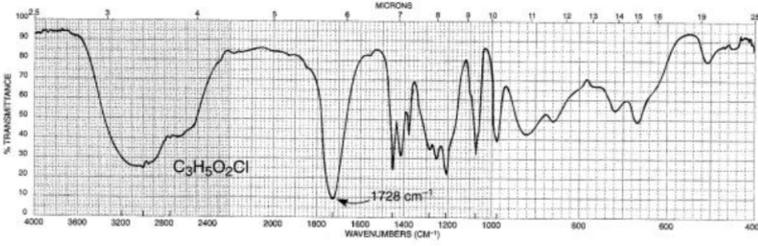
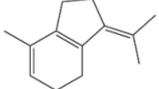


Name:			
Enrolment No:			
UPES End Semester Examination, December 2024			
Course: Instrumental Methods of Analysis Program: B.Pharm Course Code: BP701T Instructions: Read the Question Paper Carefully.		Semester: VII Time 03 hr Max. Marks: 75	
SECTION A (20Qx1M=20 Marks)			
S. No.		Marks	Cos
Q1	What do you mean by triplet state in spectrofluorimetry?	1	CO2
Q2	Lambda max of 1,3 butadiene is ____ nm. a. 254 b. 214 c. 219 d. 254	1	CO1
Q3	Refractive index detector is not a preferred HPLC detector for gradient elution. True/False.	1	CO4
Q4	Give the nature of stationary phase and mobile phase in normal phase chromatography.	1	CO4
Q5	What is the role of guard column in HPLC?	1	CO4
Q6	What is the range of Vacuum UV? a. 200-300nm b. 10-200nm c. 300-400nm d. 400-700nm	1	CO1
Q7	Gas chromatography can be used for ____. a. Volatile compounds b. Thermolabile compounds c. Compounds with high boiling points d. All	1	CO3
Q8	What do you mean by static quenching?	1	CO2
Q9	Anionic interferences are observed in flame emission spectroscopy but not in atomic adsorption spectroscopy. True/ False.	1	CO5
Q10	Which of the following is a type of emission spectroscopy? a. UV spectroscopy b. Fluorimetry c. AAS d. All	1	CO5
Q11	Give one application of nephlo-turbidometric analysis ?	1	CO5
Q12	Which of the following is an important condition for a compound to be IR active? a. Conjugation b. Dipole moment c. Unsaturation	1	CO1

	d. Volatility		
Q13	At what frequency (cm^{-1}) ketones show a strong band in IR. a. 1550 b. 1660 c. 1720 d. 2200	1	CO1
Q14	Principle of separation in paper chromatography is _____ .	1	CO3
Q15	SCOT and WCOT are type of packed columns in GC. True/False.	1	CO4
Q16	Name any one carrier gas used in Gas chromatography.	1	CO3
Q17	Write one limitation of Beers law.	1	CO1
Q18	If transmittance is 10%. What would be the reading of absorbance in UV spectroscopy.	1	CO1
Q19	Which stationary phase is used in ion exchange chromatography?	1	CO3
Q20	Name a derivatizing reagent for detection of amino acids in TLC.	1	CO3
SECTION B (20 Marks) (2Qx10M=20 Marks)			
Attempt 2 Question out of 3			
Q1	Discuss different detectors used in HPLC. Also classify them.	10	CO1
Q2	Describe the following terms in a. Isocratic flow b. Quenching c. Theoretical Plates d. Resolution in HPLC	10	CO4
Q3	Predict the structure of the compound using the following spectra 	10	CO2
SECTION-C (35 Marks) (7Qx5M=35 Marks)			
Attempt 7 Question out of 9			
Q1	Write about any two detectors of Gas chromatography.	5	CO2
Q2	Mention any 3 factors that affect frequency of vibration in IR spectroscopy.	5	CO2
Q3	Write about any two types of interferences in flame spectroscopy.	5	CO2
Q4	Discuss Plate theory.	5	CO4
Q5	Write about different types of Bending vibrations in IR spectroscopy.	5	CO3
Q6	Predict the lambda max of 	5	CO3
Q7	Discuss the applications and limitations of gas chromatography.	5	CO4

Q8	Write principle of capillary electrophoresis.	5	CO5
Q9	Discuss the application of gel permeation chromatography.	5	CO4