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.

S. No.	Section A Short answer questions/ MCQ/T&F (20Qx1.5M= 30 Marks)	Marks	COs
Q1.	Give four examples of qualitative analysis.	1.5	CO1
Q2.	An increase in intensity of absorption is called as____effect.	1.5	CO1
Q3.	LOQ stands for_____.	1.5	CO1
Q4.	Salt plates are used to analyze_____sample in IR spectroscopy.	1.5	CO1
Q5.	An increase in the length of conjugated system leads to____shift.	1.5	CO1
Q6.	Define hypsochromic shift.	1.5	CO1
Q7.	Molar absorptivity is represented by the symbol____.	1.5	CO1
Q8.	Define the term overtone band.	1.5	CO1
Q9.	Write the formula for Beer-Lambert Law.	1.5	CO1
Q10.	The role of monochromator in UV is to_____.	1.5	CO1
Q11.	HOMO stands for_____.	1.5	CO2
Q12.	_____and ____ are the types of detectors used in UV.	1.5	CO2
Q13.	Substituents that increase intensity of absorption are _____.	1.5	CO2
Q14.	A system consisting of alternate double bonds is called _____.	1.5	CO2
Q15.	Wavelength is represented by the symbol_____.	1.5	CO2
Q16.	The formula for Huckel's rule is_____.	1.5	CO2
Q17.	Define the term combination band.	1.5	CO2
Q18.	The range for UV light is ___to ___nm.	1.5	CO2
Q19.	Give four examples of polar solvents.	1.5	CO2
Q20.	Discuss the use of guard column in HPLC.	1.5	CO2
	Section B (4Qx5M=20 Marks)		
Q1.	Discuss with the help of diagrams different modes of stretching and bending.	5	CO3
Q2.	Draw a flow diagram and discuss the instrumentation of HPLC.	5	CO3

Q3.	Define chemical analysis and discuss various stages involved in chemical analysis.	5	CO3
Q4.	Discuss the instrumentation of UV with the help of suitable diagrams.	5	CO4
	Section C (2Qx15M=30 Marks)		
Q1.	Discuss in detail the principle, instrumentation and applications of TLC with help of appropriate diagrams.	5+5+5	CO5
Q2.	Describe in detail classical and nonclassical methods of quantitative analysis.	7.5+7.5	CO5
	Section D (2Qx10M=20 Marks)		
Q1.	Discuss various factors that influence stretching vibrations of carbonyl group.	10	CO4
Q2.	Draw a flow diagram and discuss the working of FT-IR.	5+5	CO4