

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

**[MPHARM 0921]**

**SEPTEMBER 2021  
(OCTOBER 2020 EXAM SESSION)**

**Sub. Code: 2941**

**M.PHARMACY DEGREE EXAMINATION  
SEMESTER-I (PCI New regulations 2016)  
PHARMACEUTICAL CHEMISTRY - MPC  
PAPER I – MODERN PHARMACEUTICAL ANALYTICAL TECHNIQUES  
*Q.P. Code : 262941***

**Time : Three hours**

**Answer ALL Questions**

**Maximum : 75 Marks**

**I. Elaborate on:**

**(2 x 20 = 40)**

1. a) Principle, instrumentation and factors affecting results of thermal gravimetry analysis.  
b) Principle and application of Carbon-13 nuclear magnetic resonance spectroscopy.
2. a) Theory and sample handling in Infrared spectroscopy.  
b) Write a interpretation of Infrared spectrum of the following compounds
  - i) 1-Hexane
  - ii) 1- butanol

**II. Write notes on:**

**(7 x 5 = 35)**

1. Instrumentation and application of spectrofluorimetry.
2. Quantum Numbers and their role in Nuclear Magnetic Resonance spectroscopy.
3. Matrix Assisted Lasser Desorption Ionization (MALDI).
4. Write a note on ultra high performance liquid chromatography.
5. Boundary electrophoresis and isoelectric focusing.
6. Thermal transition in modulated Differential scanning calorimetry.
7. Solvent and solvent effect in ultraviolet spectroscopy.

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