: Introduction To AI(AIML)

Sub. Code: 119724/116051

Day and Date: Friday ,29-05-2026 **Total Marks: 60**

Time: 10:30 AM To 01:00 PM

Instructions: **1. All questions are compulsory**
2. Draw neat labelled diagrams wherever necessary
3. Figures to the right indicate full marks

68558

Q1) Solve following MCQ.(Any 5) **[5]**

i. Which of the following is a future scope of Artificial Intelligence?
A. Autonomous vehicles
B. Manual data entry
C. Traditional bookkeeping
D. Typewriting

ii. Heuristic search techniques are used to
A. Reduce search time using domain knowledge
B. Increase memory usage
C. Randomly explore states
D. Replace graph theory

iii. Best First Search selects the next node based on:
A. Depth of the node
B. Breadth of the node
C. Heuristic evaluation function
D. Random selection

iv. Which is a characteristic of expert systems?
A. High speed
B. Consistency
C. Accuracy
D. All of the above

v. Bayes' theorem relates-
A. Mean and variance
B. Prior and posterior probabilities
C. Data and models
D. Input and output

vi. Tensor Board is used for:

A. Writing code
B. Visualization and debugging
C. Installing libraries
D. Data cleaning

Q2) Solve any three questions from following. **[15]**

a. Give a detailed overview of the major application areas of Artificial Intelligence. Explain any four applications with suitable real-world examples. **[5]**

b. Explain in detail Graph Theory in Artificial Intelligence. **[5]**

c. Differentiate between generalization and specialization in knowledge representation **[5]**

d. Explain the early history of Artificial Intelligence. Discuss the key milestones, pioneers, and early AI programs that laid the foundation for modern AI. **[5]**

Q3) Solve any three questions from following. **[15]**

a. Describe the structure and components of an expert system. Illustrate with a neat diagram **[5]**

b. Explain in detail forward chaining and backward chaining inference techniques. **[5]**

c. Explain basic probability theory and Bayesian reasoning **[5]**

d. What are production (IF–THEN) rules? Explain how rules are used as knowledge in expert systems. **[5]**

Q4) Solve any three questions from following. **[15]**

a. Explain the concept of forecasting in expert systems **[5]**

b. Compare Bayesian reasoning and certainty factor theory. **[5]**

c. Explain Machine Learning Architecture in detail. **[5]**

d. What is Tensor? Explain Tensor flow. **[5]**

Q5) Write Short note (any 2) **[10]**

a. Evidential reasoning **[5]**

b. knowledge representation in expert systems **[5]**

68558

c. Deep Learning **[5]**

End Of Question Paper

Important Note for Chief Exam Officer / SRPD Coordinator / Sr Supervisor/ Student -
This Question Paper may be distributed for following Subjects as common code.
सदरची प्रश्नपत्रिका खालील विषयांकरिता वितरित करता येईल.

1] (1154) B.Tech. CBCS (119724) Introduction To AI(AIML) Part 2 SEM 4

2] (11731) Bachelor of Technology (NEP-2.0) (116051) Introduction To AI(AIML) Part 2 SEM 4

68558