Roll No. | | | | | | | | | | |

Total No. of Pages : 02

Total No. of Questions : 09

B.Tech.(CSE) (2011 Onwards) (Sem.–7,8)

ARTIFICIAL INTELLIGENCE

Subject Code : BTCS-701

Paper ID : [A2985]

Time : 3 Hrs.

Max. Marks : 60

INSTRUCTION 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 has to attempt any FOUR questions.
3. SECTION-C contains THREE questions carrying TEN marks each and students has to attempt any TWO questions.

SECTION-A

1. Write briefly :

   a. Need of heuristic functions.

   b. Basic representation of plans.

   c. Advantages of forward chaining.

   d. Implementation challenges in representation of resource constraints.

   e. Characteristics of propositional logic.

   f. Role of rule based learning in AI.

   g. Limitations of iterative deepening A* search technique.

   h. Features of default reasoning.

   i. Significance of parsing in natural language processing.

   j. Future scope of expert systems.

SECTION-B

2. Give details of the foundation of artificial intelligence. How AI is being used in the area of human machine interaction research?

3. Describe any four learning techniques with suitable examples.

4. Differentiate between current bet hypothesis search and least commitment search.

5. Discuss the various in-built functions used in PROLOG.

6. Explain the process of decision making using utility functions.

SECTION-C

7. Discuss the role of reasoning in AI. How predicate logic is used to represent knowledge in AI systems.

8. Differentiate between the depth first search and breadth first search with the help of suitable example.

9. Write an algorithm for small memory A* (SMA*) search technique. Explain with the help of suitable example.