24U330 (Pages: 2) Name : .....

Reg. No : .....

THIRD SEMESTER UG DEGREE EXAMINATION, NOVEMBER 2025

(FYUGP)

CC24UBCA3CJ204 - FOUNDATIONS OF ARTIFICIAL INTELLIGENCE

(Computer Application - Major Course)

(2024 Admission -Regular)

Time: 2.0 Hours Maximum: 70 Marks

Credit: 4

Part A (Short answer questions)

Answer ***all*** questions. Each question carries 3 marks.

1. Describe any two current state-of-the-art AI technologies used in real life. [Level:2] [CO1]
2. Explain the agent–environment relationship with a neat diagram. [Level:2] [CO1]
3. Explain Informed Search Strategies. [Level:2] [CO2]
4. Explain the concept of Graph Search with an example. [Level:2] [CO2]
5. Explain Things and Stuff in knowledge representation. [Level:2] [CO3]
6. Explain universal quantifier with an example. [Level:2] [CO3]
7. Explain the main part of knowledge-based agent. [Level:2] [CO3]
8. Discuss any two positive outcomes of AI in the future. [Level:2] [CO4]
9. Discuss the examples of weak AI. [Level:2] [CO4]
10. Explain two examples of ethical concerns in the use of AI. [Level:2] [CO4]

(Ceiling: 24 Marks)

Part B (Paragraph questions/Problem)

Answer ***all*** questions. Each question carries 6 marks.

11. Discuss the main properties of task environments. [Level:2] [CO1]
12. Discuss the different types of agents used in Artificial Intelligence. [Level:2] [CO1]
13. Describe the Map Colouring Problem as an example of CSP. [Level:2] [CO2]
14. Discuss Node Consistency and Path Consistency in CSPs. [Level:2] [CO2]
15. Explain a problem-solving Agent. [Level:2] [CO2]

16. Discuss the Advantages of a knowledge base. [Level:2] [CO3]

17. Discuss the different types of ontologies. [Level:2] [CO3]

18. Summarize the role of sensors and actuators in an agent. [Level:2] [CO4]

(Ceiling: 36 Marks)

Part C (Essay questions)

Answer any ***one*** question. The question carries 10 marks.

19. Define Artificial Intelligence. Explain real-world applications of AI. [Level:2] [CO1]

20. Explain Tree Search and Graph Search in terms of performance and efficiency. [Level:2] [CO2]

(1 × 10 = 10 Marks)

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