LOYOLA COLLEGE (AUTONOMOUS), CHENNAI – 600 034

U.G. DEGREE EXAMINATION – **ALLIED**

SECOND SEMESTER – **APRIL 2023**

UCH 2301 – CHEMISTRY FOR BIOLOGY

Date: 10-05-2023 Dept. No. Max. : 100 Marks

Time: 01:00 PM - 04:00 PM

Part-A

Answer ALL questions. **(10 × 2 = 20)**

1. Define universal antidote.
2. Write the composition of LPG.
3. Mention the stationary and mobile phases of thin layer chromatography.
4. List the characteristics of a solvent to be used for recrystallization.
5. State the law of volumetric analysis.
6. Differentiate accuracy and precision.
7. Write the characteristics of ionic compound.
8. What are ambidendate ligands? Cite an example.
9. What are biodegradable polymers? Give an example.
10. Define the term 'saponification'.

Part-B

Answer any EIGHT questions. **(8 × 5 = 40)**

11. Illustrate the general rules observed in the storage and handling of chemicals.
12. Describe the first aid procedure to be followed in the laboratory.
13. Discuss the various steps involved in recrystallization.
14. Describe the principle and technique used in steam distillation process.
15. How is paper chromatographic separation carried out?
16. Define the following terms (i) molarity (ii) ppb (iii) ppm
17. Discuss the mechanism of acidic buffer.
18. Calculate the normality when 126 g of oxalic acid dihydrate is made up in 1 Litre of water.
19. Explain the factors influencing the formation of ionic bond.
20. Describe the inter and intra molecular hydrogen bonding with suitable examples.
21. What are synthetic polymers? Mention its advantages and disadvantages.
22. Describe the mechanism of cleansing action of soaps.

Part-C

Answer any FOUR questions. **(4 × 10 = 40)**

23a. Mention the importance of MSDS of a chemical.

b. How are toxic and poisonous chemicals stored in the laboratory? (5+5)

24. Explain in detail how the components of a mixture can be separated using column chromatography.

25. Describe the types of errors and the methods to minimize them.

26a. Explain the different types of titrations with an example for each.

b. Calculate the pH of 0.01 N NaOH. (8+2)

27. Give the structure and functions of the following (i) Chlorophyll (ii) Haemoglobin. (5+5)

28a. What are dyes? How are they classified based on application?

b. Outline the process of homogenization of milk. (7+3)

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