

C.U.SHAH UNIVERSITY

Winter Examination-2022

Subject Name : Modern Pharmaceutical Analytical Techniques

Subject Code : MPH101T / MQA101T Branch: M.Pharm (Pharmaceutics, PQA)

Semester : 1 Date : 13/03/2023 Time : 10:30 To 01:30 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.

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- Q-1 Attempt the following questions: (20)**
- a) What is Gel electrophoresis?
 - b) Give full form of MALDI and APCI.
 - c) Define Molecular Ion Peak and Isotope peak.
 - d) Differentiate HPLC and Gas Chromatography.
 - e) What is theory of Fluorescence?
 - f) Differentiate Normal Phase and Reverse Phase of HPLC.
 - g) Enumerate the factors affecting Fluorescence.
 - h) Name the detectors of HPLC.
 - i) Define Auxochrome and Bathochromic shift.
 - j) Enlist applications of X-ray diffraction.
- Q-2 Attempt any two of following (20)**
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| A | Enlist Ionization techniques Mass Spectroscopy and Explain any one in detail. Discuss at length "Thin Layer chromatography". | 10 |
| B | Classify Electrophoresis. Briefly explain Instrumentation of UV Visible spectroscopy. | 10 |
| C | Explain Principle and Applications of Radio Immuno assay. Discuss Interferences Flame emission spectroscopy. | 10 |
- Q-3 Attempt any Seven of following (35)**
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| A | Describe modes of Molecular vibrations IR Spectroscopy. | 5 |
| B | Discuss Flame Ionization Detector in detail. | 5 |
| C | Write a short note on Fourier - Transform IR Spectrometer. | 5 |
| D | Applications of X-ray diffraction. | 5 |
| E | Explain Instrumentation of Mass Spectroscopy. | 5 |
| F | Describe factors influencing chemical shift. | 5 |
| G | Discuss the ELISA in detail. | 5 |
| H | Briefly explain Capillary Electrophoresis. | 5 |
| I | Explain principles and applications of NMR spectroscopy. | 5 |

