Code No: R13104 **R13** SET - 1

I B. Tech I Semester Supplementary Examinations, December - 2021
ENGINEERING CHEMISTRY
(Com. to CE,ME,CSE,PCE,IT,Chem E,Aero E,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 the question in **Part-A** is Compulsory
3. Answer any **THREE** Questions from **Part-B**

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PART –A

1.	a)	Give reasons why hard water is not suitable in boilers.	(3M)
	b)	Discuss the applications of electrochemical series.	(4M)
	c)	Zn, Al, Pb, Ni. Write the increasing order of corrosion. Give reason.	(3M)
	d)	What are stereoregular polymers? How they are different when compared to normal polymers.	(4M)
	e)	Discuss how CNG is a better fuel compared to petrol.	(4M)
	f)	Explain engineering applications of CNTs.	(4M)

PART -B

2.	a)	Discuss ion-exchange method for softening of hard water.	(8M)
	b)	Explain galvanic cell and concentration cell with neat labeled figures.	(8M)
3.	a)	Discuss the working of primary and secondary batteries taking one example for each.	(8M)
	b)	Explain the additives added in compounding of rubber?	(8M)
4.	a)	Preparation and properties of Bakelite?	(8M)
	b)	What is potable water? Discuss about sterilization and disinfection.	(8M)
5.	a)	Discuss the preparation and properties of polyvinyl chloride.	(8M)
	b)	Write notes on (i) diesel knocking (ii) LPG	(8M)
6.	a)	Explain estimation of moisture, volatile matter and fixed carbon by proximate analysis? Give its significance.	(8M)
	b)	What are liquid crystals? Give the applications of liquid crystals.	(8M)
7.	a)	Explain arc discharge and chemical vapour deposition method for preparation of nanoparticles.	(8M)
	b)	Explain sacrificial anodic and impressed current cathodic protection method.	(8M)
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