R20 Regulation *Subject code: 3O7DB*

TKR COLLEGE OF ENGINEERING AND TECHNOLOGY

(Autonomous, Accredited by NAAC with 'A+' Grade)

B.Tech VII Semester Supplementary Examinations, October 2026

ARTIFICIAL INTELLIGENCE

(ECE)

Maximum Marks: 70 Date: 28.10.2026 Duration: 3 hours

Note: **1.This question paper contains two parts A and B.**
2. Part A is compulsory which carries 20 marks. Answer all questions in Part A.
3. Part B consists of 5 Units. Answer any one full question from each unit.
4. Each question carries 10 marks and may have a, b, c, d as sub questions.

Part-A

	All the following questions carry equal marks (10X2M=20 Marks)	Marks	CO	BTL
1	Write the four components of state space search?	2M	1	L1
2	What is the use of Heuristic Functions?	2M	1	L1
3	What is matching.	2M	2	L1
4	What is resolution.	2M	2	L1
5	Explain about logic for Non-Monotonic Reasoning?	2M	3	L1
6	Write about forward chaining in resolution method.	2M	3	L1
7	Write truth tables for logical operators.	2M	4	L1
8	What are types of learning algorithms?	2M	4	L1
9	What is planning?	2M	5	L1
10	Explain about Iterative Deepening?	2M	5	L1

Part-B

	Answer All the following questions. (5X10M=50Marks)	Marks	CO	BTL
11	Develop algorithm for depth first and breadth first search.	10M	1	L2
	OR			
12	Explain production systems and problem characteristics.	10M	1	L2
13	Explain the various features of declarative and procedural frames.	10M	2	L2
	OR			
14	Differentiate between forward versus backward reasoning with an example.	10M	2	L2
15	What are the problems in implementing non-monotonic reasoning in problem solving?	10M	3	L2
	OR			
16	Explain the Bayesian belief network with example.	10M	3	L2
17	Explain about Naïve Bayes models in detail.	10M	4	L2
	OR			
18	Explain about Strong slot and filler structures.	10M	4	L2
19	Explain other Planning Techniques in detail.	10M	5	L2
	OR			
20	Describe the Min-Max Algorithm and Alpha –beta Pruning.	10M	5	L2