Roll No. | | | | | | | | | | | | | Total No. of Pages : 02

Total No. of Questions : 08

M.Tech. (CSE Engg.)E-I (2018 Batch) (Sem.–1)

INTRODUCTION TO INTELLIGENT SYSTEMS

Subject Code : MTCS-107-18

M.Code : 75157

Time : 3 Hrs. Max. Marks : 60

INSTRUCTIONS TO CANDIDATES :

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

1. How are artificial neural networks similar to brain? What part of the artificial neural network is adjusted during the training process? When are neural networks a good choice for problem solving?

2. Write a short note on :

   (a) Back propagation networks

   (b) Radial basis function networks

   (c) Recurrent networks

3. What is the difference between a neural network, fuzzy logic, and genetic algorithms? Which would be of most use to an organization of astronomers analyzing gamma ray emissions reaching Earth'?

4. The Breadth First Search algorithm has been implemented using the queue data structure. Write the various possible orders of visiting the nodes of the following graph.

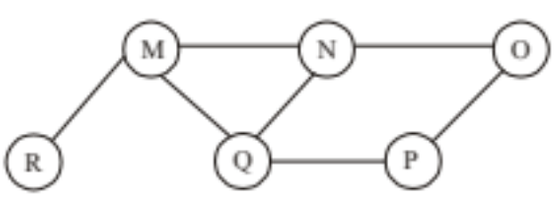

Fig.1

5. List the steps in hill climbing algorithm to find a path in a search space. Under which circumstances may the algorithm fail to find a solution even though one exists? Illustrate with an example.

6. "*Knowledge representation is an important aspect of problem solving.*" Justify this statement by presenting an example showing how an appropriate knowledge representation scheme can simplify the problem solving process. Solve the problem.

7. How does the Dempster-Shafer theory of evidence differ from the Bayesian reasoning under uncertainty?

8. Discuss in detail the advantages, disadvantages, applications and recent trends in fuzzy logic.

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.