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Total No. of Pages: 02

Total No. of Questions : 08

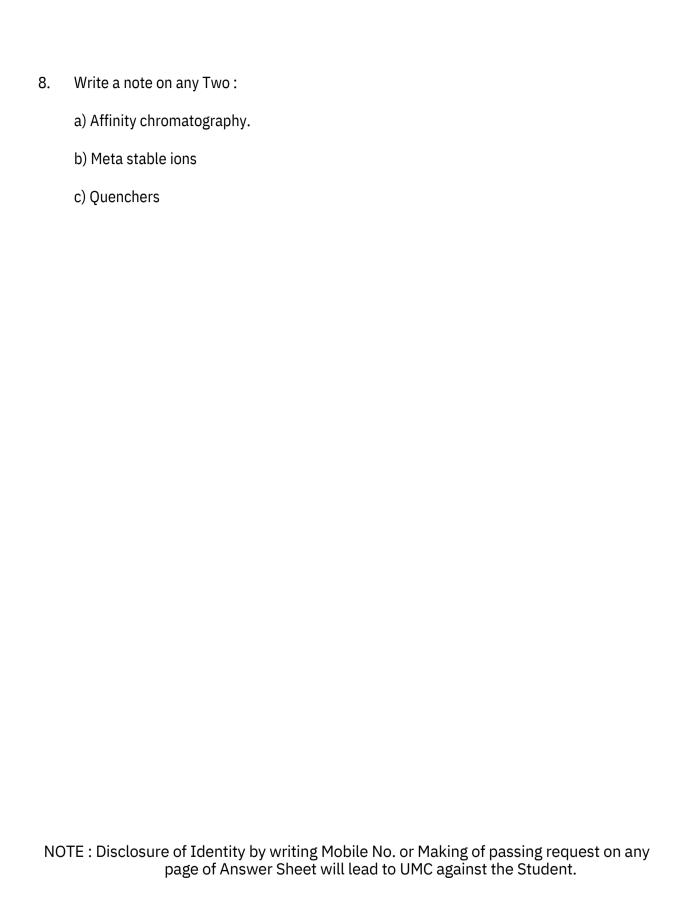
Ph.D in Faculty of Pharmacy MODERN PHARMACEUTICAL ANALYTICAL TECHNIQUES M.Code: 77379

Time: 3 Hrs. Max. Marks: 70

INSTRUCTIONS TO CANDIDATES:

- 1. Attempt any FIVE questions out of EIGHT questions.
- 2. Each question carry FOURTEEN marks.
- 1. a) Explain Beer-Lambert's law with its limitations.
 - b) Describe applications of UV spectroscopy.
- 2. a) Discuss the effect of hybridization and ring size on vibrational frequency in IR spectroscopy.
 - b) Discuss the different modes of vibrations in IR spectroscopy.
- 3. a) Describe factors affecting fluorescence.
 - b) What are the applications of spectrofluorimetry?
- 4. a) What is chemical shift? Discuss factors affecting chemical shift.
 - b) Differentiate between 1HNMR and 13CNMR spectroscopy.
- 5. a) Write down principle of mass spectrometry. Discuss the isotopic peaks in mass spectrometry.
 - b) Discuss the applications of mass spectrometry.
- 6. a) Describe principle and applications of gas chromatography.
 - b) What are the advantages of HPLC over other types of chromatography?
- a) Explain Bragg's law in X-ray crystallography.
 - b) Discuss relaxation process in NMR spectroscopy.

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2 | M-77379 (S17)-P50