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

[LO 981] MAY 2019 **Sub. Code: 2981**

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

Q.P. Code : 262981

Time : Three hours **Maximum : 75 Marks**

I. Elaborate on: **(2 x 20 = 40)**

1. a) Give the principle and working of Flame emission spectrophotometer.
   b) Explain the general Fragmentation Patterns for the Interpretation of organic compounds in Mass Spectrometry.
   c) Explain the theory of Electronic Spectroscopy and the different types of Electronic transitions encountered in UV Spectroscopy.

2. a) State Bragg's Law. Explain the X-Ray Powder Diffraction method.
   b) Explain the principle and working procedure of the GLC with its Limitations.
   c) Briefly explain the proton exchange reaction in NMR spectroscopy.

II. Write notes on: **(7 x 5 = 35)**

1. Write a note on the theory & applications of IR.
2. Explain briefly about Gel Electrophoresis.
3. Write a note on Chromophore and Auxochrome.
4. Discus the important factors affecting Differential Thermal Analysis (DTA).
5. Write a note on ^{13}C-NMR and coupling constant.
6. List out the applications of Atomic Absorption Spectroscopy.
7. Enumerate various Pharmaceutical applications of NMR Spectroscopy.

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