CBCS SCHEME

USN | | | | | | | | | | |

17CS562

Fifth Semester B.E. Degree Examination, Jan./Feb. 2021
Artificial Intelligence

Time: 3 hrs. Max. Marks: 100

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

Module-1

1 a. Define artificial intelligence. Describe the four categories under which AI is classified with? **(06 Marks)**

b. Describe Briefly the various problem characteristics. **(07 Marks)**

c. Describe the process of simulated annealing with an example. **(07 Marks)**

OR

2 a. List and explain various task domains of AI. **(06 Marks)**

b. Discuss A* and A0* algorithm and the various observations about algorithm briefly. **(07 Marks)**

c. Explain in detail about the means–end analysis procedure with example. **(07 Marks)**

Module-2

3 a. How predicate logic is helpful knowledge representation? Explain. **(06 Marks)**

b. Write the algorithm to unify (L1, L2). **(07 Marks)**

c. Describe the issues in knowledge representation. **(07 Marks)**

OR

4 a. Discuss resolution in brief with an example. **(06 Marks)**

b. Illustrate in detail about forward and backward reasoning with example. **(07 Marks)**

c. What is "matching" in rule based system? Briefly explain different proposals for matching. **(07 Marks)**

Module-3

5 a. What are the key issues which needs to be addressed by non monotonic reasoning system? Explain. **(06 Marks)**

b. Explain justification based Truth Maintenance System (TMS) with an example. **(07 Marks)**

c. Define frame. State Bayes theorem and explain notations used. **(07 Marks)**

OR

6 a. Write a note on non-monotonic logic and default logic. **(06 Marks)**

b. Explain abduction and inheritance. **(07 Marks)**

c. Explain how semantic networks are used in representation and reasoning. **(07 Marks)**

Module-4

7 a. Define conceptual dependency, mention its goals along with representation. (07 Marks)
b. List the components of the script. (06 Marks)
c. Write the algorithm for minimax (position, depth, players) and explain. (07 Marks)

OR

8 a. Write the algorithm for depth first iterative deepening. (06 Marks)
b. Give the reasons to build large databases. (07 Marks)
c. Write a note on global ontology. (07 Marks)

Module-5

9 a. Define learning. Explain with examples. (07 Marks)
b. Explain rote learning. (06 Marks)
c. Write a note on knowledge acquisition. (07 Marks)

OR

10 a. Explain how decision trees are used in learning. (07 Marks)
b. What capabilities are expected from expert systems? (06 Marks)
c. Write the algorithm for candidate elimination. (07 Marks)

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