



R22 Regulation

Subject code: 4B2AD

TKR COLLEGE OF ENGINEERING AND TECHNOLOGY

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

B.Tech II Semester Regular/Supplementary Examinations, June 2024

APPLIED CHEMISTRY

(Common to CE & EEE)

Maximum Marks: 60

Date: 02.07.2024 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)	CO	Bloom Tx
1	a	What are the hardness causing salts in water?	1	1
	b	How temporary hardness can be removed from water?	1	1
	c	Write the basic requirement for commercial batteries?	2	2
	d	What is primary battery?	2	1
	e	What are biodegradable polymers?	3	1
	f	Define conducting polymer.	3	1
	g	Distinguish between HCV and LCV	1	4
	h	List the composition of LPG.	1	4
	i	What is the significance flash point and fire point.	5	1
	j	Define Refractory.	5	1

Part-B

Answer All the following questions.		(5X10M=50 Marks)		
2	a) List the specifications of potable water. [5M] b) Explain about Reverse osmosis. [5M]		1	1 2
OR				
3	Outline the softening method of water by ion exchange process with neat diagram. [10M]		1	2
4	Explain the construction, charging and discharging reactions of lithium-ion battery and also write the applications of Li-ion battery. [10M]		2	2
OR				
5	What is Cathodic protection? What are the types of cathodic protection? Explain them. [10M]		2	2
6	Discuss the preparation, properties and applications of the following polymers. a) PVC b) Bakelite [5M+5M]			

		3	2
	OR		
7	a) Explain about natural rubber and its vulcanization. [5M] b) Explain the differences between thermo plastics and thermosetting plastics. [5M]	3 3	3 3
8	Give an account of the analysis of coal by ultimate analysis. [10M]	4	2
	OR		
9	Write an account on the refining of petroleum. [10M]	4	2
10	Explain the chemical reactions involved in setting and hardening of cement. [10M]	5	2
	OR		
11	a) Explain the mechanism of Extreme pressure lubrication. [5M] b) Explain the mechanism of thick film lubrication. [5M]	5 5	2 2