

**BONAM VENKATA CHALAMAYYA INSTITUTE OF TECHNOLOGY & SCIENCE
(AUTONOMOUS)**

II - B. Tech I-Semester Supplementary Examinations (BR23), March - 2026

ARTIFICIAL INTELLIGENCE (AI&ML)

Time: 3 hours

Max. Marks: 70

*Question Paper consists of Part-A and Part-B
Answer ALL the question in Part-A and Part-B*

PART-A (10X2 = 20M)

	Marks	CO	BL
1. a) List four major applications of AI	(2M)	CO1	BL1
b) Define Artificial Intelligence.	(2M)	CO1	BL2
c) What is heuristic function?	(2M)	CO2	BL2
d) What is the difference between BFS and DFS?	(2M)	CO2	BL1
e) Define unification?	(2M)	CO3	BL2
f) Explain the resolution in AI?	(2M)	CO3	BL1
g) What is inductive learning?	(2M)	CO4	BL1
h) Define overfitting.	(2M)	CO4	BL2
i) What is an expert system?	(2M)	CO5	BL1
j) List the roles of expert systems?	(2M)	CO5	BL1

PART-B (5X10 = 50M)

2a Explain problem-solving in AI	5(M)	CO1	BL2
b Elaborate on the characteristics of a problem with an illustrative example.	5(M)	CO1	BL2
(OR)			
3 Explain about Utility based and Goal based Agents	10(M)	CO1	BL3
4 Describe the Alpha-Beta Pruning algorithm	10(M)	CO2	BL3
(OR)			
5a Explain A* and AO* algorithms with example.	5(M)	CO2	BL2
b Explain Hill climbing Algorithm.	5(M)	CO2	BL2
6 Explain knowledge representation issues?	10(M)	CO3	BL2
(OR)			
7 Explain Dempster Shafer theory With example?	10(M)	CO3	BL2
8a Describe Decision Tree learning algorithm in detail.	6(M)	CO4	BL2
b Explain entropy and information gain with example	4(M)	CO4	BL2
(OR)			
9 Explain forward and back ward chaining with examples?	10(M)	CO4	BL3
10 Describe any two typical Expert Systems – MYCIN, DART, or XCON. Explain their application domain, working principle, and significance.	10(M)	CO5	BL2
(OR)			
11 Discuss knowledge acquisition in Expert Systems.	10(M)	CO5	BL3
