CMR TECHNICAL CAMPUS

UGC AUTONOMOUS

B. Tech. I Sem Regular & Supply End Examinations, January-2024

Engineering Chemistry

Common to CSE, IT, CSIT

Time: 3 Hours **Max. Marks: 60**

Note

i. This Question paper contains Part- A and Part- B.
ii. All the Questions in Part A are tc be answered compulsorily.
iii. All Questions from Part B are to be answered with internal choice among them.

****

PART-A

10 X 01 = 10 Marks

			Marks	CO	BL
1.	a	Define the hardness of water with units.	1	CO1	1
	b	Describe Caustic embrittlement.	1	CO1	1
	c	Define vulcanization of Natural Rubber.	1	CO2	1
	d	List any two advantages of polyvinyl alcohol.	1	CO2	1
	e	How do primary cells differ from secondary cells?	1	CO3	1
	f	Define Corrosion with an example.	1	CO3	1
	g	List any two uses of natural gas.	1	CO4	1
	h	What is Trans esterification?	1	CO4	1
	i	Define Lubricant with an example.	1	CO5	1
	j	List any two engineering applications of Poly L- Lactic acid.	1	CO5	1

PART- B

5 X 10 = 50 Marks

			Marks	CO	BL
2.	a	Discuss the formation, reasons, disadvantages, and prevention of sludge and scale.	5	CO1	2
	b	Explain Calgon conditioning and Phosphate conditioning.	5	CO1	2
		OR			
3	a	Explain the Steps involved in the treatment of potable water.	6	CO1	2
	b	Explain the Removal of F^- ion in water by Nalgonda method.	4	CO1	2
4	a	Discuss the Preparation, Properties and engineering applications of Bakelite.	5	CO2	2
	b	Differentiate thermoplastic and thermosetting polymers.	5	CO2	2
		OR			

Subject Code: 22CH102BS | SET-II | HT NO: | | | 7 | R | | | | | |

5	a	Explain Preparation, Properties and engineering applications of Thiokol rubber.	5	CO2	2
	b	Explain the mechanism of conduction for polyacetylene.	5	CO2	2
6	a	Discuss the Construction, working, and applications of Lithium Battery.	5	CO3	2
	b	What are the Fuel Cells? Discuss the principle involved in the working of methanol oxygen fuel cell.	5	CO3	2
		OR			
7	a	Explain the mechanism of electrochemical corrosion.	5	CO3	2
	b	Define Cathodic protection. Explain the Sacrificial anodic Protection method for controlling the corrosion of metals.	5	CO3	2
8	a	Explain the Ultimate analysis of coal.	5	CO4	2
	b	Explain moving bed catalytic cracking.	5	CO4	2
		OR			
9	a	Explain the process of refining petroleum.	5	CO4	2
	b	Discuss the preparation of synthetic petrol by Fischer Tropsch's process.	5	CO4	2
10	a	Explain the setting and hardening of Portland cement.	5	CO5	2
	b	Discuss the Preparation and engineering applications of Polyacryl amides and Polyvinyl amides.	5	CO5	2
		OR			
11	a	Illustrate the mechanism of thin film lubrication.	5	CO5	2
	b	Discuss the characteristics of good lubricants.	5	CO5	2

CO : Course Outcomes

BL : Bloom's Taxonomy Levels **L 1 : Remembering** **L 2 : Understanding**

L 3 : Applying **L 4 : Analysing**

L 5 : Evaluating **L 6 : Creating**

*****