

Enrollment No: _____ Exam Seat No: _____

C.U.SHAH UNIVERSITY

Winter Examination-2018

Subject Name: Analytical Chemistry-II

Subject Code: 4SC06CHC4

Branch: B.Sc.(Chemistry)

Semester: 6

Date: 30/10/2018

Time: 02:30 To 05:30

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.

-
- Q-1** **Attempt the following questions:** **(14)**
- a) Write full form of GLC. **(1)**
 - b) Write principle of GSC. **(1)**
 - c) What do you mean by weak acid? **(1)**
 - d) Define: Redox titration. **(1)**
 - e) Define: Coupling constant. **(1)**
 - f) Write full form of GSC. **(1)**
 - g) What is the role of Deuterium in NMR? **(1)**
 - h) Write principle of GLC. **(1)**
 - i) Write range of pH. **(1)**
 - j) What are enantiomers? **(1)**
 - k) What is chemical shift? Explain it by with example. **(1)**
 - l) Differentiate between shielding and de shielding proton effects. **(2)**

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

- Q-2** **Attempt all questions** **(14)**
- a) Discuss the characteristics of carrier gas. **(7)**
 - b) Write notes on **(7)**
 1. Effect of temperature in GLC.
 2. Effect of pressure in GLC.
- Q-3** **Attempt all questions**
- a) Discuss the Instrumentation of GLC with diagram. **(7)**
 - b) Write the advance applications of GSC in analytical chemistry. **(7)**
- Q-4** **Attempt all questions** **(14)**
- a) What is pH metry? Draw and explain weak acid and strong base titration **(7)**



- curve.
- b) Write notes on: (7)
1. EMF Cell
 2. Argentometric titration
- Q-5 Attempt all questions (14)**
- a) Write the principle of NMR and discuss nuclear quantum number. (7)
- b) Discuss paramagnetic anisotropic effect in nuclear magnetic resonance spectroscopy. (7)
- Q-6 Attempt all questions (14)**
- a) What is Deuterium labeling? Discuss the instrumentation of Mass spectroscopy. (7)
- b) Write a short note on fragmentation modes and discuss the applications of Mass spectroscopy. (7)
- Q-7 Attempt all questions (14)**
- a) Draw the spectra of H-NMR for Benzoic acid and propane and discuss why structure elucidation is important for organic molecules. (7)
- b) Write a note on: (7)
1. Applications of UV-Vis Spectroscopy.
 2. Importance of indicators.
- Q-8 Attempt all questions (14)**
- a) Write notes on: (7)
1. Applications of IR Spectroscopy.
 2. Paramagnetic anisotropic effect in NMR spectroscopy
- b) Write a short note on potentiometric titration and discuss the application of electrodes. (7)

