

GUJARAT TECHNOLOGICAL UNIVERSITY
B.Pharm. - SEMESTER- VII• EXAMINATION – SUMMER -2021

Subject Code: Instrumental Methods of Analysis**Date: 03/08/2021****Subject Name: BP701TP****Time: 10:30AM TO 01:30PM****Total Marks: 80****Instructions:**

1. Attempt any five questions.
2. Make suitable assumptions wherever necessary.
3. Figures to the right indicate full marks.

Q.1	(a) Give brief account on (i) Photomultiplier tube (ii) Auxochromes	06
	(b) State and derive Beer-Lambert's Law	05
	(c) Write a detail note on UV-Spectrophotometry	05
Q.2	(a) Describe the factors affecting fluorescence	06
	(b) Explain the terms (i) Quenching (ii) Singlet, doublet and triplet electronic states	05
	(c) Write a detail note on sample handling in IR spectroscopy	05
Q.3	(a) Explain the working principle of FTIR spectroscopy. Explain the difference between dispersive IR and FTIR.	06
	(b) Explain with example- Fundamental modes of vibrations in poly atomic molecules	05
	(c) Give a brief account on (i) Golay cell (ii) Bolometer	05
Q.4	(a) Write a brief note (i) Applications of atomic absorption spectroscopy in Pharmaceutical science (ii) Nephelometry	06
	(b) Explain the working principle of flame photometer with neat diagram	05
	(c) What are the types of paper chromatography? Give the applications of paper chromatography in pharmaceutical science	05
Q.5	(a) Explain the terms (i) HETP (ii) Tailing (iii) Resolution	06
	(b) Explain the basic principle and applications of zone electrophoresis	05
	(c) Discuss about derivatization in gas chromatography	05
Q.6	(a) Explain the principle of HPLC. Explain its applications in pharmaceutical science	06
	(b) Differentiate between HPLC and GC	05
	(c) Give brief account on resins used in ion exchange chromatography.	05
Q.7	(a) Write short note (i) Flame ionization detector (ii) Gel chromatography	06
	(b) Write a short note on stationary phase and mobile phase used in HPLC	05
	(c) Explain the basic principle of affinity chromatography. Enumerate applications of affinity chromatography.	05

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