



PAPER ID-411069

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Subject Code: MPH101T

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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.	What do you mean by monochromator?
b.	Define the redshift with an example.
c.	Classify the different types of ELISA techniques.
d.	Recall the types of crystals used in X-ray diffraction.
e.	What do you mean by ion-selective electrodes?
f.	Define reverse phase chromatography.
g.	Explain the working principle of capillary electrophoresis.
h.	What is the pharmaceutical importance of X-ray Crystallography?
i.	Enlist the disadvantages of DTA.
j.	Enlist the various radioactive agents used in RIA.

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

a.	Demonstrate the principle and instrumentations of flame emission spectroscopy.
b.	Define chemical shift and factors influencing chemical shift.
c.	Explain the theory and instrumentation of high-performance liquid chromatography.

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

a.	Describe the principle and various types of vibration modes used in IR spectroscopy.
b.	Illustrate the term coupling constant and nuclear magnetic double resonance.
c.	Discuss the theory of mass spectroscopy.
d.	Explain the principle and applications of ion exchange chromatography.
e.	Demonstrate principle and instrumentation moving boundary electrophoresis
f.	Discuss the Bragg's law with derivation.
g.	Demonstrate the RIA techniques and its pharmaceutical applications