Maharashtra Educational Society's

H. K. College of Pharmacy

Oshiwara,Jogeshwari(W)- 102

Question bank

Pharmaceutical Analysis- III

Sem VII (CBGS AND CBCS)

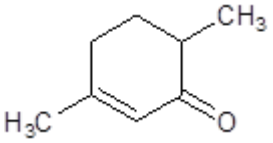
Note: This is just a sample question bank to get an idea about the kind of questions asked in final online exam based on MCQs. Final exam MCQs can have relevance but questions would be totally different than sample question bank.

	Option a	**Option b**	**Option c**	**Option d**
Q.1	What is Hydrogen Deficiency Index (HDI) value for PABA?			
	3	5	10	12
Q 2	In NMR , the aromatic protons resonate in a characteristic narrow range at:			
	δ 6.5 - 8.0	δ 11.00 - 12.00	c. δ 2.0 – 4.0	d. δ 0.7 – 1.3
Q 3	The difficulties of long elution time and poor resolution of complex mixtures are observed in elution analysis. These difficulties can be overcome by modification of elution analysis, known as -			
	isocratic elution	gradient elution	displacement	Frontal
Q 4	If a compound has an even number of nitrogen atoms, its molecular ion will appear at an even mass and a compound with an odd number of nitrogen atoms, the molecular ion will appear at an odd mass. This is called:			
	Mass rule	Molecular ion rule	Nitrogen rule	Mass determination rule
Q 5	GC and LC techniques are not appropriate for separation of amino acids. Choose correct reason from following.			
	Amino acids are low polarity substances	Amino acids are high polarity substances	Amino acids are non-polar substances	Amino acids are charged substances

Maharashtra Educational Society's

H. K. College of Pharmacy

Oshiwara,Jogeshwari(W)- 102

	Option a	Option b	Option c	Option d
Q.6	In NMR Spectrum, a signal is observed a a triplet. What will be the ratio of relative peak areas in this signal?			
	1:1:1	1:2:1	1:3:1	1:4:1
Q 7	Sparging is a process where			
	silanol group reacts with trimethyl silyl group	an inert gas is bubbled through the solvent reservoir to remove dissolved gases	solvents are mixed together in a fixed ratio	column is washed with solvents from non polar to polar order and reverse
Q 8	The mass spectrum of a compound with an approximate molecular weight 137 shows two equally intense peaks at 136 and 138. What does this suggest?			
	the compound is alkyl iodide	the compound is alkyl bromide	the compound is alkyl chloride	the compound is alkyl fluoride
Q 9	the IR absorption range of C=O stretching in enol is :			
	1655 cm^{-1}	2855 cm^{-1}	1855 cm^{-1}	655 cm^{-1}
Q 10	the HPTLC system comprises of all the parts except			
	Scanner	Applicator	Chamber	potentiometer
Q 11	How many 1H NMR signals will be given by isopropylalcohol?			
	2	3	6	8
Q 12	Which of the following gases is unsuitable for use as a GC carrier gas?			
	Nitrogen	Helium and argon	Oxygen	Carbon dioxide
Q 13	 What is the λ_{max} of the following structure?			
	215 nm	225 nm	239 nm	245 nm

	Option a	Option b	Option c	Option d
Q.14	The method of expressing magnetic field strength is			
	Cycles/sec	Pulses / sec	Gauss	Hertz

Q 15	If compound A is more polar than compound B, which compound will be eluted first in RP-HPLC?			
	Compound A	Compound B	Both will have same Rf value	
Q 16	Particle size of stationary phase in UPLC is:			
	Less than 2 micron	5-10 micron	20 micron	More than 20 micron
Q 17	Which of the following solvents can be used in NMR studies			
	Chloroform	Acetone	Carbon tetrachloride	methanol
Q 18	D2 spectrum is a:			
	Plot of A against λ	Plot of dA/dλ against λ	Plot of d2A/dλ2 against λ	Plot of A against λ2
Q 19	Choose the correct source of radiation for NMR from the listed ones			
	Tungsten lamp	Deuterium lamp	Radio frequency oscillator	Globar source
Q 20	The chemical shift value is :			
	Proportional to field strength	Not proportional to field strength	Ratio of number of protons	Proportional to the total number of protons
Q 21	Reference compound widely used in NMR spectroscopy for proton spectra in non-aqueous medium is:			
	Silane	Tetramethyl silane	DPPH	Peroxylamine disulphonate
Q 22	How many crossover points are obtained in first order derivative spectrum			
	Zero	One	Two	Three
Q 23	m/z value of molecular ion peak of chlorobenzene is:			
	109.5	111.5	112.5	113.5

	Option a	**Option b**	**Option c**	**Option d**
Q 24	In mass spectra, the most intense peak is the			
	Base peak	Metastable ion peak	Fragment ion peak	Rearrangement ion peak
Q 25	In chromatographic separation, the different species in the sample, undergo the process of:			

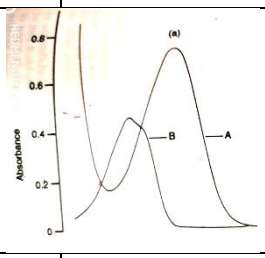
	Chemical interaction	Partition	Volatilization	ionisation
Q 26	Solvent programming, also called gradient elution, involves			
	Changing the column length	Changing the mobile phase composition	Using the mobile phase unchanged	Successive injection of sample
Q 27	In HPLC, the analytical performance improves when:			
	Particle diameter is increased	Particle diameter is reduced	Coarser particles are paired with shorter columns	Low temperature is used
Q 28	Silica gel used in most of the adsorbent columns contains -OH group. So it is:			
	basic	Neutral	Acidic	Both acidic and basic

	Option a	**Option b**	**Option c**	**Option d**
Q.29	Derivatization techniques in HPLC are intended to enhance			
	Molecular weight	detectability	Reversibility	reproducibility
Q 30	The parameter in the elution curve that is proportional to the concentration of a compound in GC effluent is the:			
	Number of peaks	Width of the peak	Area under the peak	Shape of the peak
Q 31	Derivatization is done in GC:			
	To convert a less polar compound to a more polar compound	To make the compounds non volatile	To convert a polar compound to a less polar compound	To liquify a solid
Q 32	The stationary phase used in gel permeation chromatography is:			
	alumina	charcoal	Squalene	Styrene divinyl benzyl co-polymer
Q 33	Ion exchange capacity of a resin is dependent on:			
	Total molecular weight of the resin	Total number of ion active groups	Length of the ion exchange resin	Solubility of the ion exchange resin

Q.34	In quantitative TLC radioactive material can be studied by			
	Visual comparison	densitometer	Gravimetry	Geiger counter
Q 35	In gel permeation chromatography molecules are separated on the basis of their:			
	Chemical nature	Size and shape	Adsorptive properties	Partition coefficient

	Option a	**Option b**	**Option c**	**Option d**
Q36	Amino acids can be visualized after TLC plate development using:			
	Ferric chloride	Ninhydrine reagent	Dragendroff reagent	Conc H_2SO_4
Q 37	One of the detectors used in GC is			
	bolometer	Thermal Conductivity Detector	Golay detector	Geiger counter
Q 38	Only _____ percent of the effluent of the liquid chromatography must be introduced in the mass spectrometer.			
	1-2 %	1-5 %	1-20 %	1-15 %
Q 39	A compound of molecular formula C_8H_9NO exhibits spectral characteristics as follows: IR (KBr): 3200, 1650, 2150, 1500, 1550 cm^{-1} UV max= 280 nm NMR ($CDCl_3$): 2.8 δ ppm, s, 3H 5.8 δ ppm, bs, 1H 6.8-7.6 δ ppm, m, 5H Mass: m/z= 135 (parent ion) Which of the following compound it could be?			
	3- methyl benzamide	Acetanilide	2-Amino acetophenone	2-methyl benzaldehyde
Q 40	Which wavelengths are used for measurement of the sample absorbance by simultaneous equation method?			
	λmax of one of the drugs	λmax of both the drugs	one λmax and other	Any wavelength in UV range

			isoabsorptive wavelength	

	Option a	**Option b**	**Option c**	**Option d**
Q.41	How many isoabsorptive points do you see in the given UV spectrum? 			
	Three	Four	two	Zero
Q.42	Which of the following should be in a position to split the effluent in LC-MS?			
	Interface	Ion source	Makeup gas	Microbore
Q 43	Which one among the following is Van deemter equation?			
	A=abc	H=A+B+C	H=A+B/u+C	H=L/N