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N – 6259

Reg. No. :

Name :

Fourth Semester M.Sc. Degree Examination, June 2022

Analytical Chemistry

CL 242 : APPLIED ANALYTICAL CHEMISTRY

(2020 Admission)

Time : 3 Hours

Max. Marks : 75

SECTION – A

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

1. (a) What is the principle behind dynamic mechanical analysis?
(b) What are the methods for nuclear waste disposal?
(c) Explain principle behind thermo-mechanical analysis.
2. (a) Explain Duman method for crude protein analysis.
(b) What is Nelson-Somogyi method for determination of reducing sugar?
(c) Define saponification value.
3. (a) What are the analysis of blood serum?
(b) Explain the physiological effects due to Hashish?
(c) What is the meaning of forensic ballistics?

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4. (a) Comment on biological significance of enzyme pepsin.
(b) What are anti-histamine drugs?
(c) What are the reagents used for blood sugar determination.
5. (a) Explain theory behind molecular fluorescence.
(b) Explain the advantages of atomic absorption spectroscopy.
(c) Give a briefing on plasma emission spectroscopy.

(10 × 2 = 20 Marks)

SECTION – B

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

6. (a) Explain the method for the estimation of urea and on its interpretation.
(b) Briefly explain the analysis of antibiotics.
7. (a) Explain radiometric titration curve taking suitable example.
(b) Discuss various procedures for radiation safety and precaution.
8. (a) Write about the various methods for the estimation of fat content in food.
(b) Describe the process of rancidity and its detection method.
9. (a) Discuss the mode of action of cyanide poisoning.
(b) Describe the method for steroid detection.
10. (a) Elaborate on atomic emission spectroscopy.
(b) Explain how X-ray photoelectron spectroscopy can be used for chemical analysis.

(5 × 5 = 25 Marks)

SECTION – C

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

11. Elaborate on neutron activation analysis and its applications.
12. Comment on various types of pesticide residue in food and its determination.
13. Discuss on types of analysis of biological substances
 - (a) Blood
 - (b) Urine
14. Describe on modern methods of drug analysis.
15. Illustrate on theory, instrumentation, types of burners and application of flame Spectrometry.

(3 × 10 = 30 Marks)

