


Name:			
Enrolment No:			
UPES End Semester Examination, December 2024			
Course: Pharmaceutical Analysis		Semester : V	
Program: Int B. Sc.-M. Sc. Clinical Research		Duration : 3 Hours	
Course Code: HSPC30010		Max. Marks: 100	
Instructions: Attempt all the sections.			
Section A			
S. No.	Short answer questions/ MCQ/T&F (20Qx1.5M= 30 Marks)	Marks	COs
Q1.	KBr pellets are used to prepare_____sample in IR spectroscopy.	1.5	CO1
Q2.	LUMO stands for_____.	1.5	CO1
Q3.	The formula for Huckel's rule is _____.	1.5	CO1
Q4.	Define the term difference band.	1.5	CO1
Q5.	Give two examples of qualitative analysis.	1.5	CO1
Q6.	Define bathochromic shift.	1.5	CO1
Q7.	Discuss the use of guard column in HPLC.	1.5	CO1
Q8.	A chromatogram is_____.	1.5	CO1
Q9.	Give two examples of non-polar solvents.	1.5	CO1
Q10.	The reduced mass is_____proportional to wavenumber.	1.5	CO1
Q11.	Dispersive instruments record the IR spectra in _____domain.	1.5	CO2
Q12.	Wavenumber is represented by the symbol_____.	1.5	CO2
Q13.	A chromophore is a_____.	1.5	CO2
Q14.	Define the term fronting with respect to HPLC.	1.5	CO2
Q15.	A conjugated system consists of_____double bonds.	1.5	CO2
Q16.	Give an example of the stationary phase used in TLC.	1.5	CO2
Q17.	LOD stands for_____.	1.5	CO2
Q18.	Define hypsochromic shift.	1.5	CO2
Q19.	_____and _____ are the types of detectors used in UV.	1.5	CO2
Q20.	Give an example of reverse phase chromatography.	1.5	CO2
Section B			
(4Qx5M=20 Marks)			
Q1.	Draw a flow diagram and discuss the instrumentation of HPLC.	5	CO3
Q2.	Discuss various factors affecting gel electrophoresis.	5	CO3
Q3.	Draw a flow diagram and discuss the instrumentation of UV.	5	CO3
Q4.	Differentiate between dispersive IR and FT-IR.	5	CO4

Section C (2Qx15M=30 Marks)			
Q1.	Explain the various parameters used in HPLC.	15	CO5
Q2.	Discuss the types, instrumentation and applications of paper chromatography.	5+5+5	CO5
Section D (2Qx10M=20 Marks)			
Q1.	Discuss the principle and instrumentation of ion exchange chromatography.	5+5	CO4
Q2.	Write a note on detection methods used in paper chromatography.	10	CO4