

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

[LP 941]

NOVEMBER 2019

Sub. Code: 2941

**M.PHARM. DEGREE EXAMINATION**  
**(PCI New regulations 2016)**  
**SEMESTER-I**  
**BRANCH II – 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) With the help of a neat sketch explain the various components and working principle of Mass Spectrometer.  
b) Give a detail note on deuterium exchange reactions and Nuclear Overhauser Effect.
2. a) Explain the principle and instrumentation of Gas Chromatography.  
b) Describe the various detectors used in UV-Visible spectrophotometer.

**II. Write notes on:**

**(7 x 5 = 35)**

1. Give the construction, principle and operation of Total consumption burner and Hollow Cathode Lamp.
2. Explain the steps involved in the analysis of drugs using HPTLC.
3. How can you distinguish between two isomers of molecular formula,  $C_3H_6O$  using IR Spectroscopy?
4. Define electrophoresis, classify with examples and add a note on gel electrophoresis.
5. Briefly explain on origin and production of X- rays.
6. Explain the principle and application of potentiometric titrations.
7. Give an account on TG curve and its applications.

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