PAPER ID-312095

Roll No: | | | | | | | | | | | | | |

MPHARM
(SEM II) THEORY EXAMINATION 2024-25
ADVANCED SPECTRAL ANALYSIS

TIME: 3 HRS **M.MARKS: 75**

Note: 1. Attempt all Sections. If require any missing data; then choose suitably.

SECTION A

1. Attempt *all* questions in brief. **10 x 2 = 20**

a.	Memorize the advantages of NOESY and COSY.
b.	What is a bioassay?
c.	Differentiate the 1-D and 2-D NMR.
d.	Define the molecular ion and base peak observed in mass spectroscopy.
e.	State the principle of GC-MS.
f.	What are the advantages of ATR-IR over other techniques?
g.	Define the concept and advantage of Gas Chromatography over other techniques.
h.	What is Mc-Lafferty rearrangement?
i.	Explain the principle of IR spectroscopy.
j.	Discuss the principle of Flash chromatography.

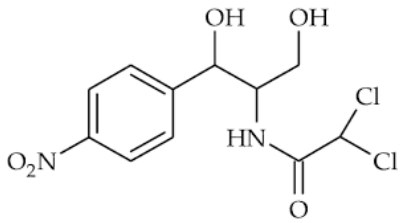
SECTION B

2. Attempt any *two* parts of the following: **2 x 10 = 20**

a.	Explain the theory and instrumentation of the DTA technique.
b.	Discuss the principle, methodology, and clinical applications of the ELISA method.
c.	Describe the high-performance thin-layer chromatography's principle, instrumentation, and application.

SECTION C

3. Attempt any *five* parts of the following: **7 x 5 = 35**

a.	Give ^{1}HNMR interpretation of the following compound 
b.	Explain the Woodward-Fieser rule of UV Spectroscopy.
c.	Illustrate the IR Interpretation of Morphine or Penicillin.
d.	Write the principle and instrumentation of Raman Spectroscopy.
e.	Give a short note of mass fragmentation and its rule in Mass Spectroscopy.
f.	Discussthe principle and applications of Ion-Exclusion Chromatography.
g.	Describe the factors causing the phenomenon of chemical shift with examples.