Roll No:

B. PHARM.
(SEM-VII) THEORY EXAMINATION 2020-21
INSTRUMENTAL METHODS OF ANALYSIS

Time: 3 Hours *Total 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.	Define chromophores and auxochromes.
b.	What is absorptivity?
c.	What are different types of vibrational modes observed in IR spectroscopy?
d.	Write about hollow cathode lamp.
e.	What is the difference between normal phase and reverse phase chromatography?
f.	What is electrophoretic mobility?
g.	What is HETP? Give its significance.
h.	What is Eddy diffusion?
i.	Write two examples each of cation and anion exchangers.
j.	Enlist the advantages and disadvantages of agarose and polyacrylamide gels.

SECTION B

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

a.	Enlist the different components of uv-visible spectrophotometer and explain the working of double beam spectrophotometer along with well labeled diagram.
b.	Explain principle, instrumentation, and application of flame photometry.
c.	Discuss about principle and instrumentation of HPLC.

SECTION C

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

a.	What is Lambert-Beer's law? Explain its deviations along with quantitative applications.
b.	Compare the working of dispersive IR and FTIR instruments. Explain working of FTIR in detail.
c.	Explain principle, instrumentation, and application of fluorimetry.
d.	Explain principle, methodology with applications of ion exchange chromatography.
e.	What is electrophoresis? Explain different types of electrophoresis techniques with their principle and applications.
f.	Write about principle, methods, and applications of TLC.
g.	Write note on theory and working of gel electrophoresis.

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