Code No.: CH202BS	R20	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 CSE, IT, CSD & CSC)

[Time: 3 Hours] **[Max. Marks: 70]**

Note: This question paper contains two parts A and B.
Part A is compulsory which carries 20 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 **(20 Marks)**

1.	a)	Write the structure of EDTA.	[2M]
	b)	What are temporary hardness causing salts?	[2M]
	c)	Why oxygen is paramagnetic?	[2M]
	d)	Differentiate n-doping and p-doping.	[2M]
	e)	Differentiate primary and secondary batteries.	[2M]
	f)	What are the applications of Hydrogen-Oxygen fuel cell?	[2M]
	g)	What is CNG, write its advantages?	[2M]
	h)	Define cracking and knocking.	[2M]
	i)	Define electroless plating.	[2M]
	j)	Write the preparation method for Dacron.	[2M]

PART-B **(50 Marks)**

2.		Explain the process of disinfection of potable water and give an account of Break point Chlorination.	[10M]
		OR	
3.		Explain Ion exchange process used to softening the water.	[10M]
4.		How does atomic orbitals combine according to LCAO method.	[10M]
		OR	
5.		Draw the molecular orbital diagrams of Nitrogen and Fluorine.	[10M]
6.		What is fuel cell , explain Methanol-Oxygen fuel cell and its applications.	[10M]
		OR	
7.		Describe the construction and working of quinhydrone electrode ,How can we determine P^H of a solution by using quinhydrone electrode	[10M]
8.		What is synthetic petrol , How will you manufacture petrol by Fischer Tropsch's method	[10M]
		OR	
9.		Explain analysis of Flue gas by Orsat's method	[10M]
10.		Write short notes on	
	a)	Sacrificial anode method.	[5M]
	b)	Impressed current cathodic method.	[5M]
		OR	
11.		Explain Electrochemical Corrosion with mechanism.	[10M]

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