

C.U.SHAH UNIVERSITY

Summer Examination-2018

Subject Name: Analytical Chemistry-II

Subject Code: 5SC02ACH1

Branch: M.Sc. (Chemistry)

Semester: 2

Date: 02/05/2018

Time: 10:30 To 01:30

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.

SECTION – I

- Q-1 Attempt the Following questions (07)**
- A** What is GLP? **02**
- B** Define accuracy and precision. **02**
- C** What is error? **01**
- D** Define quality assurance. **01**
- E** Define quality control. **01**
- Q-2 Attempt all questions (14)**
- A** Discuss the Scopes of analytical science. **05**
- B** Write a note on test of significance. **05**
- C** Write a note on confidence limit. **04**
- OR**
- Q-2 Attempt all questions (14)**
- A** Explain determinant and indeterminate errors. **05**
- B** Explain methods for minimization of errors. **05**
- C** Write a note on Data processing. **04**
- Q-3 Attempt all questions (14)**
- A** Discuss the types of errors. **08**
- B** Each of the following sets of data has what appears to be an outlying result. Apply the Q test (90 % confidence) to determine whether this value should be retained or rejected. For C and E ($Q_{tab} = 0.94$), A, B, D and F ($Q_{tab} = 0.76$).

A	B	C	D	E	F
65.11	11.23	21.32	22.21	7.06	7.22
66.12	11.21	21.12	22.21	7.08	7.25
66.13	12.44	21.15	22.22	7.11	7.26
67.19	12.56	21.16	22.44	7.12	7.11



OR

- Q-3 Attempt all questions (14)**
- A** Discuss the classical and instrumental methods for analytical techniques **08**
- B** Each of the following sets of data has what appears to be an outlying result. Apply the Q test (90 % confidence) to determine whether this value should be retained or rejected. For C and E ($Q_{tab} = 0.94$), I, II, III and V ($Q_{tab} = 0.76$). **06**

I	II	III	IV	V	VI
75.11	21.23	21.32	32.21	5.06	5.22
76.12	21.21	21.12	32.21	5.08	5.25
76.13	22.44	21.15	32.22	5.11	5.26
77.19	22.56	21.16	32.44	5.12	5.11

SECTION – II

- Q-4 Attempt the Following questions (07)**
- A** Why is calibration required? **02**
- B** What is Sampling? **02**
- C** Give the name of source used in UV-Vis-Spectroscopy. **01**
- D** What is solute? **01**
- E** What is linearity? **01**

- Q-5 Attempt all questions (14)**
- A** Write a note on internal standard. **05**
- B** Discuss the general steps involved in chemical analysis. **05**
- C** Write a note on standard addition technique. **04**

OR

- Q-5 Attempt all questions (14)**
- A** Discuss the effects of solvent in UV-Vis Spectroscopy. **05**
- B** Write a note on sample preparation. **05**
- C** Write a note on Calibration curves. **04**

- Q-6 Attempt all questions (14)**
- A** Discuss the applications of UV-Vis Spectroscopy. **08**
- B** What is absorbance? Discuss the theory of electronic spectroscopy. **06**

OR

- Q-6 Attempt all Questions (14)**
- A** Discuss the instrumentation of UV-Vis Spectroscopy. **08**
- B** Write brief notes on **06**
1. Choice of solvent in UV-Visible Spectroscopy
 2. Correlation coefficient

