



PAPER ID-311090

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Subject Code: BP701T

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BPHARM
(SEM VII) THEORY EXAMINATION 2023-24
INSTRUMENTAL METHODS OF ANALYSIS – THEORY

TIME: 3 HRS

M.MARKS: 75

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

SECTION A1. Attempt *all* questions in brief.

10 x 2 = 20

a.	Give one example for strong cation exchange resin and strong anion exchange resin.
b.	Write about stationary phases used in Affinity chromatography.
c.	What do you understand by wet packing and dry packing?
d.	What is mulling and pelleting technique?
e.	Write the sources of I.R radiation.
f.	Differentiate Nephelometry and Turbidimetry.
g.	Define chromophores and auxochromes with suitable example.
h.	Write the I.R functional bands for amines and ketones.
i.	What is hypsochromic shift?.
j.	Elaborate the column types in HPLC.

SECTION B2. Attempt any *two* parts of the following:

2 x 10 = 20

a.	Describe the principle, instrumentation and few applications of atomic absorption spectroscopy.
b.	Explain the instrumentation of HPLC with a neat sketch. Write a note on Van Deemter equation.
c.	Derive Beer Lambert's law. Explain the working of photomultiplier tube.

SECTION C3. Attempt any *five* parts of the following:

5 x 7 = 35

a.	Describe the principle of fluorescence with Jablonski's diagram. What do you mean by quenching.
b.	Explain FT-IR spectrometer with interferogram.
c.	Elaborate the interferences in flame photometry with its counter measures to prevent them.
d.	Explain the principle involved in ion exchange chromatography. Write the factors affecting ion exchange.
e.	Outline the detectors used in Gas chromatography. What do you know about size exclusion chromatography?
f.	Describe the types of paper chromatography in detail.
g.	Write the principle and instrumentation of paper electrophoresis.