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Total No. of Questions : 09

B.Tech. (Software Engg.) (Sem.–6)
ARTIFICIAL INTELLIGENCE
Subject Code : BTCS-602-18
M.Code : 92023
Date of Examination : 05-07-22

Time : 3 Hrs.   Max. Marks : 60

INSTRUCTIONS TO CANDIDATES :
1. **SECTION-A is COMPULSORY consisting of TEN questions carrying TWO marks each.**
2. **SECTION-B contains FIVE questions carrying FIVE marks each and students have to attempt any FOUR questions.**
3. **SECTION-C contains THREE questions carrying TEN marks each and students have to attempt any TWO questions.**

SECTION-A

1. **Write briefly :**

   a) Define First-Order Logic.

   b) Define Modus Ponen's rule in prepositional logic.

   c) Express 'A car without wheels is not valuable' in predicate logic

   d) What are Conflict Resolution Strategies?

   e) What is robabilistic reasoning?

   f) State the Bayes rule.

   g) Need of heuristic functions.

   h) What is an inference engine?

   i) Major reasons for growth of intelligent agents.

   j) What is state space search?

SECTION-B

2. Write an algorithm for calculating minimax decisions. What is the role of alliances in multiplayer games?

3. What are the differences and similarities between problem solving and planning?

4. Differentiate between perfect decision game and imperfect decision game.

5. Explain with the help of suitable example Markov Decision Process.

6. Write the alpha-beta search algorithm. Explain the role of transposition with the help of an example.

SECTION-C

7. What is A* algorithm and how it is different from other search strategies? Explain with the help of suitable example.

8. Discuss the steps needed to convert a wff in predicate logic into clause form.

9. List various components of natural language understanding process. Describe syntactic analysis and semantic analysis in brief.

NOTE : Disclosure of Identity by writing Mobile No. or Making of passing request on any page of Answer Sheet will lead to UMC against the Student.