Code No: R13104 (R13)

I B. Tech I Semester Supplementary Examinations, August/Sep - 2022 ENGINEERING CHEMISTRY

SET - 1

(Com. to CE,ME,CSE,PCE,IT,ChemE,AeroE,AME,Min E,PE,Metal E,Textile Engg.)

Time: 3 hours Max. Marks: 70

Note: 1. Question Paper consists of two parts (Part-A and Part-B)

2. Answering **ALL** the questions in **Part-A** is Compulsory

3. Answer any **THREE** Questions from **Part-B**

PART -A

1.	a)	How can priming and foaming be avoided from boiler water?	(3M)
	b)	Explain how fuel cell differs from battery.	(4M)
	c)	Explain how solubility of corrosion products and nature of surface film influence corrosion.	(4M)
	d)	Explain extrusion moulding method of plastics.	(4M)
	e)	Define calorific value and explain its units.	(3M)
	f)	Explain cholesteric liquid crystals.	(4M)
		<u>PART –B</u>	
2.	a)	Write the advantages and disadvantages of plastics.	(8M)
	b)	Explain how petroleum is refined?	(8M)
3.	a)	Describe the reactions occurring in lime soda process.	(8M)
	b)	What is concentration cell? Derive the equation for emf of concentration cell without transference with an example.	(8M)
4.	a)	Describe proximate analysis of coal.	(8M)
	b)	What are green house gases? Explain how they affect the environment.	(8M)
5.	a)	Describe (i) impressed current cathodic protection (ii) Tinning	(8M)
	b)	Discuss how caustic embrittlement is formed and remedies to minimize it.	(8M)
6.	a)	Explain (i) application of Kohlrausch' Law in determination of degree of dissociation (ii) conductometric titration between strong acid against weak base.	(8M)
	b)	Discuss the preparation and properties of Bakelite.	(8M)
7.	a) b)	Explain any two methods for preparation of carbon naotubes. Discuss electrochemical theory of corrosion	(8M)