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VO—04—2022

FACULTY OF PHARMACY

B.Pharma. (Fourth Year) (Seventh Semester) EXAMINATION

MAY/JUNE, 2022

INSTRUMENTAL METHODS OF ANALYSIS

Paper BP701T

(Tuesday, 28-06-2022)

Time : 2.00 p.m. to 5.45 p.m.

Time— 3.45 Hours

Maximum Marks—75

N.B. :— (i) All questions are compulsory.

(ii) Answer to the point only.

(iii) Figures to the right indicate full marks.

1. Solve the following : 2×10=20
 - (a) State Lambert's law.
 - (b) Write limitations of flame photometry.
 - (c) Distinguish between fluorescence and phosphorescence.
 - (d) How will you prepare standard solution for Nephelometry and Turbidimetry ?
 - (e) Why is Silica gel used in TLC ?
 - (f) What type of molecule shows IR absorption ?
 - (g) What is ' R_m ' in paper chromatography ?
 - (h) What is cellulose acetate electrophoresis ?
 - (i) Write requirements of ideal carrier gas used in gas chromatography.
 - (j) Which are *two* types of separations done in gel chromatography ?
2. Solve any *two* of the following : 10×2=20
 - (a) What is C18 column ? Explain detectors used in HPLC.

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- (b) Explain different radiation sources used in IR spectroscopy.
- (c) Explain electronic transitions involved in UV-visible spectroscopy.
3. Solve any *seven* of the following : 5×7=35
- (a) Give errors in flame photometry.
- (b) Write advantages and disadvantages of column chromatography.
- (c) Write factors affecting fluorescence and phosphorescence.
- (d) Describe the following chromatographic separation techniques with diagram :
- (i) Elution analysis
- (ii) Frontal analysis
- (e) Differentiate between atomic absorption spectroscopy and flame emission spectroscopy.
- (f) Describe different techniques for preparation of TLC plates.
- (g) Describe construction and working of paper electrophoresis.
- (h) Give factors affecting Nephelometry and Turbidimetry.
- (i) Give ideal requirements for ion exchange resins.