LOYOLA COLLEGE (AUTONOMOUS) CHENNAI – 600 034

U.G. DEGREE EXAMINATION – **ALLIED**

SECOND SEMESTER – **APRIL 2025**

UCH2AR01 – CHEMISTRY FOR BIOLOGY

Date: 05-05-2025 Dept. No. Max. : 100 Marks

Time: 09:00 AM - 12:00 PM

		SECTION A - K1 & K2 (CO1)
Q.No	Levels	**Answer ALL the Questions** **(10 x 2 = 20)**
1	K1	Give the preparation of tartar emetic.
2		Write any two factors that affect R_f value.
3		Define mole fraction of a solute.
4		List the factors influencing the formation of an ionic bond.
5		Define vulcanization of rubber.
6	K2	The universal antidote is a mixture of _____, magnesium oxide, and tannic acid.
7		Distillation is used to separate components based on differences in their _____.
8		The ionic product of water at 25°C is _____.
9		Covalent compounds are soluble in _____ solvents.
10		Polymers are large molecules formed by the repeated linking of small units called _____.
		SECTION B – K3 & K4 (CO2)
		Answer ALL the Questions **(4 x 10 = 40)**
11	K3	List the general rules to be followed for the storage and handling of acids, toxic and poisonous chemicals.
		[OR]
12		a) Discuss the guidelines for the disposal of chemical waste. b) Apply a suitable method for the purification of crude sample of camphor. (5+5)
13		Illustrate the principle, procedure and applications of gel electrophoresis technique.
		[OR]
14		Classify and explain the different types of buffer solutions and the mechanism of buffering action.
15	K4	Outline the types of hydrogen bonding and their impact on the properties of compounds.
		[OR]
16		Discuss the characteristics of covalent compounds with suitable examples.
17		a) Write a short note on biodegradable polymers. b) Illustrate the role of chromophore and auxochrome in dyes. (5+5)
		[OR]
18		Classify polymers based on their source. Write the preparation, properties and uses of Nylon-6,6 and Buna-S.

SECTION C – K5 & K6 (CO3)		
	Answer ALL the Questions	**(2 x 20 = 40)**
19	K5	a) Explain the qualitative tests used to identify peroxide in ether. How is it removed? b) Outline the importance of MSDS of a chemical. c) Describe the first aid procedure for the spill of acids and bases on the skin. (6+10+4)
		[OR]
20		a) Describe the principle, experimental procedure and applications of thin layer chromatography. b) Write the principle of fractional distillation process. c) Cite the methods of eliminating and minimizing errors in data analysis. (10+4+6)
21	K6	Sketch the structure and illustrate the functions of haemoglobin and chlorophyll.
		[OR]
22		a) Explain the differences between thermoplastics and thermosetting plastics with examples and their applications. b) Classify and explain the types of dyes based on their applications. c) Describe the saponification process for the manufacture of soap. (7+8+5)
