



Sainath Education Trust's
Rajiv Gandhi College
of Arts, Commerce, & Science. Vashi Navi Mumbai.
{Permanently Affiliated to University Of Mumbai}
ACCREDITED BY NAAC, GRADE 'B'

Sample Multiple Choice Questions

Class :- S.Y.B.Sc.

Subject :- CHEMISTRY PAPER I

Semester :- IV

- 1) In periodic table, element in a second row of transition elements titanium is beneath
 - a) Zn
 - b) Zr
 - c) Sc
 - d) Be
- 2) Paramagnetism is a property of
 - a) Completely filled electronic sub-shells
 - b) Unpaired electrons
 - c) Non-transition elements
 - d) Transition elements
- 3) d-blocks elements are those elements whose two outermost shell are
 - a) Incomplete
 - b) Completely filled
 - c) Vacant
 - d) Intermediate
- 4) Which one of the following sets correctly represents the increases in the paramagnetic property of the ions
 - a) $\text{Cu}^{+2} < \text{V}^{+2} < \text{Cr}^{+2} < \text{Mn}^{+2}$
 - b) $\text{Cu}^{+2} < \text{Cr}^{+2} < \text{V}^{+2} < \text{Mn}^{+2}$
 - c) $\text{Mn}^{+2} < \text{V}^{+2} < \text{Cr}^{+2} < \text{Cu}^{+2}$
 - d) $\text{V}^{+2} < \text{Cr}^{+2} < \text{Mn}^{+2} < \text{Cu}^{+2}$

- 5) Hybridisation in $[\text{Co}(\text{NH}_3)_6]^{+3}$ is
- sp^3d^2
 - d^2sp^3
 - sp^3
 - sp
- 6) Cis -Platin is used in the treatment of -----
- Diabetes
 - Blood Pressure
 - Cancer
 - Dialysis
- 7) A group of atom can function as a ligand only when -----
- It is a small molecule
 - It is positively charged ion
 - It has unshared electron pair
 - Shared pair electrons
- 8) The number of dative bonds to the central metal ions is its
- Oxidation Number
 - Compound Number
 - Co-ordination Number
 - Dative Number
- 9) Electrical workdone in galvanic cell must be equal to the -----of the reactant.
- decrease in the free energy
 - increase in the free energy
 - decrease in the potential energy
 - increase in the potential energy
- 10) $\text{Ag}(s) - \text{AgCl}(s) | \text{Cl}^-$ type of electrode called as-----.
- Metal metal insoluble salt electrode
 - Gas electrode
 - Metal - metal ion electrode
 - Redox electrode
- 11) Calculate the change in free energy of the cell having emf 0.2222 V at 250C and number of electrons are 2.(Given $F = 96500$)
- 42884.6 J/mol
 - 44884.6 J/mol
 - 46884.6 J/mol
 - 40884.6 J/mol

- 12) What is a Phase of system?
- It is homogeneous , physically distinct and mechanically seperable part of heterogeneous system.
 - It is heterogeneous , chemically distinct and mechanically seperable part of homogeneous system.
 - It is homogeneous , chemically distinct and mechanically seperable part of heterogeneous system.
 - It is heterogeneous, physically distinct and mechanically seperable part of homogeneous system.
- 13) For a following chemical reaction, what are the number of components and the degree of freedom of the system?

$$C(S) + H_2O(g) \rightleftharpoons CO(g) + H_2(g)$$
- 4, trivariant
 - 3, divariant
 - 4, divariant
 - 3, trivariant
- 14) In water system, How many number of areas are there in its phase diagram?
- 3
 - 5
 - 4
 - 6
- 15) ----- are galvanic cells in which two identical elctrodes are used to form a cell.
- Reversible Cells
 - Irreversible Cells
 - Chemical Cells
 - Concentration Cells
- 16) While representing the cell, the electrode at which oxidation occurs is assigned as -----and placed at ----- side.
- negative, LHS
 - negative, RHS
 - positive, LHS
 - positive, RHS
- 17) What is the correct formula to calculate emf of the cell?
- $E_{cell} = E_{RHE} - E_{LHE}$
 - $E_{cell} = E_{LHE} - E_{RHE}$
 - $E_{cell} = E_{Oxidation} - E_{Reduction}$
 - $E_{cell} = E_{Oxidation} + E_{Reduction}$

- 18) The acid catalysed esterification is known as..... .
- Fischers esterification
 - Etherification
 - benzoin condensation
 - acylation
- 19) The sulfonic acid react with NaOH to form.....
- Base
 - Salt
 - Ketone
 - Aldehyde
- 20) 1-propanol react with acidic potassiumdichromateto form.....
- 1-propanoic acid
 - isophthalic acid
 - 2-naphthoic acid
 - benzoic acid
- 21) The ortho ,para directing group among the following is.....
- CHO
 - COOH
 - NO₂
 - OH
- 22) The oleum isagent
- Sulfonating
 - Nitrating
 - Dehydrating
 - Hydrating
- 23) Acetic acid react with ethyl alcohol in presence of acid as a catalyst to form.....
- ethyl acetate
 - methyl acetate
 - phenyl acetate
 - phenol
- 24) Benzoic acid react with thionyl chloride in presence of pyridine to form.....
- Benzoyl chloride
 - Phenol
 - Benzyl alcohol
 - Benzene

- 25) When carboxylic acid is heated strongly with sodalime it eliminate CO₂ to form.....
- a) alkane or arene
 - b) alkene
 - c) alkyne
 - d) aldehyde