

ORIENTAL COLLEGE OF PHARMACY

Question Bank - ATKTK EXAM SEM-II M.

Pharm SUBJECT : MPAT

Total points 24/130

Email address *

abc@cc.in

MCQ

24 of 130 points

Each question carry 2 marks. Select the correct option

✗ 1. Ideal stationary phase in column chromatography should be * 0/2

- A. Mechanically stable ✗
- B. Chemically inert
- C. It should be soluble with the solution
- D. It should be able to separate wide variety of compounds

Correct answer

- C. It should be soluble with the solution



✘ 2. Which of the following is a weak adsorbent? *

0/2

- A. Activated silica
- B. Activated charcoal
- C. Talc
- D. Activated alumina

✘

Correct answer

- C. Talc

✘ 4. which of the following factor doesnot affect column efficiency? *

0/2

- a. Particle size of the adsorbent
- b. Column dimensions
- c. Column packing
- d. Retention time

✘

Correct answer

- d. Retention time



✗ Q. 5 In normal phase chromatography, which statement holds true * 0/2

- a. stationary phase is non polar and mobile phase is polar ✗
- b. a. stationary phase is non polar and mobile phase is non polar
- c. a. stationary phase is polar and mobile phase is nonpolar
- d. a. stationary phase is non polar and mobile phase is non polar

Correct answer

- c. a. stationary phase is polar and mobile phase is nonpolar

✓ 7. The lowest amount of analyte which can be detected but non necessarily quantified is known as * 2/2

- A. Limit of Detection ✓
- B. Accuracy
- C. Limit of Quantitation
- D. Specificity



✘ 8. Absorption from a strong solution is greater than from a weak solution 0/2
is shown in _____ absorption isotherm *

- a. Linear
- b. Concave
- c. Convex
- triangle

✘

Correct answer

- b. Concave

✘ 10. Which of the following is main application of HPTLC * 0/2

- A. Detection of functional groups in organic compounds
- B. Elemental analysis
- C. Herbal analysis
- D. Elucidation of chemical structure
- Option 5

✘

Correct answer

- C. Herbal analysis



✗ 11. Which of the following methods is used for isolation of impurities? * 0/2

A. UV spectroscopy ✗

B. IR spectroscopy

C. Column chromatography

D. Potentiometry

Correct answer

C. Column chromatography

✗ 13. Factor affecting separation in ion exchange chromatography are * 0/2

a. Cross linking of resin ✗

b. Buffer

c. Concentration and ion charge in sample

d. All of the above

Correct answer

d. All of the above



✘ 14. Material used to prepare ion exchange resin are *

0/2

- a. polystyrene
- b. cellulose
- c. Both A and B
- d. None of the above

✘

Correct answer

- c. Both A and B

✘ 16. Which of the following is not an application of ion exchange chromatography? *

0/2

- a. Softening of hard water
- b. Analyse base composition of nucleic acid
- c. to separate protein mixture
- d. separate phytoconstituents

✘

Correct answer

- d. separate phytoconstituents



✘ 17. Which of the following adsorbant is not used in TLC *

0/2

- a. Alumna
- b. Silica
- c. Bonded phase silica
- d. Keisulghur

✘

Correct answer

- c. Bonded phase silica

✘ 19. In the elution series, which of the solvent is maximum non polar *

0/2

- a. chloroform
- b. water
- c. ethanol
- d. Petroleum ether

✘

Correct answer

- d. Petroleum ether



✘ 20. Twin trough chamber is used in which technique? *

0/2

- a. HPLC
- b. Ion exchange chromatography
- c. gas chromatography
- d. HPTLC

✘

Correct answer

- d. HPTLC

✘ 22. The R_f stands for *

0/2

- a. retention factor
- b. retardation factor
- c. relative flow
- d. All of the above

✘

Correct answer

- d. All of the above



✘ 23. Which of the following is disadvantage of TLC *

0/2

- a. multi component analysis
- b. Cost effective
- c. Detection limit is higher
- d. Easy to use

✘

Correct answer

- c. Detection limit is higher

✘ 25. In chromatographic techniques, the separation efficiency increases, if particle size becomes *

0/2

- a. large
- b. Coarse
- c. Fine
- d. Amorphous

✘

Correct answer

- c. Fine



✗ 26. Basic principle in paper chromatography is *

0/2

- a. Adsorption
- b. Partition
- c. Ion exchange
- d. All of the above

✗

Correct answer

- b. Partition

✗ 28. Which of the following factors affect the electrophoretic mobility? * 0/2

- a. Charge of ion
- b. Size of ion
- c. Viscosity of the medium
- d. All of the above

✗

Correct answer

- d. All of the above

✓ 29. Which of the following is not a type of paper electrophoresis? *

2/2

- a. Circular
- b. Horizontal
- c. Continuous
- d. Vertical

✓



✘ 31. HPCE stands for *

0/2

- a. High pressure capillary electrophoresis ✘
- b. High performance capillary electrophoresis
- c. Highly purified capillary electrophoresis
- d. None of the above

Correct answer

- b. High performance capillary electrophoresis

✘ 32. In capillary electrochromatography, which of the analyte are analyzed? *

0/2

- a. Ionic ✘
- b. Neutral
- c. Both A and B
- d. None of the above

Correct answer

- c. Both A and B

✔ 34. Mobile phase in Gas chromatography is *

2/2

- a. Nitrogen ✔
- b Oxygen
- c. Argon
- d. All of the above



✘ 35. Most common detector used in Gas chromatography is *

0/2

- a. Refractive index detector
- b. UV detector
- c. Flame ionization detector
- d. All of the above

✘

Correct answer

- c. Flame ionization detector

✘ 37. _____ method involved covalent attachment of immobilised biochemicals *

0/2

- a. Ion exchange
- b. Gel electrophoresis
- c. Affinity chromatography
- d. All of the above

✘

Correct answer

- c. Affinity chromatography



✗ 38. Radiations in X-ray are emitted from some radioactive element from which of the mechanism? * 0/2

- a. gamma radiation
- b. electron capture
- c. k-capture
- d. All of the above

✗

Correct answer

- d. All of the above

✓ 40. Which of the crystal has largest lattices spacing and hence a much greater wavelength range * 2/2

- a. NaCl
- b. Topaz
- c. EDTA
- d. ADP

✓



✘ 41. Which separation technique is used in RIA *

0/2

- a. Solid phase adsorption of antigen
- b. Solid phase absorption of antibody
- c. Immune precipitation and fractional precipitation
- d. All of the above

✘

Correct answer

- d. All of the above

✘ 43. Which of the following is not a component of radioimmuno assay? *

0/2

- a. Pure antigen
- b. Antibody
- c. Radio labelled antigen
- d. gamma radiation

✘

Correct answer

- d. gamma radiation



✗ 44. The effect which involves decrease in the intensity of absorbance is called as 0/2

- a. Auxochrome
- b. Hyperchromic shift
- c. Hypsochromic Shift
- d. Hypochromic Shift

✗

Correct answer

- d. Hypochromic Shift

✓ 46. It involve the shift of absorption maximum towards longer wavelength because of the presence of certain groups 2/2

- a. Bathochromic shift
- b. Hyperchromic shift
- c. Hypsochromic shift
- d. Hypochromic Shift

✓

✓ 47. Fluorescence involves _____ transition 2/2

- a. Singlet-Singlet
- b. Singlet-Triplet
- c. Triplet-Singlet
- d. Triplet

✓



✘ 49. Delayed fluorescence is called

0/2

- a. Phosphorescence
- b. Fluorescence
- c. Luminescence
- d. Radioactivity

✘

Correct answer

- b. Fluorescence

✘ 50. Which method is used for compounds that are able to quench the intensity

0/2

- a. Direct method
- b. Quenching method
- c. Fluoroimmunoassay
- d. Absorbance ratio method

✘

Correct answer

- b. Quenching method



✘ 52. A molecule can absorb IR radiation only when its absorption causes its change in its _____ 0/2

a. Wavelength ✘

b. Conductivity

c. Dipole moment

d. Polarity

Correct answer

c. Dipole moment

✘ 53. Bolometer is also called as 0/2

a. Thermometer ✘

b. Resistor

c. Resistance thermometer

d. Thermocouple

Correct answer

c. Resistance thermometer



✗ 55. The sample holder for IR sample can be made up of

0/2

- a. Glass
- b. KBr
- c. Quartz
- d. Plastic

✗

Correct answer

- b. KBr

✗ 56. _____ interferences invariably decreases the signal intensity of the element present in the sample 0/2

- a. Cation-anion interference
- b. Cation-cation interference
- c. Oxide formation
- d. Spectral

✗

Correct answer

- b. Cation-cation interference



✘ 58. _____ produces hottest practical flame with oxygen

0/2

- a. Acetylene
- b. Cyanogens
- c. Hydrogen
- d. Butane

✘

Correct answer

- b. Cyanogens

✘ 59. _____ will show nuclear spin resonance

0/2

- a. H1
- b. C12
- c. O16
- d. O18

✘ 61. PMR uses _____ rule to count protons

0/2

- a. $2n$
- b. $n-1$
- c. $n+1$
- d. $2n+1$

✘

Correct answer

- c. $n+1$



✓ 62. Coupling constant is _____ between adjacent peaks 2/2

- a. Distance ✓
- b. Ratio
- c. Distance ratio
- d. Height ratio

✗ 64. The exact value for delta and tau for protons in various chemical environments depends to a large degree of _____ 0/2

- a. Substitution effect and Solvent ✗
- b. Solvent and
- c. Hydrogen bonding and Substitution effect
- d. Solvent, Hydrogen bonding and Substitution effect

Correct answer

- d. Solvent, Hydrogen bonding and Substitution effect

✓ 65. An anisotropic effect is observed in _____ 2/2

- a. Alkynes ✓
- b. Alkenes
- c. Benzene
- d. Aldehyde



✗ 67. The higher the electronegativity of the atom, _____ is the deshielding. 0/2

- a. Neutral ✗
- b. Less
- c. greater
- d. exponential

Correct answer

- c. greater

✗ 68. The distance of the proton from the electronegative atoms increases, 0/2 deshielding effect _____

- a. Decreases
- b. Increases
- c. Remains same
- d. Exponentially decreases ✗

Correct answer

- a. Decreases



✗ 70. When a molecule or ion contains odd number of nitrogen, it will have 0/2 an ____ value of molecular weight.

- a. Even
- b. Odd
- c. Negative
- d. Fractional

✗

Correct answer

- b. Odd

✗ 71. When number of nitrogen atom in a compound is zero, the molecular 0/2 weight will be _____ numbered

- a. Odd
- b. Even
- c. Zero
- d. Fraction

✗

Correct answer

- b. Even



✗ 73. Compounds containing chlorine and bromine have _____ 0/2

- a. M+2
- b. M+1
- c. M+
- d. M-1

✗

Correct answer

- a. M+2

✓ 74. Faradays cup are based on the measurement of direct _____ 2/2
produced when an ion hits the surface.

- a. Potential
- b. Conductance
- c. Radiations
- d. Change in current

✓



✗ 76. If two fragments are in competition to produce a cation, the fragment with the _____ ionization energy will be formed more frequently. 0/2

- a. Highest
- b. Lowest
- c. Neutral
- d. negative

✗

Correct answer

- b. Lowest

✗ 77. In a magnetic analyzer, ions are separated on the basis of _____ values 0/2

- a. atomic number
- b. m/z
- c. atomic mass
- d. molecular size

✗

Correct answer

- b. m/z

✓ 78. Electron Ionization causes 2/2

- a. Hard ionization
- b. Soft ionization
- c. Self ionization
- d. Proton ionization

✓



✗ 79. For thermally unstable compounds _____ ionization method can be used. 0/2

- a. APCI
- b. Chemical ionization
- c. Electrospray ionization
- d. FAB

✗

Correct answer

- b. Chemical ionization

✗ 80. For organo-metallic compounds _____ method is useful 0/2

- a. Electron ionization
- b. Chemical ionization
- c. Fast atom bombardment
- d. ESI

✗

Correct answer

- c. Fast atom bombardment



✘ 81. _____ used as internal standard in H1-NMR

0/2

- a. Trimethyl silane
- b. Tetramethyl silane
- c. Trimethyl silicone
- d. Tetramethyl silicate

✘

Correct answer

- b. Tetramethyl silane

✘ 82. Overtone signals have _____ intensities in IR spectra

0/2

- a. High
- b. Weak
- c. Negligible
- d. Double

✘

Correct answer

- b. Weak



✘ 83. _____ can not be used as solvent in UV-spectroscopy

0/2

- a. water
- b. ethanol
- c. chloroform
- d. dilute acetic acid

✘

Correct answer

- c. chloroform

✘ 84. In which state of matter mass spectroscopy is being performed?

0/2

- a. solid
- b. liquid
- c. gaseous
- d. plasma

✘

Correct answer

- c. gaseous



✘ 85. Chemical shift unit is

0/2

- a. mm
- b. Mm
- c. PM
- d. ppm

✘

Correct answer

- d. ppm

✘ 86. The possible fundamental bands for the linear molecule, i.e. vibrational degrees of freedom are

0/2

- A. $3n - 3$
- B. $3n - 5$
- C. $3n - 7$
- D. $3n + 5$

✘

Correct answer

- B. $3n - 5$



✗ 87. Which of the following is correct expression

0/2

- a. $\tau = 10 - \delta$
- b. $\delta = 10 - \tau$
- c. $10 + \delta$
- d. $\delta = 10 + \tau$

✗

Correct answer

- a. $\tau = 10 - \delta$

✗ 88. 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?

0/2

- a. 29
- b. 74
- c. 45
- d. 87

✗

Correct answer

- b. 74



✓ 89.

2/2

- a.
- b.
- c.
- d.

✓

✓ 90.

2/2

- a.
- b.
- c.
- d.

✓

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