

GUJARAT TECHNOLOGICAL UNIVERSITY
M.PHARM - SEMESTER-2 EXAMINATION – SUMMER-2019

Subject Code: MPC201T**Date: 27/05/2019****Subject Name: Advanced Spectral Analysis****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.

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|-------------|-----|---|-----------|
| Q.1 | (a) | Explain Woodward – Fieser rule for α , β -carbonyl compounds | 06 |
| | (b) | Explain and give examples of the types of transition occur in organic compounds. | 05 |
| | (c) | Explain principle and application of UV-Vis. Spectroscopy | 05 |
| Q.2 | (a) | Write a note on ATR –IR | 06 |
| | (b) | Write note on Super critical fluid Chromatography | 05 |
| | (c) | Write principal, instrument and application of CEMS | 05 |
| Q.3 | (a) | Describe the factors affecting the chemical shift | 06 |
| | (b) | Write the principle of NOESY spectroscopy | 05 |
| | (c) | HECTOR NMR | 05 |
| Q.4 | (a) | Enumerate various types of Mass analyzer. Discuss quadrupole mass analyzer with appropriate diagram. | 06 |
| | (b) | Write principal, instrument and application of LC-FTIR | 05 |
| | (c) | Mc Lafferty rearrangement | 05 |
| Q.5 | (a) | What is thermal method of analysis? Discuss principle and applications of differential thermal analysis (DTA) | 06 |
| | (b) | Define and describe TGA. Discuss the thermogravimetric curve of Calcium oxalate monohydrate | 05 |
| | (c) | What is enzyme immune-assay? Describe double sandwich ELISA technique for antigen measurement. | 05 |
| Q. 6 | (a) | Write principal, instrument and application of Flash Chromatography | 06 |
| | (b) | Write principal, instrument and application of Raman Spectroscopy | 05 |
| | (c) | Write note on Ring rule | 05 |
| Q.7 | (a) | Write note on RIA of Digitalis | 06 |
| | (b) | Write principal, instrument and application of GCMS | 05 |
| | (c) | Write principal, instrument and application of HPTLC | 05 |
