

Gandhi Institute of Engineering and Technology University, Odisha, Gunupur (GIET University)



B. Tech (Sixth Semester - Regular) Examinations, April 2026

23BCDPC36002 - Artificial Intelligence

(CSE-DS)

Time: 3 hrs

Maximum: 60 Marks

Answer ALL questions
(The figures in the right hand margin indicate marks)

PART – A

(2 x 5 = 10 Marks)

Q.1. Answer **ALL** questions

	CO #	Blooms Level
a. Explain state space search.	CO3	K1
b. Discuss various types of intelligent agents in AI.	CO2	K2
c. List any two approaches to knowledge representation.	CO3	K1
d. Define non-monotonic reasoning.	CO4	K2
e. What is the Blocks World problem in AI planning?	CO3	K2

PART – B

(10 x 5 = 50 Marks)

Answer **ALL** the questions

	Marks	CO #	Blooms Level
2. a. Explain Depth-First Search and Breadth-First Search algorithms with example.	5	CO2	K1
b. Solve the Cryptic Arithmetic Problem of YOUR + YOU = HEART	5	CO3	K2
(OR)			
c. Draw the State Space of Water Jug problem with Unlabeled 5Ltr and 4Ltr Jugs with 3Ltr in 5Ltr Jug.	5	CO3	K2
d. Describe the various approaches to knowledge representation with suitable examples.	5	CO4	K2
3.a. Describe various types of AI with examples.	5	CO3	K3
b. Explain the Alpha Beta pruning procedure with the leaf nodes as 4, 6, 9, -3, 0, 9, 2, -11	5	CO3	K3
(OR)			
c. Explain the working of an expert system using a neat block diagram.	5	CO3	K2
d. Explain the concept of iterative deepening and discuss its advantages.	5	CO4	K2
4.a. Discuss various types of Knowledge with example.	5	CO4	K2
b. What are expert system shells? Explain their advantages and limitations.	5	CO3	K2
(OR)			
c. Explain the various types of Reasoning.	5	CO3	K2
d. What is meant by understanding in AI? Explain the factors that make understanding hard.	5	CO4	K2
5.a. Discuss the characteristics of AI problems and how they influence search strategies.	5	CO5	K2
b. Describe the advantages and limitations of NLP.	5	CO4	K2
(OR)			
c. Explain rote learning and learning by taking advice with suitable examples.	5	CO3	K2
d. Explain the principles and applications of statistical natural language processing.	5	CO2	K2

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| 6.a. | Describe the spell checking process and techniques used in NLP. | 5 | CO3 | K2 |
| b. | Explain the neural network learning and genetic learning in detail. | 5 | CO4 | K2 |
| (OR) | | | | |
| c. | Explain the knowledge acquisition process and discuss the difficulties involved. | 5 | CO3 | K2 |
| d. | Explain learning from examples and discuss induction, explanation-based learning, discovery, and analogy. | 5 | CO4 | K2 |

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