TDC (CBCS) Even Semester Exam., 2024

COMPUTER SCIENCE

(6th Semester)

Course No. : CSCHCC-601T

(Artificial Intelligence)

Full Marks : 50
Pass Marks : 20

Time : 3 hours

The figures in the margin indicate full marks for the questions

UNIT—I

1. Answer any *two* of the following questions : 2×2=4

(a) What is strong AI?

(b) What are the drawbacks of AI?

(c) What is Turing Test approach in AI?

2. Answer any *one* from the following questions : 6

(a) Explain the types of AI agents based on the degree of perceived intelligence.

(b) Discuss the uses of AI in various domains.

UNIT—II

3. Answer any *two* of the following questions : 2×2=4

(a) What are the four components to define a problem?

(b) What is the application of BFS?

(c) What is the DFS algorithm?

4. Answer any *one* from the following questions : 6

(a) Discuss any two uniformed search techniques with examples.

(b) Explain the A* search algorithm and give the proof optimality of A*.

UNIT—III

5. Answer any *two* of the following questions : 2×2=4

(a) What are the limitations of using propositional logic to represent a knowledge base?

(b) What is the purpose of unification?

(c) What are frames and scripts in AI?

6. Answer any *one* from the following questions : 6

(a) Explain knowledge representation method using conceptual dependency.

(b) Explain unification algorithm used for reasoning under predicate logic.

UNIT—IV

7. Answer any *two* of the following questions : 2×2=4

(a) What is TMS in AI?

(b) Define default reasoning in AI.

(c) What is the need of probabilistic reasoning in AI?

8. Answer any *one* from the following questions : 6

(a) Discuss the categories of reasoning in AI.

(b) Explain the differentiation between inductive and deductive reasoning.

UNIT—V

9. Answer any *two* of the following questions : 2×2=4

(a) What is parsing? Give example.

(b) Define Augmented Transition Network.

(c) Write short note on recursive descent parser.

10. Answer any *one* from the following questions : 6

(a) Discuss the role of NLP in AI.

(b) Trace the CSP for solving the following crypto-arithmetic problem :

$$\begin{array}{r} \text{SEND} \\ +\ \text{MORE} \\ \hline \text{MONEY} \end{array}$$

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