

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

P. Pages : 1

Time : Three Hours



**GUG/W/24/14158**

Max. Marks : 75

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

- 1. Elaborate on:** **2x20**  
**=40**
- 1) a) Explain the working of mass spectroscopy.  
b) Elaborate the criteria for fluorescence and its pharmaceutical applications.
  - 2) 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.
  - 3) a) Discuss the principle and applications of Nuclear Magnetic Resonance.  
b) Give an account of detectors used in Gas Chromatography.
- 2. Discuss on:** **1x15**  
**=15**
- 1) 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**
- 1) Electron Spin Resonance spectroscopy.
  - 2) Differential Scanning Colorimeter.
  - 3) Explain the Principle and applications of Radio Immuno Assay.
  - 4) Discuss the advantages of HPTLC over TLC.
  - 5) Woodward's rule and its application.
  - 6) What is circular dichroism? Explain this concept in relevance to optical rotatory dispersion?

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