USN | | | | | | | | | | **16MCA543**

Fifth Semester MCA Degree Examination, Dec.2018/Jan.2019
Artificial Intelligence

Time: 3 hrs.   Max. Marks: 80

Note: *Answer FIVE full questions, choosing one full question from each module.*

Module-1

1 a. Define AI. Explain task domain of AI.   **(08 Marks)**
   b. Discuss AI technique in detail.   **(08 Marks)**

OR

2 a. Give state space representation with rule and solve the problem, You are given two jugs; a 4 gallon and 3 gallon. Neither has any measuring marks on it. There is a pump that can be used to fill the jugs with water. How can you get exactly 2 gallons of water in 4 gallon jug?
                                                                          (08 Marks)
   b. Discuss problem characteristics in detail.   **(08 Marks)**

Module-2

3 a. Discuss Hill climbing search method. Give limitations and ways to overcome these limitations.   **(08 Marks)**
   b. Explain Best first search with an example.   **(08 Marks)**

OR

4 a. What are the different approaches for knowledge representation?   **(08 Marks)**
   b. Explain issues in knowledge representation.   **(08 Marks)**

Module-3

5 a. Explain step by step procedure to convert the given wft into clause form. All Romans who know Marcus either Hate Caesar or think that anyone who Hates anyone is crazy. **(10 Marks)**
   b. With Algorithm explain method of Resolution.   **(06 Marks)**

OR

6 a. What are the key issues we need to consider when dealing with non-monotonic reasoning system?   **(06 Marks)**
   b. What is Default reasoning? Explain different approaches to deal with nonmontonic system.
                                                                          (10 Marks)

Module-4

7 a. State and explain Baye's theorem.   **(08 Marks)**
   b. Discuss certaintity factors and how it is used in role based systems. **(08 Marks)**

OR

8 a. What are Bayesian networks? Explain with example.   **(08 Marks)**
   b. Briefly discuss fuzzy logic and its application.   **(08 Marks)**

Module-5

9 a. Explain Semantic Nets. Draw a partitioned semantic net for the below example.
      i) John gave the book to Mary   ii) Every dog has bitten a mail carrier. **(10 Marks)**
   b. Describe frame. Give an example.   **(06 Marks)**

OR

10 a. Write set of primitive acts and set of dependencies of CD.   **(08 Marks)**
   b. Show CD representations for following sentence.
      i) John pushed the cart   ii) Johan took the book from Mary
      iii) John ate the ice cream with a spoon   iv) John fertilized the field.   **(08 Marks)**

* * * * *