LOYOLA COLLEGE (AUTONOMOUS) CHENNAI – 600 034

U.G. DEGREE EXAMINATION – **ALLIED**

SECOND SEMESTER – **APRIL 2025**

UCH 2301 – CHEMISTRY FOR BIOLOGY

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

Time: 09:00 AM - 12:00 PM

	SECTION A - K1 (CO1)	
	Answer ALL the Questions	**(10 x 1 = 10)**
1.	**Define the following**	
a)	Antidote	
b)	R_f value	
c)	ppm	
d)	Ionic bond	
e)	Polymer	
2.	**Answer the following**	
a)	What is universal antidote?	
b)	Write the adsorbents used in column chromatography.	
c)	Define Molarity.	
d)	Write the characteristics of covalent compounds.	
e)	Give an example of biodegradable polymer.	
	SECTION A - K2 (CO1)	
	Answer ALL the Questions	**(10 x 1 = 10)**
3.	**True or False**	
a)	LPG refers to liquid petrol gas.	
b)	Benzoic acid can be purified by recrystallization method.	
c)	Precision represents the reproducibility of a measurement.	
d)	Sodium chloride is an example of covalent compound.	
e)	Polymers are made up of repeating units called monomers.	
4.	**Match the following**	
a)	Arsenic - Soap	
b)	Distillation - Electrostatic force of attraction	
c)	Phenolphthalein - Boiling point	
d)	Ionic compound - Toxic and poisonous chemical	
e)	Saponification - Indicator	
	SECTION B - K3 (CO2)	
Answer any TWO of the following		**(2 x 10 = 20)**
5.	List the general rules to be followed for the storage and handling of acids, toxic and poisonous chemicals.	
6.	Discuss the principle and procedure involved in the purification of liquids by distillation process with a neat diagram.	
7.	Illustrate the different types of titrations with examples.	
8.	a) Explain the factors influencing the formation of ionic compounds. b) Describe the pasteurization of milk.	(5+5)

SECTION C – K4 (CO3)		
Answer any TWO of the following		**(2 x 10 = 20)**
9.	a) What are the first aid techniques to be followed in the laboratory? b) Write the principle involved in Gel electrophoresis.	(5+5)
10.	What is a buffer solution? Give its types and explain the mechanism of buffer action.	
11.	Outline the different types of hydrogen bonding with suitable examples.	
12.	What are dyes? Give the classification of dyes based on application.	
SECTION D – K5 (CO4)		
Answer any ONE of the following		**(1 x 20 = 20)**
13.	a) Illustrate the importance of MSDS of a chemical. b) Describe the different types of indicators used in titrations.	(10+10)
14.	a) Write the principle of Steam distillation process. b) Sketch the structure of chlorophyll and illustrate its functions in photosynthesis. c) Explain the process of vulcanization of rubber.	(5+10+5)
SECTION E – K6 (CO5)		
Answer any ONE of the following		**(1 x 20 = 20)**
15.	a) Describe the principle, experimental procedure and applications of thin layer chromatography technique. b) Classify and explain the different types of errors in data analysis.	(10+10)
16.	a) What are the qualitative tests used to identify peroxide in ether? b) Sketch the structure and illustrate the functions of haemoglobin. c) Explain the cleansing action of soaps and detergents.	(5+5+10)
