

# C.U.SHAH UNIVERSITY

## Winter Examination-2021

**Subject Name: Industrial Analytical Chemistry**

**Subject Code: 5SC03IAC1**

**Branch: M.Sc. (Chemistry)**

**Semester: 3**

**Date: 13/12/2021**

**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 What are known as automatic instruments? 1
  - b What is called process analytical chemistry? 1
  - c Give name of six major constituents present in different foods. 1
  - d What do you mean by on-line analysis? 1
  - e What is called continuous instruments? 1
  - f Define food analysis 1
  - g What is known as Iodine value? 1
- Q-2 Attempt all questions (14)**
- a Explain instruments used and feed-back mechanism in automated process control. 07
  - b Discuss the feed-back mechanism with control loop. 07
- OR**
- Q-2 Attempt all questions (14)**
- a Discuss the principle and instrument of flow injection analysis. 09
  - b Explain the determination of the saponification value. 05
- Q-3 Attempt all questions (14)**
- a Explain the Kjeldahl's method for the determination of protein content in food. 05
  - b Discuss the six major constituents in food analysis. 05
  - c Discuss the regulations and internal standards for food analysis. 04



OR

- Q-3 Attempt all questions (14)**
- a What is dispersion coefficient? Explain the factors affecting dispersion. 07
  - b Discuss the determination of water content from food in detail. 07

**SECTION – II**

- Q-4 Attempt the Following questions (07)**
- a What do you mean by eutrophication? 01
  - b Define pesticides 01
  - c How fertilizer deteriorates soil quality? 01
  - d Give the wavelength of aldrin. 01
  - e What is known as anti-diabetic drug? 01
  - f Give any two names of detectors used with HPLC. 01
  - g What do you mean by NPK value of fertilizer? 01

- Q-5 Attempt all questions (14)**
- a Discuss the classification of fertilizers. 07
  - b Write a note on analysis of: (i) DDT and (ii) Parathion. 07

OR

- Q-5 Attempt all questions (14)**
- a Give the classification of detergents in detail. 07
  - b Explain the analysis of phosphate from fertilizer sample. 07

- Q-6 Attempt all questions (14)**
- a Explain the analysis of anti malarial drugs with one example. 07
  - b Discuss the analysis of anticancer drugs with one example. 07

OR

- Q-6 Attempt all questions (14)**
- a Explain the heavy metal ion analysis in pharmaceuticals. 08
  - b Write a note on the analysis of ammonia from fertilizers sample. 06

