

C.U.SHAH UNIVERSITY

Winter Examination-2018

Subject Name: Modern Pharmaceutical Analytical Techniques
Subject Code: MPH101T **Branch:** M.Pharm. (Pharmaceutics)
Semester: 1 **Date :** 26/11/2018 **Time :** 02:30 To 05:30 **Marks :** 75

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: (20)**

- a) Shielding effect
- b) C-13 NMR spectroscopy
- c) Fingerprint Region
- d) Fermi resonance
- e) Spin-spin decoupling
- f) Complex spectra
- g) Mc-Lafferty rearrangement
- h) Column selectivity
- i) Capacity factor
- j) Bioluminescence assays.

Attempt the following questions:

Q-2 **Attempt any two of following : (20)**

- | | | |
|----------|----------------------------------------------------------------------------------------------------------|-----------|
| A | Write in brief about paper chromatography. | 10 |
| B | Give principle of NMR spectroscopy. How NMR spectroscopy helps in the structure elucidation of compounds | 10 |
| C | Enlist detectors are used in Gas chromatography. Explain working of any two detectors. | 10 |

Q-3 **Attempt any Seven of following : (35)**

- | | | |
|----------|-----------------------------------------------------------------------------------------------------------|----------|
| A | Discuss principal of Ultra Violet spectroscopy | 5 |
| B | Describe Factors affecting the Chemical Shift. | 5 |
| C | Write a note on Capillary electrophoresis | 5 |
| D | Explain principle and working of mass spectroscopy | 5 |
| E | How RIA is differ from conventional analysis | 5 |
| F | Describe the principle and technique of Ion exchange chromatography | 5 |
| G | Describe principle and techniques of affinity chromatography | 5 |
| H | Explain Bragg's law. Describe X-ray sources | 5 |
| I | Discuss principle of enzyme immunoassay. Describe double sandwich ELISA technique for antigen measurement | 5 |

