R20 Regulation *Subject code:* 3O7HB

TKR COLLEGE OF ENGINEERING AND TECHNOLOGY

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

B.Tech VII Semester Regular/Supplementary Examinations, December 2024

ARTIFICIAL INTELLIGENCE

(CSE(DS))

Maximum Marks: 70 Date:30.12.2024 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 which carries 10M.
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)		**CO**	**Bloom Tx**
1	Define artificial intelligence	1	L1
2	What is a heuristic search	1	L1
3	Define logic programming	2	L1
4	Differentiate procedural vs Declarative knowledge.	2	L1
5	Write the importance of a depth-first search.	3	L1
6	What is non-monotonic reasoning?	3	L1
7	Define weak slot and strong slot.	4	L1
8	Summarize the advantages of scripts?	4	L1
9	Write a short note on blocks world problem?	5	L2
10	Give the importance of references to specific games	5	L1

Part-B

Answer All the following questions. **(5X10M=50Marks)**		**CO**	**Bloom Tx**
11	a) Describe briefly the various problem characteristics [4M] b) Analyze the logic behind Hill climbing and Best -First search in detail [6M]	1	L1 L4
	OR		
12	Explain in detail about the Mean End analysis procedure with a suitable example [10M]	1	L2
13	a) Describe the issues in knowledge representation [5M] b) Explain the alpha-beta pruning procedure [5M]	2	L1 L2
	OR		
14	Illustrate in detail about forward and backward chaining with suitable example [10M]	2	L2
15	a) Discuss about Bayesian network in detail [5M] b) Explain about Dempster -Shafer theory in detail [5M]	3	L6 L2

	OR		
16	Compare Breadth-first search and Depth First search with suitable example [10M]	3	L2
17	a) Explain a simple conceptual dependency representation in detail [6M] b) Summarize the scripts with a suitable example [4M]	4	L2 L2
	OR		
18	a) Write a short note on the semantic network [5M] b) Outline the importance of CYC 216 [5M]	4	L1 L2
19	a) Illustrate the components of the planning system [5M] b) Discuss about Goal stack planning [5M]	5	L2 L6
	OR		
20	a) Explain about MINIMAX search procedure [6M] b) Discuss in detail about reactive systems [4M]	5	L2 L6