

M.Pharm. F.Y. (Pharmacognosy / Pharmaceutical Chemistry / Pharmaceutics)
(CBCS Pattern) Sem-I
**MPG101T / MPC101T / MPH101T - Modern Pharmaceutical Analytical
Techniques**

P. Pages : 1

Time : Three Hours



GUG/W/22/14158

Max. Marks : 75

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- Notes :
1. All questions are compulsory.
 2. Diagrams and Chemical equation should be given wherever necessary.
 3. Illustrate your answers wherever necessary with the help of neat sketches.

1. Elaborate on: **2x20**
=40
- i)
 - a) Explain the working of mass spectroscopy.
 - b) Elaborate the criteria for fluorescence and its pharmaceutical applications.
 - ii)
 - a) Discuss the principle and applications of Nuclear Magnetic Resonance.
 - b) Give an account of detectors used in Gas Chromatography.
 - iii)
 - a) Explain the theory of U.V. absorption and add a note on effect of Auxochromes on Chromophores.
 - b) Explain the construction and functioning of a single beam U.V. Spectro Photometer.
2. Discuss on: **1x15**
=15
- a) Explain the principle and methodology of Differential Scanning Calorimetry (DSC).
 - b) Discuss the working principle and instrumentation of HPLC (High Performance Liquid Chromatography)
3. Write notes on: **4x5**
=20
- i) Woodward's rule and its application.
 - ii) What is circular dichroism? Explain this concept in relevance to optical rotatory dispersion?
 - iii) Why it is necessary to apply statistical methods to analytical techniques? Add a note on Student's 't' test.
 - iv) Explain the sampling techniques used in infrared spectroscopy.
 - v) Capillary zone electrophoresis.
 - vi) Briefly highlight citation of references.
