

C. U. SHAH UNIVERSITY

Summer Examination-2020

Subject Name : Analytical Chemistry-II

Subject Code : 4SC05ACH1

Branch: B.Sc. (Chemistry)

Semester : 5

Date : 04/03/2020

Time : 10:30 To 01:30

Marks : 70

Instructions:

- (1) Use of Programmable calculator & 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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- Q-1 Attempt the following questions: (14)**
- a) Define : Error **01**
 - b) Find the mean and median for the given set of data: **01**
21.5, 21.8, 21.3, 21.7, 21.0
 - c) Define : Precision **01**
 - d) Define : Molarity **01**
 - e) What do you mean by quantitative analysis? **01**
 - f) Define : Argentometric titration **01**
 - g) Write a statement of Grothus Draper Law. **01**
 - h) Define : Soluble Salt **01**
 - i) Define : Range **01**
 - j) What do you mean by conductance? **01**
 - k) Write a statement of Ohm's law? **01**
 - l) Define : Indicator **01**
 - m) Give any two examples of Primary standard. **01**
 - n) Define: Standard deviation. **01**

Attempt any four questions from Q-2 to Q-8

- Q-2 Attempt all questions (14)**
- a. Discuss Determinate and indeterminate errors in detail. **07**
 - b. Each of the following set of data has what appears to be an outlying results. Apply the cutest (90% Confidence) to determine whether this value should be retained or rejected. (Q_{tab} for A&C=0.76, Q_{tab} for B=0.94.) **05**
- | A | B | C |
|-------|-------|------|
| 16.96 | 11.22 | 6.36 |
| 16.54 | 11.93 | 6.44 |
| 16.42 | 11.44 | 6.72 |
| 16.61 | - | 6.59 |
- c. Define : a) End point and b) Equivalent point **02**



Q-3	Attempt all questions	(14)
	a. Discuss in detail about separation of Cl^- , Br^- , I^- .	05
	b. Derive Lambert's Law.	05
	c. Mention the difference between thermal reaction and photochemical reaction.	04
Q-4	Attempt all questions	(14)
	a. Explain Mohr's method for argentometric titration.	05
	b. Discuss various types of redox indicator.	05
	c. Explain iodometry estimation with example.	04
Q-5	Attempt all questions	(14)
	a. Describe the method to determine the degree of hydrolysis and hydrolysis constant of salt by conductometry.	07
	b. Explain the nature of acid-base conductometric curve for the titration of strong acid with strong base.	07
Q-6	Attempt all questions	(14)
	a. Discuss any five methods for minimization of error.	07
	b. Give the following set of weight 30.2, 31.6, 29.8, 28.4, 30.6 mg. Calculate the mean value, median and standard deviation.	07
Q-7	Attempt all questions	(14)
	a. Discuss the methods for the separation of NO_2^- , NO_3^- , Br^- .	07
	b. Explain with diagram the reasons for lack of absorbance by product and reagent	05
	c. Define : a) Absolute error and b) Co-efficient variance	02
Q-8	Attempt all questions	(14)
	a. Discuss Fajan's method in detail.	07
	b. Discuss the shape of precipitation curve of titration of NaCl with AgNO_3 .	07

