18P271 (Pages: 2) Name:……..

Reg. No:……..

SECOND SEMESTER M.Sc. DEGREE EXAMINATION, APRIL 2019

(Regular/Supplementary/Improvement)

(CUCSS - PG)

CC17P CSS2 C04 - COMPUTATIONAL INTELLIGENCE

(Computer Science)

(2017 Admission onwards)

Time: Three Hours Maximum:36 Weightage

PART A

Answer ***all*** questions. Each question carries 1 weightage.

1. What is AND-OR graph?
2. What is the use of heuristic functions?
3. Give the semantic network representation of "John gave the book to Mary".
4. Define Hopfield Network.
5. For the given sentence "All Pompeians were Romans", write a well-formed formula in predicate logic.
6. Write any four applications of expert system.
7. What is means-ends analysis?
8. Write about inference rules in predicate calculus.
9. Describe the two levels of knowledge representation.
10. What do you mean by back propagation?
11. Differentiate between procedural and declarative knowledge.
12. List the components of a planning system.

(12 x 1 = 12 Weightage)

PART B

Answer any ***six*** questions. Each question carries 2 weightage.

13. Explain A* algorithm.
14. Explain how frames and conceptual dependencies are used for knowledge representation.
15. What are the operators used in genetic algorithm? Explain its significance.
16. What is a production system? Explain its characteristics in detail.
17. What are the issues in knowledge representation?
18. Explain state space search using water jug problem.

19. Trace the constraint satisfaction procedure for solving the crypt arithmetic problem SEND + MORE = MONEY.
20. Explain the logic for nonmonotonic reasoning.
21. Explain about knowledge acquisition.

(6 x 2 = 12 Weightage)

PART C

Answer any ***three*** questions. Each question carries 4 weightage.

22. Explain Min-Max algorithm and alpha-beta pruning.
23. Write the resolution procedure for propositional and predicate logic with example.
24. With appropriate examples explain the working of Breadth First Search and Depth First Search in detail.
25. Explain with neat diagram the architecture of expert system and mention its characteristics.
26. What do you mean by simple and steepest ascent hill climbing? Also write its advantages and disadvantages.
27. Describe the various types of learning in problem solving.

(3 x 4 = 12 Weightage)

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