



PAPER ID-411067

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Subject Code: MPC101T

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MPHARM
(SEM I) THEORY EXAMINATION 2023-24
MODERN PHARMACEUTICAL ANALYTICAL TECHNIQUES

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.	Enlist the name of the light source used in IR spectroscopy.
b.	What do you mean by the chemical quenching?
c.	Define isotopic peaks with an example.
d.	What are the pharmaceutical applications of RIA?
e.	Define coupling constant with an example.
f.	Why is TMS used as a reference standard in MMR spectroscopy?
g.	Recall the name of the carrier gases used in gas chromatography.
h.	Write down the pharmaceutical application ion exchange chromatography.
i.	Classify chromatography with an example.
j.	Define glass transition temperature elution

SECTION B

2. Attempt any two parts of the following:

2 x 10 = 20

a.	Discuss the instrumentation of UV-VIS spectroscopy with a labeled diagram.
b.	Describe the various ionization techniques like electron impact , FAB, and MALDI.
c.	Demonstrate the instrumentation and applications of HPLC.

SECTION C

3. Attempt any five parts of the following:

7 x 5 = 35

a.	Discuss the various factors affecting fluorescence.
b.	Explain the various electronic transitions in UV-VIS spectroscopy with examples.
c.	Describe the mass fragmentation and its rules.
d.	Summaries the principle and working conditions of gel electrophoresis
e.	Demonstrate the instrumentation of gas chromatography
f.	Illustrate the principle and instrumentation of DTA
g.	Describe the bioluminescence assays.