BCA Examination 2024-25

(Odd Semester)

ARTIFICIAL INTELLIGENCE

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

Note :– Attempt all questions.

SECTION–A

1. Attempt all parts of the following : $1 \times 8 = 8$

   (a) Define AI.

   (b) What do you understand by agent?

   (c) Define knowledge.

   (d) What is state space of a problem?

   (e) What is blind search?

(f) Differentiate between propositional and predicate logic.

(g) What is a heuristic function?

(h) Define ontological engineering?

SECTION – B

2. Attempt any two parts of the following. $6 \times 2 = 12$

(a) Describe simple reflex agent with suitable diagram.

write down the issues of AI and its scope.

(b) ~~Explain~~ water jug problem.

(c) Write the algorithm of minimax procedure.

(d) What is probabilistic reasoning and bayes rules?

SECTION – C

3. Attempt any two parts from each question. Each part carry equal marks. $8 \times 5 = 40$

(a) Briefly define the application area of AI.

(b) Differentiate between model based and goal-based agents.

(c) Briefly explain utility based agents.

4. (a) Represent the following in first order predicate logic:

(i) John likes all kind of food.

(ii) Apple and vegetable are food.

(iii) Anything anyone eats and not killed is food.

(iv) Anil eats peanuts and still alive.

(v) Harry eats everything that Anil eats.

(b) Explain hill climbing search techniques.

(c) Write the algorithm of BFS and DFS with advantage and disadvantage.

5. (a) Write about the multi agent planning components.

(b) Explain knowledge based agent.

(c) What is the importance of classical planning in AI?

6. (a) Write a short note on the case study MYCIN.

(b) Discuss about acting under uncertainty.

(c) Differentiate between inductive reasoning and deductive reasoning.