Roll No. | | | | | | | | | | | | | Total No. of Pages : 01

Total No. of Questions : 08

M.Tech.(IT) E-IV (2019 & Onwards) (Sem.–3)

ADVANCE ARTIFICIAL INTELLIGENCE

Subject Code : MTCS-306

M.Code : 74156

Time : 3 Hrs. Max. Marks : 100

INSTRUCTION TO CANDIDATES :

1. **Attempt any FIVE questions out of EIGHT questions.**
2. **Each question carries TWENTY marks.**

1. a) Discuss the concept of Single and multi-agent using example.
   b) Compare autonomous versus semi-autonomous.
2. a) Write a short note on informed search. Discuss the functioning of A* search.
   b) How local search methods are used in finding the solution of constraint satisfaction problem?
3. a) Explain the principle of Genetic Algorithm by taking suitable example.
   b) How Alpha-beta pruning is used in finding the solution in game such as chess?
4. a) What is preposition logic? Write its equivalence rules for logic formulas.
   b) Write a short note on conceptual dependencies.
5. a) Discuss the knowledge representation using Bayesian networks.
   b) Write a short note on decision theory preferences and utility functions.
6. a) Explain in detail the Agent theory and its architecture.
   b) What is the main purpose of Information gathering Agents?
7. Define :
   a) Expectimax search
   b) Hidden Markov Models
   c) Software Agents
8. Discuss the basic principle of biologically inspired models. How they can be used to solve NP Hard Problems?

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.