SECOND SEMESTER M.Sc. DEGREE EXAMINATION, JUNE 2019

(CUCSS)

Computer Science

CSS 2C <u>04</u>   COMPUTATIONAL INTELLIGENCES

(2014 Admissions)

Time . Thiee Hours   Maximum : 36 Weightage

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

1. Define Rational Agent.

2. Define Turing Test.

3. Explain monotonic production system.

4. Define best first search.

5. What is Manhattan distance ?

6. Explain first choice Hill climbing algorithm.

7. What is constraint satisfaction problem ?

8. What is existential quantifier ?

9 What is expert system shell ?

10. How do you update a node in Hopfield network ?

11. Give any *two* methods of knowledge acquisition.

12. What are the two operators in genetic algorithm ?

(12 x 1 = 12 weightage)

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

13. Explain breadth first search with an example.

14. What is admissibility of a heuristic function ?

15. What are the components of a well-defined problem ?

16. Give any *two* advantages of local search algorithms.

17. Explain knowledge-based agents.

18. What is forward chaining ?

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19. Differentiate expert systems and conventional programs.

20. How does an expert system work ?

21. What is relevance of formal learning theory ?

(6 x 2 = 12 weightage)

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

22. Explain you define a problem as a state space search.

23. Briefly explain variants of Hill climbing algorithm.

24. What is backward reasoning ? Give an example to demonstrate steps in backward reaso

25. Explain the steps associated with knowledge engineering process.

26. Explain the architecture of Expert system.

27, What are the steps involved in learning by problem solving ?

(3 x 4 = 12 weightag-