

M.Sc Sem II Questions For Mock Test Analytical Chemistry

- 1) In X ray spectroscopy _____ is used for wavelength separation.
 - a) Diffraction grating
 - b) Glass Prism
 - c) Quartz prism
 - d) Crystal
- 2) _____ is transparent to X radiations.
 - a) Copper
 - b) Molybdenum
 - c) Beryllium
 - d) Tungsten
- 3) The wavelength range of X rays is from ----- A^0 to ----- A^0
 - a) 10^{-5} to 100
 - b) 0.01 to 1000
 - c) 0.1 to 10000
 - d) 10^{-10} to 10
- 4) Which of the following is not a X ray transducer?
 - a) Gas filled transducer
 - b) Photon transducer
 - c) Semiconductor transducer
 - d) Thermistor
- 5) _____ is the detector used in Energy dispersive Xray fluorescence spectrometer.
 - a) Gas filled
 - b) Semiconductor
 - c) Scintillation counter
 - d) None of above
- 6) At longer wavelength ----- crystal is used in X ray monochromator.
 - a) topaz
 - b) Lithium Fluoride

c) Ammonium Dihydrogen Phosphate

d) Quartz

7) Which of the following term is not related to gas filled transducer?

a) The Geiger tube

b) Proportionate counter

c) Ionization Chamber

d) Lithium drifted silicon

8) Determination of Percentage crystallinity of a specimen is application of-----

a) X ray absorption

b) X ray Diffraction

c) X ray fluorescence

d) Isotopic dilution

9) Which of the following is hard source for ionization in mass spectrometry?

a) Fast Atom bombardment

b) Matrix assisted laser desorption

c) Electron Impact

d) Chemical ionization

10) Vacuum is applied in mass spectrometry instrument for -----

a) Getting good fragmentation

b) To increase sensitivity of transducer

c) To avoid recombination of ions

d) To increase sample vaporisation

11) Resolution of mass spectrometer is calculated by formula-----

a) $R = m/\Delta m$

b) $R = \Delta m/m_1 + m_2$

c) $R = \Delta m/m_1 m_2$

d) $R = m_1 + m_2$

12) Correct statement regarding Time of flight analyzer is it -----

- a) has good resolution
- b) require fast electronics
- c) has good sensitivity
- d) require magnetic field

13) The working of Fourier transform Mass spectrometer is based on-----

- a) Magnetic field
- b) ion cyclotron resonance
- c) Time of flight
- d) None of above

14) The separation of ions having different mass to charge ratio occurs in-----

- a) ionization chamber
- b) Analyzer
- c) Detector
- d) Inlet system

15) Which of the following is not a gas phase source?

- a) Electron Impact
- b) Chemical Ionization
- c) Field ionisation
- d) Fast Atom Bombardment

16) Disappearance of molecular ion peak is a limitation of-----

- a) Chemical ionization source
- b) Field desorption source
- c) Field ionization source
- d) Electron Impact source

17) Isotopic dilution is -----

- a) an optical method
- b) radioanalytical method
- c) Electroanalytical method
- d) thermal method

18) In isotopic dilution analysis the specific activity ----- after adding the radioactive isotope in the sample.

- a) Increase
- b) Decrease
- c) Remain same
- d) may increase or decrease

19) Which of the following isotopes is not a radioisotope?

- a) Carbon-13
- b) Carbon-14
- c) Tritium
- d) Sulphur-35

20) Which pair of isotopes are likely to result in the greatest isotope effect?

- a) Carbon-12 and carbon-14
- b) Carbon-12 and carbon-13
- c) Hydrogen and deuterium
- d) Nitrogen-14 and nitrogen-15

Answer key for Mock Test M.Sc Sem II

1	d	Crystal
2	c	Beryllium
3	a	10 ⁻⁵ to 100
4	d	V
5	b	Semiconductor
6	c	Ammonium Dihydrogen Phosphate
7	d	Lithium drifted silicon
8	b	X ray Diffraction
9	c	Electron Impact
10	c	To avoid recombination of ions
11	a	$R = m/\Delta m$
12	b	require fast electronics
13	b	ion cyclotron resonance
14	a	ionization chamber
15	d	Fast Atom Bombardment
16	d	Electron Impact source
17	b	radioanalytical method
18	b	decreases
19	a	Carbon-13
20	c	Hydrogen and deuterium