R20 Regulation *Subject code:3O7HB*

TKR COLLEGE OF ENGINEERING AND TECHNOLOGY

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

B.Tech VII Semester Supplementary Examinations, May 2026

ARTIFICIAL INTELLIGENCE

(CSE(DS))

Maximum Marks: 70 Date: 07.05.2026 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	Define AI problem.	2M	1	L1
2	What is an AI technique?	2M	1	L1
3	What is matching?	2M	2	L1
4	What is resolution?	2M	2	L1
5	Define non- monotonic reasoning.	2M	3	L1
6	Define Conditional Probability.	2M	3	L1
7	Write about Frames?	2M	4	L1
8	Define Scripts.	2M	4	L1
9	Define Goal Stack planning.	2M	5	L1
10	Write about Hierarchical planning.	2M	5	L1

Part-B

Answer All the following questions. (5X10M=50Marks)		Marks	CO	BTL
11	Solve the following crypt arithmetic puzzle. Write constraint equations and find one solution using DFS by showing the steps involved in finding the solution. B A S E + B A L L --- G A M E S ---	10M	1	L2
	OR			
12	Explain the state space representation of water – jug problem.	10M	1	L2
13	(A)Convert the following sentences to wff in first order predicate logic. (i) No coat is water proof unless it has been specially treated. (ii) A drunker is enemy of himself. (iii) Any teacher is better than a lawyer. (iv) If x and y are both greater than zero, so is the product of x and y. (v)Every one in the purchasing department over 30 years is married.	5M	2	L2

	(B) Determine whether each of the following sentence is satisfiable, contradictory or valid. S1: $(p \vee q) \wedge (p \vee \sim q) \vee p$ S2: $p \rightarrow q \rightarrow \sim p$	5M		
	OR			
14	Describe how the search control knowledge proves the efficiency or search in a knowledge based systems.	10M	2	L2
15	What are the problems in implementing non-monotonic reasoning in problem solving?	10M	3	L2
	OR			
16	Explain logics for non-monotonic reasoning and implementation issues.	10M	3	L2
17	Explain in detail about Conceptual Dependency.	10M	4	L2
	OR			
18	Explain about CYC 216 in detail.	10M	4	L2
19	Discuss briefly about the Blocks World with suitable example.	10M	5	L2
	OR			
20	Describe the Min-Max Algorithm and Alpha –beta Pruning.	10M	5	L2