QP Code: S253A046 Reg. No | | | | | | | | | | | AY 23

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

B. Tech (Third Semester – Regular & Supplementary) Examinations, November 2025

23BCMPE23011-Artificial Intelligence and Expert Systems

(CSE (AIML))

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.	Discuss the two components of NLP.	CO3	K2
b.	Explain the types of AI.	CO1	K1
c.	What are the spell-checking techniques?	CO4	K2
d.	Discuss the types of games in AI.	CO3	K1
e.	Explain rote learning with examples.	CO5	K2

PART – B **(10 x 5 = 50 Marks)**

<u>Answer ***ALL*** the questions</u>

		Marks	CO #	Blooms Level
2. a.	Explain the types of search algorithms.	5	CO1	K1
b.	Describe the various Applications of AI.	5	CO2	K2
	(OR)			
c.	Explain diagrammatically the State Space Tree for this 8-puzzle problem	5	CO1	K3

2	8	3
1	6	4
7		5

Initial State

→

1	2	3
8		4
7	6	5

Goal State

		Marks	CO #	Blooms Level
d.	Discuss the features of production systems.	5	CO2	K2
3.a.	Discuss BFS and DFS with examples.	5	CO1	K1
b.	Explain the operations performed by knowledge-based agent.	5	CO2	K1
	(OR)			
c.	Discuss with the example Universal and Existential qualifier.	5	CO2	K1
d.	Discuss the various techniques of knowledge representation.	5	CO3	K2
4.a.	Explain the various types of planning with examples.	5	CO4	K1
b.	Discuss understanding? What makes understanding hard?	5	CO4	K2
	(OR)			
c.	Explain the Minimax algorithm step-wise with the terminal values as 2, -1, 5, 9, 6, 3, -4, 7, 1, 3, -4, 2, 7, 3, 0, 4	5	CO1	K3
d.	Discuss the advantages and limitations of NLP.	5	CO5	K2
5.a.	Explain the various types of spelling errors and spell-checking techniques	5	CO4	K1
b.	Discuss the different learnings through examples	5	CO5	K2
	(OR)			
c.	Explain the different types of AI learning models.	5	CO4	K1

d.	Explain diagrammatically the neural network learning.	5	CO5	K2
6.a.	Explain the internal architecture of Expert system.	5	CO6	K2
b.	Discuss the various examples of Expert System.	5	CO6	K1
	(OR)			
c.	Discuss the types of inference engines and their modes of operation.	5	CO5	K1
d.	Explain the various types of Expert Systems in AI.	5	CO6	K2

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