AR20

CODE:20DSHT107 SET-I

ADITYA INSTITUTE OF TECHNOLOGY AND MANAGEMENT,TEKKALI
(AUTONOMOUS)
I B.Tech I Semester Regular Examination, April-2024
CHEMISTRY
INFORMATION TECHNOLOGY

Time: 3 hours Max Marks: 60

Answer ONE Question from each Unit
All Questions Carry Equal Marks
All parts of the Question must be answered at one place

		Marks	CO	Blooms Level
	UNIT-1			
1.	(a) Explain the concept of equilibrium in chemical reactions and its application.	5	CO1	l3,l4,l5
	(b) Illustrate Break point chlorination. Write its advantages.	5	CO1	l3,l4,l5
	(OR)			
2.	(a) Explain how the water is softened by Ion-Exchange method? Explain with neat diagram and relevant equations.	5	CO1	l1
	(b) Explain the concept of equilibrium in chemical reactions and its application.	5	CO1	l3,l4,l5
	UNIT-2			
3.	(a) Discuss about various types of absorption and intensity shifts in UV - visible spectroscopy	5	CO2	l1,l3
	(b) Explore the properties and applications of colloids in chemistry.	5	CO2	l4,l6
	(OR)			
4.	(a) Explain the concept of reactivity in organic chemistry and the factors that influence the outcome of organic reactions.	5	CO2	l2,l3,l5
	(b) Discuss the role of catalysts in chemical reactions and provide examples.	5	CO2	l3,l4,l6
	UNIT-3			
5.	(a) Explore the concept of kinetics in chemical reactions and the factors that influence reaction rates.	5	CO3	l1,l3
	(b) Explain the concept of molecular orbital theory and its application to understanding the electronic structure of molecules.	5	CO3	l3,l5
	(OR)			
6.	(a) Illustrate the following methods (a) Injection moulding (b) Extrusion moulding of polymers	5	CO3	l3,l6
	(b) Explore the concept of resonance in organic molecules and its implications for chemical reactivity.	5	CO3	l6
	UNIT-4			
7.	(a) Discuss the principles of phase equilibria and the behavior of substances in different phases (solid, liquid, gas).	5	CO4	l1,l6
	(b) Explain the reaction and mechanism of EN1 and EN2 reactions with examples.	5	CO4	l5
	(OR)			
8.	(a) Investigate the various methods of separating mixtures in analytical chemistry.	5	CO4	l2,l3,l4
	(b) Discuss the principles of chemical equilibrium and the factors that affect the position of equilibrium in reactions.	5	CO4	l2
	UNIT-5			
9.	(a) Error: Invalid data format	5	CO5	l6
	(b) Describe the methods used in chemical analysis, including spectroscopic techniques and chromatography.	5	CO5	l5,l6
	(OR)			
10.	(a) Discuss the principles of chromatography and its applications in chemical analysis.	5	CO5	l6
	(b) Explain the concept of valence bond theory and its application to molecular geometry.	5	CO5	l4,l6
	UNIT-6			
11.	(a) Elaborate on the different types of spectroscopy and their uses in identifying compounds.	5	CO6	l1,l2
	(b) Explore the concept of stereochemistry and its importance in drug design, catalysis, and materials science.	5	CO6	l2,l3,l4

			Marks	CO	Blooms Level
		(OR)			
12.	(a)	Illustrate the construction and working of alkaline dry battery with relevant chemical equations and neat diagram.	5	CO6	l4
	(b)	Compare batteries with supercapacitors.	5	CO6	l3,l6