

Class:T.Y.B.Sc (Chemistry)

Subject Name : Inorganic Chemistry

Semester :VI

Course Code :USCH602

Sample MCQ Question

1.In square planar complex,'d' orbitals of central metal splits into which levels.

- a. 2
- b. 4
- c. 3
- d. 5

Ans: B

2.Electron spin resonance spectra are observed when molecules or ions contain.

- a. All paired electrons
- b. At least one paired electrons
- c. One or more unpaired electron
- d. One or more paired electron

Ans: C

3. The CFSE observed for (Oh) field is.

- a. $12Dq$
- b. $-8Dq$
- c. $6Dq$
- d. $-4Dq$

Ans: D

4. Crystal field theory (CFT) was first developed by the scientist.

- a. Werner and Vleck
- b. Bethe and Van Vleck
- c. Ostwald and Nernts
- d. W.Fan

Ans: B

5. Factor affecting crystal field splitting parameter is _____

- a. Spectral properties
- b. Magnetic properties of the complex
- c. Thermal properties of the complex
- d. Geometry of the complex

Ans: D

6. Hexa fluoro complex of Iron (III) is

- a. High spin complex and strongly paramagnetic
- b. Low spin complex and strongly paramagnetic
- c. High spin complex and diamagnetic
- d. Low spin complex and diamagnetic

Ans:C

7. Stability of the ring structured complex is known as which effect

- a. Steric
- b. Chelate
- c. Inert pair
- d. Ions pair

Ans:B

8. The molar extinction co-efficient value for charge-transfer transition is of order

- a. $(10)^3$ to $(10)^6$
- b. $(10)^2$ to $(10)^4$
- c. $(10)^2$ to $(10)^6$
- d. $(10)^4$ to $(10)^5$

Ans: B

9. The number of unpaired electrons in $[\text{Fe}(\text{CN})_6]^{-3}$ and $[\text{FeF}_6]^{-3}$ are

- a. 5 and 1
- b. 1 and 5
- c. 4 and 1
- d. 1 and 4

Ans: D

10. The transition which involves change in azimuthal quantum number is

- a. Spin forbidden
- b. Laporte forbidden
- c. Spin allowed
- d. Laporte allowed

Ans: D

11. What is the oxidation state of molybdenum in $[(\eta^7\text{-tropylium})\text{Mo}(\text{CO})_3]^+$

a) -1

b) +1

c) +2

d) 0

Ans: D

12. How many M-M bonds are present in $[\text{CpMo}(\text{CO})_3]_2$?

a) 1

b) 2

c) 0

d) 4

Ans: C

13. Which of the following is not considered as an organometallic compound

a) Ferrocene

b) Cis -Platin

c) Grignard Reagent

d) Ziese's salt

Ans: B

14. The transition metal in Wilkinson's catalyst is

- a) Copper
- b) Cis- Platin
- c) Iron
- d) Rhodium

Ans: D

15. The Steps involved in homogeneous catalyst depend upon the

- a) Temperature and pressure
- b) Temperature and concentration
- c) Nature of reactants and types of catalyst
- d) Temperature and nature of reactants

Ans: C

16. Highly pure Si can be obtained by

- a) Electrolysis
- b) Zone refining
- c) Roasting
- d) Poling

Ans: B

17. Copper is obtained by which process

- a) Self oxidation
- b) Self reduction
- c) Alumino thermite
- d) Electrometallurgy

Ans: B

18. Reducing agent used in thermite process is

- a) Si
- b) Al
- c) Mg
- d) Fe

Ans: B

19. Atomic radii is largest in

- a) Neon
- b) Argon
- c) krypton
- d) Xenon

Ans: D

20. Xenon oxodifluoride molecule has which structure

- a) Square planar
- b) Bent –T shape
- c) Linear
- d) Trigonal pyramidal

Ans: B