2 Hours **Total Marks: 50**

Note: -
1. Attempt all questions.
2. Draw neat labeled diagrams wherever necessary.
3. Figures to the right indicate full marks

Q.1	**Answer the following (Any 2)**	**10**
1	With the help of suitable example explain the principle underlying affinity chromatographic separation.	
2	Describe the process of TLC.	
3	Explain the principle and practice of TLC.	
4	Discuss the detection of compounds on TLC plates.	
Q.2	**Answer the following (Any 2)**	**10**
1	Discuss in detail instrumentation of HPLC.	
2	Enlist the different factors that affect column efficiency.	
3	Give an account on reverse phase HPLC.	
4	Discuss any two types of detectors used in HPLC.	
Q.3	**Answer the following (Any 2)**	**10**
1	Give an account on application of Gas chromatography.	
2	Elaborate on Split less injection techniques in Gas Chromatography.	
3	Write a detailed note on different types of columns used in GC.	
4	What are the criteria for selection of liquid stationary phase in GC?	
Q.4	**Answer the following (Any 2)**	**10**
1	Elaborate on different types of light source used in spectroscopy.	
2	Discuss in detail the principle and instrumentation of Nephelometry.	
3	Write a note Radiowaves and Microwaves.	
4	Elaborate on UV-Visible spectrophotometer.	
Q.5	**Short Notes on (Any 2)**	**10**
1	Visualization in TLC	
2	Recent advances in HPLC	
3	PLOT	
4	Atomic Spectroscopy	