R20 Regulation *Subject code: 3P5GA*

TKR COLLEGE OF ENGINEERING AND TECHNOLOGY

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

B.Tech V Semester Supplementary Examinations, November 2025

INTRODUCTION TO AI & NEURAL NETWORKS

(CSE(AI&ML))

Maximum Marks: 70 Date: 18.11.2025 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	What are the problems underlying with AI?	2M	1	L1
2	Write about Intelligent Systems.	2M	1	L1
3	Write the approaches to Knowledge Representation.	2M	2	L1
4	Write in detail Representing Simple Facts in Logic.	2M	2	L1
5	What is Breadth first Search?	2M	3	L1
6	What is Symbolic Reasoning under Uncertainty?	2M	3	L1
7	What is Adaption in Neural Network?	2M	4	L1
8	What is the Learning Process?	2M	4	L1
9	Write the role of Single Layer Perceptrons.	2M	5	L1
10	Write Least Mean Square Algorithm.	2M	5	L1

Part-B

Answer All the following questions. (5X10M=50Marks)		Marks	CO	BTL
11	a) Define problem and mention its characteristics in detail. b) Explain Artificial Intelligence with its Problems.	5M 5M	1	L2
	OR			
12	a) Defining the Problem as a State Space Search. b) Explain Heuristic Search Techniques.	4M 6M	1	L2
13	Explain Representing Knowledge Using Rules.	10M	2	L2
	OR			
14	Explain Forward versus Backward Reasoning with example.	10M	2	L2
15	Discuss breadth first search in detail with its implementation.	10M	3	L2
	OR			
16	a) What is neural network and explain it with human brain. b) Explain about Artificial Intelligence and Neural network.	5M 5M	3	L2
17	a) Explain Boltzmann Learning in detail. b) Explain Learning with a Teacher and without a Teacher with an example.	4M 6M	4	L2

	OR			
18	Explain Statistical nature of the Learning Process in neural network.	10M	4	L2
19	Explain Learning Curves in single perceptron in detail.	10M	5	L2
	OR			
20	Justify the back propagation algorithm of multi-layered perceptron with its diagram.	10M	5	L2