

CBCS SCHEME

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17MT832

Eighth Semester B.E. Degree Examination, Feb./Mar. 2022 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 and discuss different Task Domains of Artificial Intelligence. (10 Marks)
- b. Discuss the History of Artificial Intelligence and explain scope of Artificial Intelligence. (10 Marks)

OR

- 2 a. Explain Alan Turing Machine with neat schematic diagram with computer needs and limitations of Turing Test. (10 Marks)
- b. Explain Intelligent Agents with neat diagram, with characteristics of agents and their applications. (10 Marks)

Module-2

- 3 a. Discuss Water Jug Problem with the production and apply the rules to find a solution. (10 Marks)
- b. Explain Breadth First Search and Depth First Search algorithms with their merits and demerits. (10 Marks)

OR

- 4 a. Explain Generate and Test algorithm and outline the travelling salesman problem leading to combinatorial explosion. (10 Marks)
- b. Explain Simple Hill Climbing algorithm and Steepest Ascent Hill climbing algorithm. (10 Marks)

Module-3

- 5 a. Explain Expert System Architecture and discuss the steps to develop an expert system. (10 Marks)
- b. Explain the working of MYCIN with working methodology and an example, and outline RI/XCON. (10 Marks)

OR

- 6 a. Define an expert system and discuss the characteristics of expert system. (10 Marks)
- b. Define Dendral and working of Dendral and discuss the working methodology of Heuristic and Meta Dendral. (10 Marks)

Module-4

- 7 a. Outline the working of expert system architecture and explain how expert system differs from conventional computer systems. (10 Marks)
- b. List different Expert Systems developed and explain the Applications, Importance of an Expert System. (10 Marks)

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.

OR

- 8 a. Explain Rule-Based System Architectures with neat diagram and relevant details. (10 Marks)
b. Explain Neural Network Architectures with Neural Network Model and relevant details. (10 Marks)

Module-5

- 9 a. Define Perceptron. Explain a Simple Perceptron with diagram and Perceptron Learning algorithm. (10 Marks)
b. Explain Checkers Playing Example with a two move look-ahead sequence. (10 Marks)

OR

- 10 a. Explain Learning Automata with Temperature control Model and Nim Game. (10 Marks)
b. Explain Genetic Algorithm with neat flow chart with Inversion, Cross Over and Mutation Concepts. (10 Marks)

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