

<p>Q1. The melting point of CsCl is lower than that of NaCl. It implies that :</p> <ol style="list-style-type: none"> (1) Two compounds have different ionic nature (2) Two compounds have different polarising power (3) Their lattice arrangements are different (4) Given statement is wrong <p>Q2. The alkali metals are good conductors of heat and electricity because :</p> <ol style="list-style-type: none"> (1) They are easily electrolysed (2) They are highly reactive metals (3) They have mobile electrons in their metallic lattice (4) They have mobile protons in their lattice <p>Q3. Select correct statement “</p> <ol style="list-style-type: none"> (1) Be and Al show diagonal relationship (2) Be forms tetrahedral complexes (3) Al forms AlF_6^{3-}, an octahedral complex (4) All are correct statements <p>Q4. Going down to IIA group , following properties increase except :</p> <ol style="list-style-type: none"> (1) Solubility of hydroxide in water (2) Hydration energy (3) Thermal stability of carbonates (4) Ionic radius <p>Q5. Setting of cement is :</p> <ol style="list-style-type: none"> (1) Exothermic reaction (2) Endothermic reaction (3) Neither exothermic nor endothermic (4) Partly exothermic and partly endothermic <p>Q6. $Na_2[Be(OH)_4]$ is formed when :</p> <ol style="list-style-type: none"> (1) BeO reacts with NaOH solution (2) Be reacts with NaOH solution (3) Both are correct (4) None is correct <p>Q7. Which is used in the treatment of manic –</p>	<p>depressive disorders?</p> <ol style="list-style-type: none"> (1) Sodium carbonate (2) Lithium carbonate (3) Potassium carbonate (4) Magnesium carbonate <p>Q8. When alkali metals dissolve in liquid ammonia ,it is found that:</p> <ol style="list-style-type: none"> (1) The dilute solutions are blue but the colour changes to bronze with increasing concentration (2) The blue colour is due to the presence of solvated electrons (3) The blue solutions are paramagnetic but the bronze coloured solutions are diamagnetic. (4) All the facts given above are found <p>Q9. Alums are used as mordant in dyeing because :</p> <ol style="list-style-type: none"> (1) Dye is adsorbed on aluminium hydroxide which is deposited on fibre in the hydrolysis process (2) Dye is adsorbed on KOH formed due to hydrolysis (3) Of both (4) Of none <p>Q10. Hot conc. Nitric acid converts graphite into :</p> <ol style="list-style-type: none"> (1) Graphite oxide (2) Benzene hexacarboxylic acid (3) Both (1) and (2) (4) None of the above <p>Q11. Which is /are used as ligand in complexes?</p> <ol style="list-style-type: none"> (1) CN^- (2) CO (3) Both (1) and (2) (4) None of these <p>Q12. Concentrations of the atmospheric carbon dioxide have been rising because of :</p>
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- (1) Use of fossil fuels
- (2) Acid rain
- (3) Photochemical smog
- (4) Ozone depletion

Q13. The minerals having silicate chains are collectively called :

- (1) Olivine
- (2) Zircon
- (3) Pyroxenes
- (4) Natrolite

Q14. The colour of blue glass is due to the presence of oxide of :

- (1) Chromium
- (2) Cobalt
- (3) Gold
- (4) Silver

Q15. In liquid ammonia , :

- (1) Ammonium chloride is an acid
- (2) Soda-amide is a base
- (3) Acetic acid behaves as strong acid
- (4) All of the above facts are true

Q16. Effective atomic number of Fe in brown ring complex $[\text{Fe}(\text{H}_2\text{O})_5\text{NO}]^{2+}$

- (1) 36
- (2) 37
- (3) 38
- (4) 39

Q17. Magnetic moment of $[\text{Ni}(\text{CN})_4]^{2-}$ is zero but that of $[\text{Ni}(\text{H}_2\text{O})_4]^{2+}$ is 2.83 BM. It is because of :

- (1) Different oxidation states of Ni in two complexes
- (2) CN^- is a strong ligand making two unpaired electrons in Ni^{2+} paired while in $[\text{Ni}(\text{H}_2\text{O})_4]^{2+}$, two electrons remain unpaired, water being weak ligand
- (3) Both (1) and (2)
- (4) None of the above

Q18. Cementite is :

- (1) Interstitial compound of iron and carbon
- (2) An alloy of Fe and Cr
- (3) A compound resembling cement
- (4) An ore of iron

Q19. The lanthanoid contraction is due to :

- (1) Filling of 4f before 4d
- (2) Filling of 4d before 4f
- (3) Filling of 4f before 5d
- (4) Filling of 5d before 4f

Q20. Hypo ($\text{Na}_2\text{S}_2\text{O}_3$) :

- (1) Dissolves AgBr in photographic plate
- (2) Gives white precipitate with silver nitrate ;white precipitate changes to black on dilution
- (3) Both are correct
- (4) None is correct

Q21. Spin isomerism is shown by :

- (1) Dichloro benzene
- (2) Hydrogen
- (3) Dibasic acid
- (4) n-butane

Q22. Ionic hydrides react with water:

- (1) to give acidic solutions
- (2) to give basic solutions
- (3) to produce hydride ions
- (4) to produce protons

Q23. Select the correct statements :

- (1) hydride ion is larger than any of the halide ion except iodide
- (2) hydride ions are reducing agents
- (3) boranes are electron deficient hydrides
- (4) all are correct statements

Q24. Fuel used for rocket propulsion is a mixture of :

- (1) hydrazine and hydrogen peroxide
- (2) hydrazine and TNT

<p>(3). Hydroxyl amine and TNT</p> <p>(4). Hydroxyl amine and hydrogen peroxide</p> <p>Q25. Pentamminechloroplatinum (IV) chloride ionises to give :</p> <ol style="list-style-type: none"> (1) Two ions (2) Three ions (3) Four ions (4) Five ions <p>Q26. The complex : $[\text{Co}(\text{NH}_3)_3\text{Cl}_3]$</p> <ol style="list-style-type: none"> (1) Is a molecular complex (2) Has four ions in the aqueous solution (3) Has primary valency of cobalt as six (4) All are correct <p>Q27. $[\text{Ni}(\text{CN})_4]^{2-}$ and $[\text{Ni}(\text{CO})_4]$ have :</p> <ol style="list-style-type: none"> (1) sp^3 hybridised Ni in both the cases (2) sp^3 and sp^2d –hybridized Ni (3) dsp^2 and sp^3 hybridized Ni (4) dsp^2 in both cases <p>Q28. Select the correct statement :</p> <ol style="list-style-type: none"> (1) Chelation effect is maximum for five or six membered rings (2) Complex ions in which ligands can be interchanged rapidly are said to be labile (3) Both are correct (4) None is correct <p>Q29. In which of the following compounds transition metal may has zero oxidation state?</p> <ol style="list-style-type: none"> (1) $[\text{Fe}(\text{CO})_5]$ (2) $[\text{Ni}(\text{CN})_4]^{2-}$ (3) Fe_2O_3 (4) CrO_5 <p>Q30. Which of the following complexes will have four different isomers?</p> <ol style="list-style-type: none"> (1) $[\text{Co}(\text{en})_2\text{Cl}_2]\text{Cl}$ (2) $[\text{Co}(\text{en})(\text{NH}_3)_2\text{Cl}_2]\text{Cl}$ (3) $[\text{Co}(\text{PPh}_3)_2(\text{NH}_3)\text{Cl}_2]\text{Cl}$ 	<p>(4) $[\text{Co}(\text{en})_3]\text{Cl}_3$</p>
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