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Sub Code:MPC 201T

Roll No. 2201680576003

**M. PHARM
(SEM II) THEORY EXAMINATION 2022-23
ADVANCED SPECTRAL ANALYSIS**

Time: 3 Hours

Total Marks: 75

Note: Attempt all Sections. If require any missing data; then choose suitably.

SECTION A

1. Attempt all questions in brief.

10 x 2 = 20

- (a) Define Mc-Lafferty rule.
- (b) What are metastable ions?
- (c) Give the principle of ATR-IR.
- (d) Define Larmor frequency.
- (e) Differentiate between UV visible and IR spectroscopy.
- (f) Write the principle involved in CEMS.
- (g) What do you mean by LC-NMR?
- (h) Flash chromatography is the advanced modification of
- (i) Define ring rule.
- (j) What is ELISA?

SECTION B

2. Attempt any twoparts of the following:

2 x 10 = 20

- (a) Describe wood ward-fieser rule with the reference of 1,2-butadienes and cyclic dienes.
- (b) Discuss about mass fragmentation and its rules.
- (c) How to read and interpret IR spectra?

SECTION C

3. Attempt any fiveparts of the following:

7 x 5 = 35

- (a) Discuss principal instrumentation and applications of GC-MS.
- (b) Write principle and applications of Ion chromatography with labelled diagram of instrumentation.
- (c) Write principle and applications of HPTLC with labelled diagram of instrumentation.
- (d) Write a note on HETCOR and INADEQUATE techniques of NMR.
- (e) Discuss in detail about RAMAN spectroscopy.
- (f) What are radio-immunoassays? Give RIA of digitalis and insulin.
- (g) Write a note on any two: DSC, DTA and TGA.