

BACHELOR OF TECHNOLOGY (CBCS - 2023)
B. Tech. Sem-IV Computer Science & Engineering AI & ML : WINTER: 2025
SUBJECT: FOUNDATION OF ARTIFICIAL INTELLIGENCE

Day : Thursday
Date : 27/11/2025

W-29280-2025

Time : 10:00 AM-01:00 PM
Max. Marks : 60

NB :

1. Assume suitable data, if necessary.
2. Draw neat labelled diagrams WHEREVER necessary.
3. Figures to the right indicate FULL marks for the question.
4. All questions are COMPULSORY.

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| Q. 1 | Design an AI Agent For Playing Tic-Tac-Toe game. | (10) |
| | OR | |
| Q. 1 | Define Simple Reflex Agents and Model-Based Reflex Agents. | (10) |
| Q. 2 | Discuss The Difference Between Global Search And Local Search Strategies in AI? | (10) |
| | OR | |
| Q. 2 | Describe Hill Climbing Search and Its Limitations? | (10) |
| Q. 3 | Explain Minimax Search Algorithm With an Example Of A Two-Player Game. | (10) |
| | OR | |
| Q. 3 | How does The Minimax Strategy Ensure Optimal Moves For An AI Agent? | (10) |
| Q. 4 | Write Notes On Procedural Knowledge and Declarative Knowledge With Suitable Example. | (10) |
| | OR | |
| Q. 4 | Differentiate between Forward Reasoning and Backward Reasoning? | (10) |
| Q. 5 | Explain How Belief Functions Work In The Dempster-Shafer Framework. | (10) |
| | OR | |
| Q. 5 | What is AI Planning? Explain Its Importance? | (10) |
| Q. 6 | Compare Supervised and Unsupervised Learning? | (10) |
| | OR | |
| Q. 6 | Explain Reinforcement Learning With an Example. | (10) |

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