

M.Sc.-I, sem.-I

Seat No.: **MARCH - 2022 (Summer session) Examination****Subject Code: 83399**

(विद्यार्थ्यांनी हा विषय कोड OMR वर लिहावा / Student should fill this code on OMR sheet)

Subject Name: Master Of Science (New CBCS)_83399_59803/71511/74577 - Inorganic Chemistry - I
_20.08.2022_10.00 AM**Date: 20-08-2022****Time: 10:00:00 to 11:00:00****QP Code: 10210QP****Total Marks : 50 Each Question 2 Marks, Total 25 Ques, Duration 1 Hr****1. All the transition element are metals among the transition series**

- a. 1st
b. 2nd
c. 3rd
d. 4th

2. The electronic configuration of Au is.....

- a. $5d^{10} 6s^1$
b. $5d^9 6s^2$
c. $5d^{10} 6s^0$
d. $5d^8 6s^2$

3. The oxidation state of metal increases , $10Dq$ value.....

- a. remains same
b. decreases
c. increases
d. zero

4. The splitting in octahedral field is more than twice for a Field for same metal ions and ligands

- a. distorted octahedral
b. TBP
c. square planar
d. tetrahedral

5. The decrease in energy caused by the splitting of energy level is known as.....

- a. VBT
b. CFT
c. MOT
d. MOT

6. In CFT bonding between metal and ligand is In nature

- a. covalent
b. coordinate
c. metallic
d. ionic

7. According to Jahn and Teller distortion, In non linear molecule distortion occurs to.....

- a. lower the symmetry
b. remove the degeneracy
c. lower the energy
d. all of these

8. Carbonyls in which two or more metals are attached to no. Of carbonyl group are called... ..

- a. mono
b. di
c. poly
d. tri

9. In mononuclear Carbonyls... .. metal atom is linked with number of carbonyl groups

- a. 1
- b. 2
- c. more than 2
- d. none of these

10. Metal carbonyls are toxic in nature due to.....

- a. low melting point
- b. high melting point
- c. poor thermal stability
- d. both a and c

11. $\text{Fe}(\text{CO})_5$ has structure or geometry.

- a. TBP
- b. square pyrimidal
- c. octahedral
- d. tetrahedral

12. The metal carbon bond in matal carbonys posses..... character

- a. pi
- b. sigma
- c. both pi and sigma
- d. none of these

13. Hydrometallation or addition of metal hydrides to..... hydrocarbons.

- a. saturated
- b. unsaturated
- c. neutral
- d. basic

14. Oxidative number of central metal atom all increases by two units is called as.....reaction.

- a. oxidative
- b. addiion
- c. negative
- d. oxidative addition

15. Oxidative addition to..... system such as square planar complex.

- a. $16e^-$
- b. $14e^-$
- c. $15e^-$
- d. $18e^-$

16. The element to which carbon is bound is Than carbon in organometallic chemistry

- a. less electronegative
- b. more electronegative
- c. less electropositive
- d. more electropositive

17. In M-L equilibrium equilibrium in solution the value of constant isin steric hindrance

- a. increases
- b. decreases
- c. remains same
- d. none of these

18. The addition of hydrogen halide(HX) to transition metal complex in.....solvent.

- a. acidic
- b. basic
- c. polar
- d. non polar

19. Kinetic stability is complex with.....of reaction

- a. rate
- b. free
- c. stability
- d. constant

20. Which of the factor is affecting the stability of meta complex.

- a. temprature
- b. pressure
- c. chelate effect
- d. size of atom

21. The source of energy produced by the sun is the.....

- a. fusion of hydrogen
- b. fission of uranium
- c. burning of fossil fuel
- d. none of these

22. The element have same atomic numbers but different atomic masses are.....

- a. isotopes
- b. isobars
- c. isotones
- d. radioisotopes

23. The rate of radioactivity disintegration is.....of tempperature and pressure

- a. increases
- b. decreases
- c. independent
- d. dependent

24. Which scientist discovered radioactivity.

- a. JJ Thompson
- b. Henry Becquerel
- c. Madame Curie
- d. Rutherford

25. The binding energy per nucleon is a measure of theof the nucleus.

- a. energy
- b. stability
- c. mass defect
- d. packing factor