FACULTY OF INFORMATICS
M.C.A (2 Years Course) II-Semester (Main & Backlog) Examination, October/November 2022

Subject: Artificial Intelligence

Time: 3 Hours   **Max. Marks: 70**

Note: I. Answer one question from each unit. All questions carry equal marks.
II. Missing data, if any, may be suitably assumed.

Unit – I

1. (a) Introduce Python Programming Language with its features.
    (b) Brief about the history of Artificial Intelligence.

(OR)

2. (a) Discuss functions, required, keyword, default and variable-length arguments.
    (b) What are the foundations and sub areas of AI.

Unit – II

3. (a) Define the production rule and provide the solution to missionaries and cannibals Problem.
    (b) State and explain A* algorithm.

(OR)

4. (a) Solve the crypt arithmetic puzzle for base and ball.
    (b) Generate a game tree using MINIMAX procedure.

Unit – III

5. (a) Explain the concept of propositional logic with an example.

    (b) Using resolution refutation principle, show that CVD is a logic consequence of S={AVB,~AVD,CV~B}.

(OR)

6. (a) Enumerate the rules of natural deduction system.
    (b) Explain how to represent knowledge as semantic network.

Unit – IV

7. (a) Describe the concept of knowledge engineering.
    (b) Describe and prove conditional probability.

(OR)

8. (a) With a neat figure, explain the architecture of an expert system.
    (b) State and prove Bayes theorem.

Unit – V

9. (a) Discuss resource description framework.
    (b) Explain the phases of sentence analysis.

(OR)

10. (a) Explain about augmented transition network.
    (b) With examples, explain case frame representation for machine translation.

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