

**MPG101T / MPC101T / MPH101T - Modern Pharmaceutical
Analytical Techniques**

P. Pages : 1

Time : Three Hours



GUG/W/23/14158

Max. Marks : 75

- Notes :
1. All questions carry as indicated marks.
 2. Illustrate your answers wherever necessary with the help of neat sketches.
 3. All questions are compulsory.

1. Short answer questions. **10x2
=20**
 - i) What is Bragg's law?
 - ii) Give principle of TGA.
 - iii) Give principle of Electrophoresis.
 - iv) List detectors used in gas chromatography.
 - v) Give principle of potentiometry.
 - vi) What is Beer-lambert's Law?
 - vii) Give principle of IR spectroscopy.
 - viii) What are quenchers?
 - ix) What is bathochromic shift?
 - x) List component of FTIR instrumentation.
 - xi) Note on advantage of DSC.
 - xii) List component of IR instruments.
2. Discuss solve **any five**. **5x7=
35**
 - i) The advantages of HPTLC over TLC.
 - ii) Capillary zone electrophoresis.
 - iii) Theory of Ion exchange chromatography.
 - iv) Woodward's rule and its applications.
 - v) Theory of UV-spectroscopy.
 - vi) Effect of auxochrome on chromophore.
 - vii) Criteria of fluorescence and its application.
3. Long answer question solve **any two**. **2x10
=20**
 - i) Write a brief account on the application of
 - a) Differential Scanning Calorimetry (DSC)
 - b) Thermo gravimetric Analysis (TGA)
 - ii) Discuss the working principle and instrumentation of HPLC (High Performance Liquid Chromatography).
 - iii) Discuss the principle, instrumentation and applications of NMR.
