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Reg.No.:

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VIVEKANANDHA COLLEGE OF ENGINEERING FOR WOMEN
[AUTONOMOUS INSTITUTION AFFILIATED TO ANNA UNIVERSITY, CHENNAI]
Elayampalayam – 637 205, Tiruchengode, Namakkal Dt., Tamil Nadu.

Question Paper Code: 40004

B.E. / B.Tech. DEGREE END-SEMESTER EXAMINATIONS – JAN. / FEB. 2026
Second Semester

Computer Science and Engineering
U23CH201 – ENGINEERING CHEMISTRY
(Common to CST, IT, BT and AI & DS)
(Regulation 2023)

Time : Three Hours

Maximum : 100 Marks

Answer ALL the questions

Knowledge Levels (KL)	K1 – Remembering	K3 – Applying	K5 - Evaluating
	K2 – Understanding	K4 – Analyzing	K6 - Creating

PART – A

(10 x 2 = 20 Marks)

Q.No.	Questions	Marks	KL	CO
1.	Mention the salts responsible for the temporary hardness of water.	2	K1	CO1
2.	List out the reasons for boiler corrosion.	2	K3	CO1
3.	Classify the types of polymers based on the tacticity.	2	K2	CO2
4.	Write the steps involved in free radical mechanism.	2	K2	CO2
5.	Write about Magic number in nanoclusters.	2	K2	CO3
6.	Mention the types of Carbon nanotubes.	2	K2	CO3
7.	Write the discharge reactions of lead storage accumulator.	2	K2	CO4
8.	List the applications of Lithium Sulphur Battery.	2	K1	CO4
9.	What is oxidation corrosion?	2	K2	CO5
10.	State the role of Zinc in sacrificial anodic protection.	2	K3	CO5

PART – B

(5 x 16 = 80 Marks)

Q.No.	Questions	Marks	KL	CO
11. a)	i. Determine the Hardness of Unknown water sample by EDTA method.	10	K3	CO1
	ii. Write a note on colloidal and Calgon conditioning methods.	6	K2	CO1

		(OR)			
b)	i.	Construct the Permutit process of water softening with suitable reactions.	10	K3	CO1
	ii.	Discuss the reverse osmosis process for the desalination of brackish water.	6	K3	CO1
12.	a)	i.	8	K2	CO2
		Distinguish between addition polymerization and condensation polymerization.			
		ii.	8	K2	CO2
		Explain the preparation, properties and uses of PVC & Nylon 6,6.			
		(OR)			
b)	i.	Explain Novaloc and Resol structures of Bakelite with a neat diagram.	8	K3	CO2
	ii.	Write a note on the properties of Engineering plastics.	8	K3	CO2
13.	a)	Confer in detail about the Spray pyrolysis and LASER ablation method of synthesizing nanoparticles.	16	K3	CO3
		(OR)			
b)	i.	Explain the synthesis of nanomaterials by chemical vapour deposition technique.	8	K1	CO3
	ii.	Point out the applications of nano materials in medicine and electronics field.	8	K3	CO3
14.	a)	i.	8	K3	CO4
		Explain the working principle of Nuclear power plant.			
		ii.	8		
		Discuss the components of nuclear reactor and occurrence of nuclear chain reaction.			
		(OR)			
b)	i.	Explain the construction and working of Hydrogen- Oxygen fuel cell with the cell reaction and its advantages.	8	K2	CO4
	ii.	Illustrate the components and working of wind power plants.	8	K2	CO4
15.	a)	Discuss the factors influencing rate of corrosion in detail.	16	K3	CO5
		(OR)			
b)	i.	Describe the process of electroplating of gold with suitable reactions.	8	K2	CO5
	ii.	Enumerate the Constituents and functions of Paints.	8	K3	CO5