Code No.: R22CH202BS	R22	H.T.No.			8	R						

CMR ENGINEERING COLLEGE: HYDERABAD
UGC AUTONOMOUS
I–B. TECH–II–Semester End Examinations (Supply) – December - 2025
Engineering Chemistry
(Common for ECE,IT,CSC, CSD, CSM)

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

Note: This question paper contains two parts A and B.
Part A is compulsory which carries 10 marks. Answer all questions in Part A.
Part B consists of 5 Units. Answer any one full question from each unit. Each question carries 10 marks and may have a, b, c as sub questions.

PART-A **(10 Marks)**

1.	a)	What are the specifications of potable water?	[1M]
	b)	Identify Break point Chlorination?	[1M]
	c)	What is meant by knocking?	[1M]
	d)	Find the composition of CNG & LPG.	[1M]
	e)	Define fuel cell and write its applications.	[1M]
	f)	Write Nernst's equation for single electrode potential.	[1M]
	g)	What is meant by Galvanic corrosion of metals.	[1M]
	h)	Write any two effects of corrosion of metals.	[1M]
	i)	Write various engineering applications of Smart materials.	[1M]
	j)	Define Biodegradable polymers.	[1M]

PART-B **(50 Marks)**

2.		Identify scale and sludge formation in boilers and write about the methods for prevention.	[10M]
		OR	
3.		Explain the principle of EDTA method? Describe the estimation of hardness of water by EDTA method.	[10M]
4.		What is refining of crude petroleum. Explain the various fractions obtained from petroleum and mention their industrial uses.	[10M]
		OR	
5.		Explain the determination of Ultimate analysis of coal and write its significance.	[10M]
6.		Explain the construction and working of H_2-O_2 fuel cell and write its advantages.	[10M]
		OR	
7.		Describe the construction and working of Calomel electrode with a neat diagram.	[10M]
8.		Define corrosion of metals. Explain the Electrochemical theory of wet corrosion, giving its mechanism.	[10M]
		OR	
9.		Write a short note on the following	
	a)	Impressed current cathodic method.	[5M]
	b)	Tinning	[5M]
10.		Classify the polymerization? Differentiate between Addition and Condensation polymerization with examples.	[10M]
		OR	
11.		Discuss the preparation, properties and applications of Bakelite and PVC.	[10M]

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