

THE KAVERY ENGINEERING COLLEGE*(An Autonomous Institution)***B.E/B.TECH DEGREE END SEMESTER THEORY EXAMINATIONS, APRIL-MAY 2025***First Semester***CY3151/UCHT24104-Engineering Chemistry****(Common to all Branches)****Regulations – 2021/2024****Duration : 3 Hrs****Maximum : 100 Marks****PART – A (ANSWER ALL QUESTIONS) (Marks 10*2=20)**

Q.No	Questions	BLT	CO	Marks
1.	Differentiate hard water and soft water.	L2	1	2
2.	What are boiler compounds? Give examples.	L1	1	2
3.	Define magic number.	L1	2	2
4.	Outline the application of nano materials in medicine and electronics.	L2	2	2
5.	State reduced phase rule.	L1	3	2
6.	What are hybrid composites?	L1	3	2
7.	Classify the types of fuels with examples.	L2	4	2
8.	Define carbon footprint.	L1	4	2
9.	State the principle of nuclear reactor.	L2	5	2
10.	Give the advantages of Li battery.	L2	5	2

PART – B (ANSWER ALL QUESTIONS) (Marks 5*16 = 80)

Q.No	Questions	BLT	CO	Marks
11.	a i Explain the various stages of municipal water treatment.	L2	1	10
	i Explain the significance of hardness and alkalinity in water.	L2	1	6
	Or			
	b Explain demineralisation process with a neat diagram.	L2	1	16
12.	a i Distinguish between molecule, nanoparticle and bulk materials.	L2	2	8
	i Describe the size dependent properties of nano materials.	L2	2	8
	Or			
	b Explain the synthesis of nano materials by laser ablation and chemical vapour deposition process.	L2	2	16
13.	a Explain two component system using Pb and Ag as examples with a neat phase diagram.	L2	3	16

Or

	b	Describe the properties and uses of polymer matrix composites.	L2	3	16
14.	a	How would you recover the by-products from coal? Explain the method in detail.	L3	4	16
		Or			
	b	How would you analyse the flue gas by Orsat method?	L3	4	16
15.	a	With a neat diagram explain the principle, components and working of LWNP.	L2	5	16
		Or			
	b	Explain the principle and working of MFC. Give its applications.	L2	5	16