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Following Paper ID and Roll No. to be filled in your Answer Book.

PAPER ID : 43202 Roll No. [redacted]

B. Tech. Examination, 2024-25

(Odd Semester)

BASICS OF ARTIFICIAL INTELLIGENCE

Time : Three Hours] *[Maximum Marks : 60*

Note :– Attempt all questions.

SECTION–A

1. Attempt all parts of the following : 8×1=8

   (a) What do you understand by term "Intelligence"?

   (b) Write any two drawbacks of artificial intelligence.

   (c) How the soft computing is related to artificial intelligence?

   (d) Write the types of artificial intelligence.

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(e) List any two real life examples of artificial intelligence.

(f) Explain the term algorithm and its basic properties.

(g) What is speech recognition in the field of artificial intelligence?

(h) Define the term PEAS about agent.

SECTION – B

2. Attempt any two parts of the following : 2×6=12

(a) Explain fuzzy set and its important operations.

(b) What is 8 Queen problem in artificial intelligence? Explain.

(c) Write in detail about AO* algorithm with example.

(d) Explain the difference between informed search and uninformed search.

SECTION – C

Note :– Attempt all questions. Attempt any two parts from each questions. 8×5=40

3. (a) Discuss the historical evolution of artificial intelligence.

(b) Explain hill climbing search algorithm.

(c) Explain in detail about first order logic.

4. (a) Define soft computing in detail and also write the difference between hard and soft computing.

(b) Explain in detail about depth-limited search algorithm with example.

(c) Discuss about Bayesian networks in detail.

5. (a) Explain following artificial intelligence terminologies :

(i) Environment

(ii) Pruning

(iii) Blackboard

(iv) Agents

(b) Discuss in detail about impact of A.I. on human life.

(c) What do you mean by Alpha Beta pruning in AI? Explain in detail.

6. (a) Explain any five A. I. agents in detail.

(b) Give the difference between Breadth First Search (BFS) and Depth First Search (DFS).

(c) Discuss the difference between forward chaining and backward chaining.

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