

GUJARAT TECHNOLOGICAL UNIVERSITY
B.Pharm – SEMESTER V • EXAMINATION – Summer 2017

Subject Code:2250003**Date: 06/06/2017****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.

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|-------------|---|-----------|
| Q.1 | (a) Define chemical shift. Explain factors affecting chemical shift. | 06 |
| | (b) Describe instrumentation of PMR. | 05 |
| | (c) Write a brief overview of C13 NMR spectroscopy. | 05 |
| Q.2 | (a) Explain: base peak, metastable ion peak and isotopic ion peak. | 06 |
| | (b) Discuss principle of Mass Spectroscopy. | 05 |
| | (c) Explain Mc-Lafferty rearrangement. | 05 |
| Q.3 | (a) Write a note on FT-IR. | 06 |
| | (b) Discuss radiation sources used in IR spectroscopy. | 05 |
| | (c) Describe sample handling techniques used in IR spectroscopy. | 05 |
| Q.4 | (a) Write the difference between AAS and AES. | 06 |
| | (b) Describe the principle of flame photometer. | 05 |
| | (c) Write a note on hollow cathode lamp. | 05 |
| Q.5 | (a) Explain Auxochrome, molar absorptivity and isosbetic point. | 06 |
| | (b) What is EMR? Explain wave properties of EMR | 05 |
| | (c) Describe principle of UV spectroscopy. | 05 |
| Q. 6 | (a) Write the difference between fluorescence and phosphorescence. | 06 |
| | (b) Draw a well-labeled diagram of spectrofluorimeter. | 05 |
| | (c) Write a brief over view of application of UV-visible spectroscopy. | 05 |
| Q.7 | (a) Describe calibration of UV-visible spectrophotometer as per IP. | 06 |
| | (b) Give the fragmentation pattern of the following compounds | 05 |
| | (i) Benzyl alcohol | |
| | (ii) Benzamide | |
| | (c) How will you differentiate between the following pairs of compounds using IR Spectroscopy | 05 |
| | (i) $\text{CH}_3\text{CH}_2\text{NH}_2$ and $\text{CH}_3\text{CH}_2\text{OH}$ | |
| | (ii) CH_3COOH and CH_3CHO | |
