

Roll No. Total No. of Printed Pages : 4

Code No. : B04-302

Fourth Semester Online Examination, May-June, 2022

M. Sc. CHEMISTRY

Paper III

ANALYTICAL CHEMISTRY

Time : Three Hours] [Maximum Marks : 80

Note : ● Part A and B of each question in each unit consist of very short answer type questions which are to be answered in one or two sentences.

● Part C (Short answer type) and D (Long answer type) of each question should be answered within the word limit 200-250 and 400-450 words.

Unit-I

1. (A) Define mean and median. 2
- (B) Define the term precision. 2
- (C) Describe the role of analytical chemistry in research ? 4

Or

Discuss various steps involved in quantitative analysis.

P. T. O.

Code No. : B04-302

- (D) Describe a method for calibration of burette and pipette ? 12

Or

Describe various types and sources of errors ?

Unit-II

2. (A) What is the composition of blood ? 2
- (B) What are narcotics and dangerous drugs ? 2
- (C) Explain a method of chemical analysis of blood urea nitrogen. 4

Or

How will you estimate total serum protein.

- (D) Describe the method to determine albumin and globulin in blood serum. 12

Or

How can blood samples be screened for the presence of drugs by GC-MS.

Unit-III

3. (A) What is the difference between food adulteration and contamination ? 2

[2]

Code No. : B04-302

- (B) What are the common food adulterants ? 2
(C) Explain a procedure for estimation of calcium in food samples. 4

Or

How will you identify pesticides in food by TLC ?

- (D) What is crude protein ? Describe a method for analysis of casein in butter and ghee sample. 12

Or

How will you determine organophosphates by GC ?

Unit-IV

4. (A) Define flash point. 2
(B) Why is Net Calorific Value (NCV) less than Gross Calorific Value (GCV) ? 2
(C) Write a short note on G.M. counter. 4

Or

What is meant by proximate and ultimate analysis of coal ? Discuss their significance.

Code No. : B04-302

- (D) Describe the principle and application of neutron activation analysis. 12

Or

Describe the counting technique with special reference to GM counter and proportional counter.

□ □ □ □ □ d □ □ □ □ □