



# CBCS SCHEME

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18MT743

## Seventh Semester B.E. Degree Examination, June/July 2023 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. Define Artificial Intelligence. Discuss the importance of Artificial Intelligence. (10 Marks)  
b. Outline the early work done in the field of Artificial Intelligence. (10 Marks)

OR

- 2 a. What is an Intelligent agent? Explain in detail Intelligent agent with its characteristics and applications. (10 Marks)  
b. Explain in detail, Alan Turing machine and state the limitations of Turing test. (10 Marks)

### Module-2

- 3 a. Explain Breadth First Search Algorithm and outline its merits. (10 Marks)  
b. Explain Depth First Search algorithm and outline its merits. (10 Marks)

OR

- 4 a. Explain Simple Hill Climbing Algorithm with relevant details. (10 Marks)  
b. Explain Steepest Ascent Hill climbing algorithm with relevant details. (10 Marks)

### Module-3

- 5 a. Define Expert system. Discuss the characteristics of Expert system. (10 Marks)  
b. Explain Expert system Architecture with relevant details. (10 Marks)

OR

- 6 a. Explain the operation of MYCIN as an Expert System in diagnosing bacterial infections. (10 Marks)  
b. Explain the operation of DENDRAL as an Expert system in helping an organic chemist. (10 Marks)

### Module-4

- 7 a. Explain Semantic Network Architectures with relevant details. (10 Marks)  
b. Explain Black Board system architectures with relevant details. (10 Marks)

OR

- 8 a. Explain Decision Tree Architectures with relevant details. (10 Marks)  
b. Explain Neural Network architectures with relevant details. (10 Marks)

### Module-5

- 9 a. Define Perceptron. Explain simple perceptron with neat diagram and relevant details. (10 Marks)  
b. Explain Learning automation model with a case study of temperature control model. (10 Marks)

OR

- 10 a. Explain Genetic Algorithm with flow chart. (10 Marks)  
b. What is the role of an Intelligent Editor? Explain Intelligent editors with relevant details. (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.