

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

[LQ 0121]

JANUARY 2021

Sub. Code: 2961

(APRIL 2020 EXAM SESSION)

M.PHARMACY DEGREE EXAMINATION

SEMESTER-I (PCI New regulations 2016)

PHARMACEUTICAL BIOTECHNOLOGY – MPB

PAPER I – MODERN PHARMACEUTICAL ANALYTICAL TECHNIQUES

Q.P. Code : 262961

Time : Three hours

Answer ALL Questions

Maximum : 75 Marks

I. Elaborate on:

(2 x 20 = 40)

1. Compare and contrast atomic absorption spectroscopy with flame emission spectroscopy.
2. a) Explain proton NMR and add a note on spin-spin coupling.
b) How many NMR signals are expected in ethanol and cyclobutane and Predict the chemical shift positions for protons in methyl acetate?

II. Write notes on:

(7 x 5 = 35)

1. Explain the theory of electronic spectroscopy.
2. What are the masses of the ions produced in mass spectrum of 4-n-butyltoluene by
(a) benzylic fission (b) McLafferty rearrangement
3. Briefly explain the principle and applications of HPLC.
4. Describe the moving boundary electrophoresis.
5. Explain X-ray powder diffraction technique.
6. Discuss the different types of column packing and elution techniques in column chromatography.
7. Describe the construction and working of photo diodes and thermocouples.
