R22 Regulation *Subject code:4P6GD*

TKR COLLEGE OF ENGINEERING AND TECHNOLOGY

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

B.Tech VI Semester Regular/Supplementary Examinations, April 2026

CONVERSATIONAL AI

(CSE(AI&ML))

Maximum Marks: 60 Date:21.04.2026 Duration: 3 hours

Note: **1.This question paper contains two parts A and B.**
2. Part A is compulsory which carries 10 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 (10X1M=10 Marks)		Marks	CO	Bloom Tx
1.a)	Define a dialogue system.	1M	CO1	L1
b)	What is meant by conversational modeling?	1M	CO1	L2
c)	List any two present-day applications of dialogue systems.	1M	CO1	L2
d)	What is rule-based dialogue technique?	1M	CO2	L1
e)	What is reinforcement learning in dialogue systems?	1M	CO3	L2
f)	Define Markov Decision Process (MDP).	1M	CO3	L1
g)	What is dialogue state tracking?	1M	CO3	L2
h)	What is PARADISE evaluation framework?	1M	CO4	L1
i)	What is Quality of Experience (QoE)?	1M	CO4	L2
j)	What is retrieval-based response generation?	1M	CO5	L1

Part-B

Answer All the following questions. (5X10M=50Marks)		Marks	CO	Bloom Tx
2	a) Explain the history and evolution of dialogue systems. b) Describe the process of modeling conversation in dialogue systems.	5M 5M	CO1 CO1	L2 L3
	OR			
3	a) Discuss the present-day applications of dialogue systems. b) Explain the design and development process of dialogue systems.	5M 5M	CO1 CO1	L2 L3
4	a) Explain the architecture of rule-based dialogue systems. b) Describe the tools used for developing dialogue systems.	5M 5M	CO2 CO2	L3 L2
	OR			
5	a) Explain the steps involved in designing a dialogue system. b) Discuss rule-based techniques used in dialogue systems.	5M 5M	CO2 CO2	L3 L3
6	a) Explain the statistical data-driven approach in dialogue systems. b) Describe how dialogue components work in statistical dialogue systems.	5M 5M	CO3 CO3	L3 L3

	OR			
7	a) Explain Reinforcement Learning in dialogue systems. b) Discuss the issues of Reinforcement Learning in POMDP-based dialogue systems.	5M 5M	CO3 CO3	L3 L4
8	a) Explain the process of evaluating dialogue systems. b) Discuss the evaluation of task-oriented dialogue systems.	5M 5M	CO4 CO4	L3 L3
	OR			
9	a) Explain evaluation frameworks such as PARADISE. b) Discuss the best methods for evaluating dialogue systems.	5M 5M	CO4 CO4	L3 L4
10	a) Explain neural network approaches to dialogue modeling. b) Describe the neural conversational model.	5M 5M	CO5 CO5	L3 L3
	OR			
11	a) Explain retrieval-based response generation in neural dialogue systems. b) Discuss the challenges and current solutions in neural dialogue systems.	5M 5M	CO5 CO5	L3 L4