

THE TAMIL NADU DR. M.G.R. MEDICAL UNIVERSITY

[LO 941]

MAY 2019

Sub. Code: 2941

**M.PHARM. DEGREE EXAMINATION**  
**(PCI New regulations 2016)**  
**SEMESTER-I**  
**PHARMACEUTICAL CHEMISTRY – MPC**  
**PAPER I – MODERN PHARMACEUTICAL ANALYTICAL TECHNIQUES**

*Q.P. Code : 262941*

**Time : Three hours**

**Maximum : 75 Marks**

**I. Elaborate on:**

**(2 x 20 = 40)**

1. a) Instrumentation and application of Dispersive and Fourier IR Spectrophotometer.  
b) Write a note on the theory and working of Zone electrophoresis.  
c) What do you mean by Quadrapole analyzers of Mass spectroscopy?
2. a) Principle, instrumentation and application of NMR spectroscopy.  
b) Discuss the IR interpretation.
  - i) Benzaldehyde    ii) Acetaldehyde    iii)  $C_6H_5 - CH = CH_2$
  - iv) P-Chloro phenol.

**II. Write notes on:**

**(7 x 5 = 35)**

1. Describe the construction and working principle of photomultiplier tube and Argon ionization detector.
2. Write short notes on Affinity and Gel Chromatography.
3. Theory and applications of HPTLC.
4. Discuss about the importance of MALDI and ESI.
5. Detail about the principle and instrumentation of HPLC.
6. Statement, derivation and limitations of Beer Lambert's law.
7. Moving boundary electrophoresis – principle and application.

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