

Question Bank
ATKT EXAMINATION 2019-20

VII CBGS

Pharm. Analysis - III

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Sr. No.	Questions
1	Which type of ionic species are allowed to pass through the slit and reach the collecting plate? a) Negative ions of all masses b) positive ions of the specific mass c) Negative ions of the specific mass d) Positive ions of all masses
2	Which species of the following is used to bombard with the sample for which mass spectroscopy has been performed? a) Alpha particles b) Neutrons c) Electrons d) Protons
3	Which part are used to measure unabsorbed radio frequency in NMR ? A. RF receiver B. Magnet C. Sample Holder D. Recorder
4	Which of the following types of chromatography involves the separation of substances in a mixture over a 0.2mm thick layer of an adsorbent? a) Gas liquid b) Column c) TLC d) Paper
5	Which of the following types of chromatography involves the process, where the mobile phase moves through the stationary phase by the influence of gravity or capillary action? a) Column Chromatography b) High Pressure Liquid Chromatography c) Gas-Solid Chromatography d) Gas-Liquid Chromatography

6	<p>Which of the following main component of mass spectroscopy deal with resolving the ions into their characteristics mass components according to their mass-to-charge ratio?</p> <p>a) Ion Source b) Analyzer c) Detector System d) Analyzer tube</p>
7	<p>Which of the following is correct expression</p> <p>A) $\tau = 10 - \delta$ B) $\delta = 10 - \tau$ C) $\tau = 10 + \delta$ D) $\delta = 10 + \tau$</p>
8	<p>Which of the following formulae is consistent with a molecular ion of m/z 73 in a mass spectrometry experiment?</p> <p>a) C₃H₈N₂ b) C₄H₁₁N c) C₄H₁₀O d) C₃H₅NO</p>
9	<p>Which of the following can not be used as an adsorbent in Column adsorption chromatography?</p> <p>a) Magnesium oxide b) Silica gel c) Activated alumina d) Potassium permanganate</p>
10	<p>Which mass number of nuclei are NMR active ?</p> <p>A. Odd B. Even C. High D. Low</p>
11	<p>What is Eluent ?</p> <p>A. liquid solution . B. liquid solution that is a result from Elution. C. solvent that used for separation of absorbed material from stationary phase. D. Analyte</p>
12	<p>What are the main criteria on which mass spectrometer used for?</p> <p>a) Composition in sample b) Relative mass of atoms c) Concentration of elements in the sample d) Properties of sample</p>

13	<p>Thermospray is used as an interface in</p> <p>A) GC-MS B) HPLC-MS C) GC-FTIR D) HPLC-FTIR</p>
14	<p>The ratio between the nuclear magnetic moment and angular moment is called</p> <p>A. Magnetogyric ratio B. Precessional movement C. Gyromateric ratio D. Rotational movement</p>
15	<p>The possible fundamental bands for the linear molecule, i.e. vibrational degrees of freedom are</p> <p>A) $3n - 3$ B) $3n - 5$ C) $3n - 7$ D) $3n + 5$</p>
16	<p>SP hybridization possessed</p> <p>A. Mild chemical shift B. High chemical shift C. Low chemical shift D. No chemical shift</p>
17	<p>Separation of ions in mass spectrometer take place on the basis of which of the following?</p> <p>a) Mass b) Charge c) Molecular weight d) Mass to charge ratio</p>
18	<p>Liquid chromatography can be performed in which of the following ways?</p> <p>a) Only in columns b) Only on plane surfaces c) Either in columns or on plane surfaces d) Neither in columns nor on plane surfaces</p>
19	<p>Infra-red spectroscopy exploits the change in what kind of behaviour in the molecules it is used to study?</p> <p>a) Molecular vibrations b) Nuclear spins c) Electron spins d) Electronic transitions</p>

20	<p>In which type of chromatography, the stationary phase held in a narrow tube and the mobile phase is forced through it under pressure?</p> <p>a) Column chromatography b) Planar chromatography c) Liquid chromatography d) Gas chromatography</p>
21	<p>In which of the following type of paper, chromatography does the mobile phase move horizontally over a circular sheet of paper?</p> <p>a) Ascending paper chromatography b) Descending paper chromatography c) Radial paper chromatography d) Ascending – descending chromatography</p>
22	<p>In which Chromatography stationary phase is more polar than mobile phase ?</p> <p>A. Ion exchange B. Liquid liquid Chromatography C. Reversed chromatography D. Solid-Liquid chromatography</p>
23	<p>In Thin layer chromatography, the stationary phase is made of _____ and the mobile phase is made of _____</p> <p>a) Solid, liquid b) Liquid, liquid c) Liquid, gas d) Solid, gas</p>
24	<p>In the mass spectrum of the molecule ethyl propanoate, $\text{CH}_3\text{CH}_2\text{C}(\text{O})\text{OCH}_2\text{CH}_3$ (molar mass 102), a typical peak would be expected from a McLafferty 'rearrangement/fragmentation.' This would be found at an m/z corresponding to which of the following?</p> <p>a) 29 b) 74 c) 45 d) 87</p>
25	<p>In the mass spectrum of the molecule benzyl alcohol ($\text{C}_6\text{H}_5\text{CH}_2\text{OH}$), the base peak would be predicted to correspond to which of the following structures?</p> <p>a) C_6H_5^+ (m/z 77) b) $\text{C}_6\text{H}_5\text{CH}^+\text{OH}$ (m/z 107) c) $\text{C}_6\text{H}_5\text{CH}_2\text{O}^+$ (m/z 107) d) $^+\text{C}_6\text{H}_4\text{CH}_2\text{OH}$ (m/z 107)</p>

26	<p>In normal phase chromatography, Which compound are hold by stationary phase ?</p> <p>A. Polar compound B. Non polar compound C. Saturated compounds D. Coloured compounds</p>
27	<p>In Gas-liquid phase chromatography, the stationary phase is composed of _____ and the mobile phase is made of _____</p> <p>a) Solid, liquid b) Liquid, liquid c) Liquid, gas d) Solid, gas</p>
28	<p>In a time-of-flight mass spectrometer, the velocity v of an accelerated ion is related to its mass by which of the following?</p> <p>a) proportional to m (its mass) b) inversely proportional to its mass c) proportional to the square root of its mass d) inversely proportional to the square root of its mass</p>
29	<p>How many mm diameter of the sample holder in NMR SPECTROSCOPY?</p> <p>A. 6 mm B. 7 mm C. 3 mm D. 4 mm</p>
30	<p>How many cm length of sample holder in NMR ?</p> <p>A. 30 cm B. 25 cm C. 20 cm D. 35 cm</p>
31	<p>Globar unit is</p> <p>A) silicone sulphide B) tungsten C) silicon carbide D) sodium chloride</p>

32	<p>Gas chromatography can be performed in which of the following ways?</p> <p>a) Only in columns b) Only on plane surfaces c) Either in columns or on plane surfaces d) Neither in columns nor on plane surface</p>
33	<p>Exclusion limit in gel permeation chromatography is</p> <p>A) The molecular weight of a species above which no retention occurs B) Molecular weight below which the solute molecules can penetrate into the pores C) The molecular weight of a species beyond which no retention occurs D) Molecular weight above which the solute molecules can penetrate into the pores</p>
34	<p>Elevated temperature of the column may lead to</p> <p>A) Evaporation of analyte B) Bleeding C) Increase in efficiency D) low resolution</p>
35	<p>Due to increase hydrogen bonding</p> <p>A. Deshielding occurs B. Shielding occurs C. Deshielding along with Increase in chemical shift takes place D. Deshielding takes place Decrease in chemical shift takes place</p>
36	<p>Chromatography is a physical method that is used to separate and analyse _____</p> <p>a) Simple mixtures b) Complex mixtures c) Viscous mixtures d) Metals</p>
37	<p>Chemical shift value of Alkyne</p> <p>A. 3 to 4 B. 2 to 3 C. 1 to 2 D. 5 to 8</p>

38	Chemical shift value of alipatic alicyclic is A. 0 to 2 B. 1 to 2 C. 3 to 4 D. 4 to 5
39	Chemical shift value of hetero aromatic A. 6 to 9 B. 2 to 3 C. 1 to 5 D. 2 to 5
40	Chemical shift value of aldehyde A. 9 to 10 B. 8 to 9 C. 1 to 2 D. 5 to 8
41	Chemical shift unit is ? A. Mm B. Cm C. PPM D. mm
42	An accurate mass measurement on a molecular ion peak gives the value of 72.0583. Identify the appropriate formula as one of the following. a) C ₃ H ₄ O ₃ b) C ₄ H ₈ O c) C ₂ H ₄ N ₂ O d) C ₃ H ₈ N ₂
43	2. Which solvent is used in NMR ? A. Water B. Chloroform C. Benzene D. Dinitro benzene

44	<p>1. Which of the following statement is false for mass spectroscopy?</p> <p>a) Mass spectroscopy is used to identify unknown compounds within a sample, and to elucidate the structure and chemical properties of different molecules</p> <p>b) Particle are characterized by their mass to charge ratios (m/z) and relative abundances</p> <p>c) This technique basically studies the effect of ionizing energy on molecules</p> <p>d) This technique can be used on all state of matter</p>
45	<p>1. How many percentage sample dissolve in NMR solvent ?</p> <p>A. 10% or more</p> <p>B. 5% or more</p> <p>C. 10% or less</p> <p>D. 5 %or less</p>
46	<p>_____ is defined as the lowest concentration of an analyte in a sample that can be detected, not quantified.</p> <p>A) The Detection Limit</p> <p>B) Specificity</p> <p>C) Precision</p> <p>D) The Quantitation Limit</p>
47	<p>_____ is the lowest concentration of an analyte in a sample that can be determined with acceptable precision and accuracy under the stated operational conditions of the analytical procedures.</p> <p>A) The Detection Limit</p> <p>B) Specificity</p> <p>C) Precision</p> <p>D) The Quantitation Limit</p>
48	<p>_____ is the ability of the method to elicit test results that are directly, or by a well-defined mathematical transformation, proportional to analyte concentration within a given range.</p> <p>A) Accuracy</p> <p>B) Specificity</p> <p>C) Precision</p> <p>D) Linearity</p>
49	<p>_____ is the ability to measure accurately and specifically the analyte of interest in the presence of other components that may be expected to be present in the sample matrix such as impurities, degradation products and matrix components.</p> <p>A) Accuracy</p> <p>B) Specificity</p>

	C) Precision D) Robustness
50	In which state of matter mass spectroscopy is being performed? a) solid b) liquid c) gaseous d) plasma

ANSWERS:

1	B
2	C
3	A
4	C
5	A
6	B
7	A
8	B
9	D
10	A
11	C
12	B
13	B
14	A
15	B
16	B
17	D
18	C
19	A
20	D
21	C
22	C

26	A
27	C
28	D
29	D
30	B
31	C
32	A
33	C
34	C
35	C
36	B
37	B
38	A
39	A
40	A
41	C
42	B
43	D
44	D
45	A
46	A
47	D

23	A
24	B
25	B

48	D
49	B
50	C