QP Code: U25C070

Reg. No : ....
Name : ....

ST MARY'S COLLEGE (AUTONOMOUS), THRISSUR-20

III SEMESTER (FYUGP) DEGREE EXAMINATIONS, OCTOBER 2025
BCA
BCA3CJ204 : FOUNDATIONS OF ARTIFICIAL INTELLIGENCE
2024 Admission Onwards
(Credits: 4)

Time: 2 Hours **Maximum Marks: 70**

Section A

*Answer **all**. Each question carries **3** Marks.* ***(Ceiling: 24 Marks)***

1. What is the role of philosophy in the foundation of AI?
2. Explain the concept of an agent in AI and list the key aspects.
3. What are the main components of CSP?
4. Describe the role of a problem-solving agent in AI.
5. How are complex sentence formed in propositional logic?
6. How does INFERENCE connect TELL and ASK operations?
7. Who proposed the Chinese room argument and in what context?
8. Differentiate between BO and ABO with one practical application.
9. Why do we need Hybrid architecture?
10. Examine the use of universal quantifiers in FOL.

Section B

*Answer **all**. Each question carries **6** Marks.* ***(Ceiling: 36 Marks)***

11. Differentiate between Thinking Humanly and Thinking Rationally approaches with suitable examples.
12. Compare Agent Program, Agent Function and Agent Architecture. Show how they are related?
13. What is path consistency? Give an example.
14. Explain the importance of measuring the performance of search algorithms in AI. Describe how performance is measured using different criteria.
15. Evaluate how discrete events, liquid events, and time intervals are represented in AI. Give suitable examples for each representation.

Turn Over

16. Explain the role of ontological engineering in knowledge representation.
17. What is Argument from Informality? Explain its relevance in the debate on AI.
18. How do Asimov's Laws, Friendly AI and accountability concern highlight the need for responsible development of AI?

Section C

*Answer **any one**. Each question carries **10** Marks.* ***(1x10=10marks)***

19. Illustrate the seven key properties of task environments with real-world AI applications.
20. Compare and contrast BFS, DFS, and UCS in terms of completeness, time complexity, space complexity, and optimality.

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