

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

[LO 961]

MAY 2019

Sub. Code: 2961

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

Q.P. Code : 262961

Time : Three hours

Maximum : 75 Marks

I. Elaborate on:

(2 x 20 = 40)

1. a) Explain the construction and functioning of a single beam U.V Spectrophotometer.
b) Discuss the various techniques employed in the assay of multicomponent mixture by UV spectrophotometer.
2. a) Describe the principle and instrumentation of double beam Spectrofluorimeter.
b) Write theory of Fluorescence with neat diagram.

II. Write notes on:

(7 x 5 = 35)

1. Write a note on the theory & applications of IR.
2. Explain the application and various interferences occurring in Flame emission spectroscopy.
3. Write a note on ¹³C-NMR and coupling constant.
4. Describe the principle involved in mass spectroscopy.
5. Explain the working of any two detectors used in Gas Chromatography.
6. Derive Bragg's law and discuss the applications of X-ray diffraction method.
7. Explain briefly about Zone Electrophoresis.
