

Enrollment No: \_\_\_\_\_

Exam Seat No: \_\_\_\_\_

# C. U. SHAH UNIVERSITY

## Summer Examination-2020

Subject Name: Analytical Chemistry-I

Subject Code: 5SC01ACH1

Branch: M.Sc. (Chemistry)

Semester: 1

Date: 02/03/2020

Time: 02:30 To 05:30

Marks: 70

**Instructions:**

- (1) Use of Programmable calculator and any other electronic instrument is prohibited.
  - (2) Instructions written on main answer book are strictly to be obeyed.
  - (3) Draw neat diagrams and figures (if necessary) at right places.
  - (4) Assume suitable data if needed.
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**SECTION – I**

- Q-1      Attempt the Following questions      (07)**
- A) Define qualitative analysis      **01**  
B) What do you mean by spectroscopy?      **01**  
C) What is known as electromagnetic radiation?      **01**  
D) Define analytical chemistry      **01**  
E) What is known as food analysis?      **01**  
F) What is called wavelength?      **01**  
G) Define the term calibration      **01**
- Q-2      Attempt all questions      (14)**
- A) Discuss the classification of analytical techniques.      **07**  
B) Write a note on spectrophotometers in detail.      **07**
- OR**
- Q-2      Attempt all questions      (14)**
- A) Discuss the purposes and methods of calibration.      **07**  
B) Explain various wavelength selecting devices.      **07**
- Q-3      Attempt all questions      (14)**
- A) Explain Lambert's law.      **05**  
B) Discuss the Karl Fischer titration method in detail.      **05**  
C) Explain the Ultraviolet absorption method for analysis of protein.      **04**
- OR**
- Q-3      Attempt all questions**
- A) Explain the various properties of light in detail.      **05**  
B) Discuss the Kjeldahl method in detail.      **05**  
C) Explain the analysis of sodium from food sample.      **04**



## SECTION – II

- Q-4          Attempt the Following questions          (07)**
- A) What is known as standardization?          01
  - B) Write the equations for normality and formality.          01
  - C) Define the term: titration.          01
  - D) What is called precipitation technique?          01
  - E) Which analytical technique is used for serum and body fluids analysis?          01
  - F) How to prepare 1.0 L solution of  $K_2Cr_2O_7$  having normality of 0.1N?          01
  - G) Give the name of any one indicator used in complexometric titration.          01
- Q-5          Attempt all questions          (14)**
- A) Explain Jablonski diagram in detail.          05
  - B) Discuss solubility product.          05
  - C) Write a note on common ion effect.          04
- OR**
- Q-5          Attempt all questions          (14)**
- A) Explain the instrumentation of nephelometry.          05
  - B) Discuss the acid-base titrations in detail.          05
  - C) Give the applications of fluorimetry and phosphorimetry.          04
- Q-6          Attempt all questions          (14)**
- A) Explain the principle, instrumentation and applications of turbidimetry.          07
  - B) Discuss the primary and secondary standards in details.          07
- OR**
- Q-6          Attempt all Questions          (14)**
- A) Write a note on instrumentation and working of atomic absorption spectroscopy.          07
  - B) Discuss the types of error and write methods for minimization of errors.          07

