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Seventh 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 the task domains of Artificial Intelligence. (10 Marks)
- b. Discuss the History of Artificial Intelligence and outline the scope of Artificial Intelligence. (10 Marks)

OR

- 2 a. Explain Alan Turing Machine with schematic diagram, needs of computer to process and its limitness. (10 Marks)
- b. Explain Intelligent Agent with schematic diagram, characteristics and its applications. (10 Marks)

Module-2

- 3 a. Discuss Breadth First Search Algorithm with its merits and demerits. (10 Marks)
- b. Explain Depth First Search Algorithm with its merits and demerits. (10 Marks)

OR

- 4 a. Explain Generate and Test Algorithm with relevant detail. (07 Marks)
- b. Explain simple Hill climbing algorithm with relevant details. (07 Marks)
- c. Explain steepest ascent hill climbing algorithm with relevant details. (06 Marks)

Module-3

- 5 a. Define expert system and discuss the need, characteristics of an expert system. (10 Marks)
- b. Explain Expert system architecture with its components and steps to develop an expert system. (10 Marks)

OR

- 6 a. Explain MYCIN and its working methodology with all relevant details. (10 Marks)
- b. Explain DENDRAL, types and its working methodology with all relevant details. (10 Marks)

Module-4

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

OR

- 8 a. Explain blackboard system architecture with schematic diagram. (10 Marks)
- b. Explain Neural Network Architecture with multilayer model. (10 Marks)

Module-5

- 9 a. Explain a simple perceptron with learning algorithm. (12 Marks)
- b. Discuss checkers playing example with relevant details. (08 Marks)

OR

- 10 a. Explain Learning Automaton Model with an example of temperature control. (10 Marks)
- b. Explain Genetic Algorithm with a flow chart and outline crossover, inversion and mutation concepts. (10 Marks)

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