

GUJARAT TECHNOLOGICAL UNIVERSITY
B.PHARM – SEMESTER – 5- EXAMINATION – WINTER - 2018

Subject Code:2250003**Date: 27/11/2018****Subject Name: Pharmaceutical Analysis III****Time:10:30 AM TO 01:30 PM****Total Marks: 80****Instructions:**

- 1. Attempt any five questions.**
- 2. Make Suitable assumptions wherever necessary.**
- 3. Figures to the right indicate full marks.**

- Q.1** (a) Classify Spectroscopy. Define Line Spectra, Isosbestic point and Stray Light. **06**
(b) State and Explain Lambert–Beer’s Law with factors causing deviation from law. **05**
(c) Write a Short Note on: (i) Gratings **05**
(ii) Simultaneous Equation Method
- Q.2** (a) Explain different types of Stretching & Bending Vibrations in IR Spectroscopy. **06**
(b) Differentiate Dispersive IR and FT IR. **05**
(c) Write a Short Note on: (i) Finger Print Region **05**
(ii) Sample Preparation Techniques.
- Q.3** (a) Enlist Ionisation Techniques in Mass Spectroscopy. Explain any two in detail. **06**
(b) Give a brief account of Mc Lafferty Rearrangement & TOF Mass Analyser. **05**
(c) Explain different types of peaks observed in Mass spectrum. **05**
- Q.4** (a) Describe principle & instrumentation of NMR Spectroscopy. **06**
(b) Define Chemical Shift. Give factors affecting Chemical shift. **05**
(c) Explain Spin splitting, Spin-Spin coupling & Coupling Constant. **05**
- Q.5** (a) Explain working principle of Fluorimeter with well labeled diagram. **06**
(b) Differentiate Fluorescence & Phosphorescence. Draw & explain Jablonski Diagram. **05**
(c) Explain in brief factors affecting Fluorescence Intensity. **05**
- Q.6** (a) Describe Qualitative and Quantitative applications of UV-Visible Spectroscopy. **06**
(b) Enlist Radiation Sources & Detectors used in IR Spectroscopy. Explain any one detector in detail. **05**
(c) Differentiate AAS and AES. **05**
- Q.7** (a) Explain working principle of Flame Photometer with labeled diagram. **06**
(b) Comment on following: **05**
(i) Fluorescence Spectroscopy is more sensitive than UV-Visible Spectroscopy.
(ii) Base peak in mass spectrum is peak of highest mass.
(iii) C¹³ NMR spectra are more difficult to record than H-NMR.
(iv) Fluorescence occur at shorter wavelength than Absorbance.
(v) J value does not depend on applied magnetic field.

(c) Give λ_{max} value of following compounds.

05


