27/7/2023

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Reg. No. : .....

Name : ..... Batch : 2021-23

Fourth Semester M.Sc. Degree Examination, July 2023

Analytical Chemistry

CL 242 : APPLIED ANALYTICAL CHEMISTRY

(2020 Admission Onwards)

Time : 3 Hours Max. Marks : 75

SECTION – A

Answer any **two** among a, b, c from each question. Each sub question carries **2** marks

1. (a) What is isotope dilution analysis?

   (b) Explain the principle of radiometric titration

   (c) What are radio isotopes?

2. (a) Define iodine value

   (b) What is peroxide number?

   (c) Suggest two examples for Chlorinated organic pesticides

3. (a) What are antidotes, explain with example

   (b) What is the composition of bullet?

   (c) Explain the physiological effects of morphine

P.T.O.

4. (a) What are antipyretics?

   (b) Explain the method for blood sugar determination

   (c) Explain the importance of enzyme – tyrosinase in biological function

5. (a) What is the principle of XPS?

   (b) What are the disadvantages of AAS?

   (c) Write the basic theory on X-ray fluorescence.

(10 × 2 = 20 Marks)

SECTION – B

Answer either a or b from each question. Each question carries **5** marks

6. (a) Explain thermometric titrimetry.

   (b) Describe radioactive tracer techniques.

7. (a) Discuss Karl-Fischer titration for moisture determination.

   (b) What are the analysis for finding adulteration in milk?

8. (a) Explain the basic principle and importance of Forensic analysis.

   (b) Distinguish between LD_{50} and LC_{50}.

9. (a) What are the methods for enzyme analysis?

   (b) Explain the method for the determination of cholesterol.

10. (a) Discuss the principle and application of flame spectrometry.

    (b) Briefly explain principle and application of ICP-AES analysis.

(5 × 5 = 25 Marks)

SECTION – C

Answer any **three**. Each question carries **10** marks.

11. Illustrate on principle, instrumentation and detectors of atomic absorption spectroscopic analysis.

12. Give a description on various analysis on alcoholic beverages.

13. Elaborate on DNA finger printing.

14. Explain common types of food adulterant and their determination.

15. Comment on applications of radioisotope in various fields.

(3 × 10 = 30 Marks)
