

CHEMISTRY

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3 Marks

[Atomic structure]

1X3=3

1. Hisenberg's uncertainty principle.
2. Significance of negative electronic energy.
3. He₂ is not formed why?
4. Bond order.
5. Hybridisation.
6. D/B particle and a wave.

[Periodic classification – 2]

1X3=3

1. Electron Affinity of fluorine is less than that of chlorine why?
2. The I.E of Barium is greater than Lithium Why?
3. Compare the I.E of Nitrogen with Oxygen.
4. I.E of Boron is less than Beryllium Why?
5. If the d(C-Cl) is 1.76Å and r(Cl) is 0.99Å find the Radius of Carbon atom.

[3 P-block elements]

2X3=6

1. H₃PO₃ is diprotic why?
2. H₃PO₃ is powerful reducing agent live an eg.
3. Plumbo Solvency.
4. P₂O₅ is a powerful dehydrating agent why?
5. Holme's Signal.
6. Uses of Neon.
7. Inert pairs effect.
8. H₃PO₄ is tribasic Why?
9. HF is not stored in glass bottle why?
10. Etching of glass.
11. Oxidising power of Fluorine.

[4 d-block elements]

2X3=6

1. Mn²⁺ is more stable than Mn³⁺
2. Transition elements form complexes Why?
3. K₂Cr₂O₇ is powerful oxidation agent Why?
4. d – block elements have variable oxidation state.
5. Chrome planting.
6. Gold with aquaria.
7. Spilting of silver.
8. Heat treatment of CuSO₄ Crystals.
9. Zinc with alkali.

[7 – Nuclear chemistry]

1X3=3

1. Radio activity.
2. Half life period.
3. Q.value of a run.

[8 – Solid State]

1X3=3

1. Unit cell.
2. Superconductors .
3. Superconducting transition temperatures.
4. Vitreous state.
5. How are glass formed.

[9 – Thermodynamics]

1x3=3

1. Define Entropy.
2. Troutons rule.
3. Gibbs free energy.
4. Essential conditions for spontaneity.
5. Substances deviate from Troutons rule.

[10 – Chemical equilibrium]

1X3=3

1. Dissociation of P₁₁s decreases in presence of chlorine Why?
2. Le-Chatier's principle.
3. Equilibrium constant .
4. Equilibrium reactions are refluid to as dynamic equilibrium Why?
5. What happens. i) Δn_g is 0 ii) Δn_g is negative iii) Δn_g is positive.

[Surface chemistry]

1X3=3

1. Electrophoresis.
2. Emulsion.
3. Tanning of Leather.
4. Gas in Gas does not formed why?
5. Active centers.
6. Tyndall effect.
7. Beowmian effect.

[Electro chemistry – I]

- 1.Kohlrasch's law.
- 2.Common ion effect.
- 3.Electrochemical equivalent.
- 4.Ostwalds dilution law.
- 5.Buffer solution.
- 6.Tomic product of H₂O .
- 7.Define PH.
- 8.Indicators.

[15 – Isomerism IS ORGANIC CHEMISTRY]

1x3=3

- 1.Meso tartaric acid is an optically inactive compound with asymmetric carbon atom.
- 2.D/B Racemic and meso form.
- 3.Condition for optical activity.
- 4.What is chiral carbon.
- 5.Racemic mixture.

[16 – Hydroxyl Derivatives]

2X3=6

- 1.Phenol to phenolphthalion .
- 2.Glycrol is more viscous than ethanol.
- 3.Compling reaction.
- 4.Use of Benzil Acrohol.
- 5.Glyurol with potassium bisulphats(preparation of PPN).
- 6.Dows process.
- 7.Preparation of tenylens with rxn.

[18 – Carbony Compounds]

1X3=3

- 1.Rosenmund reduction.
- 2.Cannizaso rxn.
- 3.Urotropine & its uses.
- 4.Formalin & its uses.
- 5.Fridel grafts rxn.
- 6.Haloform exn.
- 7.D/B Formaldehyde & Autaldehyde .

[19 – Carboxylic Acids]

- 1.Esterification rxn.
- 2.Trans Estrification rxn.
- 3.HVZ reaction.
- 4.Uses of oxalic acid.
- 5.Formic acid reduces tollens reagent but actic acid cannot why?

[Organic Nitrogen Compounds]

- 1.Acctamicle to methyl amine.
- 2.Gabbrill thlaymide synthrm.
- 3.Formation of Schiffs base.
- 4.Diazitisation rxn.
- 5.Sand-Mayer rxn.
- 6.Gombrrg Bergman rxn.

[22]

- 1.Antiseptic give Example.
- 2.Chromophore give example.
- 3.Anaesthetic give example.
- 4.In what way are Ant acid are important.
- 5.Charterstic of dyes.
- 6.Food preservative give example.
- 7.Antipyretic give example.
- 8.Analgensics give example.
- 9.Antibiotic give example .

Total no of Questions = 104

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