



## Seventh Semester B.E. Degree Examination, June/July 2025 Artificial Intelligence

Time: 3 hrs.

Max. Marks: 100

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

### Module-1

- 1 a. What is Artificial Intelligence? Explain briefly scope of artificial intelligence. (10 Marks)  
b. Outline the early work done in the field of artificial intelligence. (10 Marks)

OR

- 2 a. Explain in detail with neat diagram Alan Turing machine. (10 Marks)  
b. What is an intelligent agent? Explain in detail intelligent agent with its characteristics and applications. (10 Marks)

### Module-2

- 3 a. Explain depth first search algorithm. (10 Marks)  
b. Explain breadth first search algorithm. (10 Marks)

OR

- 4 a. Explain simple hill climbing algorithm. (10 Marks)  
b. Explain steepest ascent hill climbing algorithm. (10 Marks)

### Module-3

- 5 a. What is expert system? What are the characteristics of expert system? (10 Marks)  
b. Explain the steps to develop an expert system. (10 Marks)

OR

- 6 a. Write in detail about MYCIN and explain how MYCIN works. (10 Marks)  
b. Write in detail about DENDRAL and explain how DENDRAL works. (10 Marks)

### Module-4

- 7 a. Explain semantic network architecture with neat diagram. (10 Marks)  
b. Explain decision tree architecture with neat diagram. (10 Marks)

OR

- 8 a. Explain blackboard system architecture with neat diagram. (10 Marks)  
b. Explain with neat diagram neural network architecture. (10 Marks)

### Module-5

- 9 a. Define Perceptron. Explain simple perceptron with neat diagram and relevant details. (10 Marks)  
b. Explain genetic algorithm with flow chart. (10 Marks)

OR

- 10 a. Explain learning automation model with a case study of temperature control model. (10 Marks)  
b. What is the role of an intelligent editor? Explain intelligent editors with relevant details. (10 Marks)

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