C 4723 **(Pages : 2)** **Name.....**

Reg. No.....

SECOND SEMESTER M.Sc. DEGREE (REGULAR/SUPPLEMENTARY) EXAMINATION, APRIL 2021

(CBCSS)

Computer Science

CSS 2C 09—COMPUTATIONAL INTELLIGENCES

(2019 Admissions)

Time : Three Hours Maximum : 30 Weightage

General Instructions

1. *In cases where choices are provided, students can attend* **all** *questions in each section.*
2. *The minimum number of questions to be attended from the Section / Part shall remain the same.*
3. *There will be an overall ceiling for each Section / Part that is equivalent to the maximum weightage of the Section / Part.*

Section A

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

1. What do you mean by "Problem Space" ?
2. Give an example of application of heuristics in games.
3. Explain ISA relationship.
4. Give a simple example of knowledge representation using rules.
5. Highlight the role of "Alpha-Beta Pruning".
6. Explain the term "Artificial life".
7. Explain the concept of learning in Artificial Neural networks.

(4 × 2 = 8 weightage)

Section B

Answer any **four** *questions.*
Each question carries 3 *weightage.*

8. Write a note on Symbolic reasoning under uncertainty.
9. Write a note on strategies for space search.

Turn over

10. Give an overview of inference rules.

11. Write a note on "Problem reduction".

12. Give an overview of Planning system components.

13. Write short notes on : (i) Expert system shells ; and (ii) Knowledge representation in expert systems.

14. Illustrate the terms "representation", "Selection", "Crossover" and "Mutation" in Genetic algorithm with suitable examples.

(4 × 3 = 12 weightage)

Section C

Answer any **two** *questions.*
Each question carries 5 *weightage.*

15. Describe means-ends analysis.

16. Explain "Resolution" and "natural deductions" with examples.

17. Summarize the concepts in Semantic nets.

18. Give a comprehensive account of different learning strategies.

(2 × 5 = 10 weightage)