

S & P Block elements Assignment - II

- Solution of sodium metal in liquid ammonia is strongly reducing due to the presence in the solution of the following
 - Sodium hydride
 - Sodium amide
 - Sodium atoms
 - Solvated electrons
- Which of the following alkali metals has the biggest tendency for the half reaction, $M(g) \rightarrow M^+(aq) + e^-$
 - Lithium
 - Sodium
 - Cesium
 - Potassium
- On dissolving moderate amount of sodium metal in liquid NH_3 at low temperature, which one of the following does not occur
 - Blue coloured solution is obtained
 - Na^+ ions are formed in the solution
 - Liquid NH_3 becomes good conductor of electricity
 - Liquid ammonia remains diamagnetic
- Mg and Li are similar in their properties due to
 - Same e/m ratio
 - Same electron affinity
 - Same group
 - Same ionic potential
- If Na is heated in presence of air, it forms
 - Na_2CO_3
 - Na_2O_2
 - Na_2O
 - Both (b) and (c)
- Which of the following is most reducing agent
 - HNO_3
 - Na
 - Cl_2
 - Cr
- In which of the following processes, fused sodium hydroxide is electrolysed at a $330^\circ C$ temperature for extraction of sodium
 - Castner's process
 - Down's process
 - Cyanide process
 - Both (b) and (c)
- A metal M readily forms its sulphate MSO_4 which is water-soluble. It forms its oxide MO which becomes inert on heating. It forms its an insoluble hydroxide $M(OH)_2$ which is soluble in $NaOH$ solution. Then M is
 - Mg
 - Ba
 - Ca
 - Be
- The number and type of bonds between 2 carbon atoms in CaC_2
 - One sigma (σ) and one pi (π) bond
 - One sigma (σ) and two pi (π) bond
 - One sigma (σ) and half pi (π) bond
 - One sigma (σ) bond
- Which of the following has the lowest solubility
 - CaF_2
 - $CaCl_2$
 - $CaBr_2$
 - CaI_2
- One mole of magnesium nitrate on the reaction with an excess of water gives
 - Two moles of ammonia
 - One mole of nitric acid
 - One mole of ammonia
 - Two mole of nitric acid
- In a line kiln, to get higher yield of CO_2 , the measure that can be taken is
 - To remove CaO
 - To add more $CaCO_3$
 - To maintain high temperature
 - To pump out CO_2
- During extraction of Fe ; slag obtained is
 - FeO
 - $FeSiO_3$
 - $MgSiO_3$
 - $CaSiO_3$
- Slaked lime $[Ca(OH)_2]$ is used in the manufacture
 - Cement
 - Fire bricks
 - Pigment
 - Medicine
- Thomas slag is
 - $CaSiO_3$
 - $Ca_3(PO_4)_2$
 - $MnSiO_3$
 - $CaCO_3$
- The purification of alumina is called
 - Bosch process
 - Castner process
 - Baeyer's process
 - Hoop's process
- Which of the following alloys is used for making aeroplane parts
 - Constant
 - Dutch metal
 - Alnico
 - Duralumin
- Aluminium oxide is not reduced by chemical reactions since
 - Aluminium oxide is reactive
 - Reducing agents contaminate
 - Aluminium oxide is highly stable
 - The process pollutes the environment
- Carbon differs from other elements of the group. Which is the false statement
 - Due to its marked tendency to form long chains (catenation)
 - Due to its unique ability to form multiple bonds
 - Due to d -orbital in penultimate shell
 - Due to its limitation of co-ordination number 4

GRAVITY CLASSES

20. Metalloid among the following is
(a) *Si* (b) *C* (c) *Pb* (d) *Ge*
21. Which species does not exist
(a) $(SiCl_6)^{2-}$ (b) $(CCl_6)^{2-}$ (c) $(GeCl_6)^{2-}$ (d) $(SnCl_6)^{2-}$
22. Which of the following products is formed on boiling tin with an alkali solution
(a) $Sn(OH)_2$ (b) $Sn(OH)_4$ (c) SnO_3^{2-} (d) SnO_2
23. When ammonia reacts with sodium hypochlorite, product containing nitrogen is
(a) N_2 (b) N_2O (c) NH_2OH (d) $H_2N.NH_2$
24. [A deep brown gas is formed by mixing two colourless gases which are
(a) NO_2 and O_2 (b) N_2O and NO (c) NO and O_2 (d) NH_3 and HCl
25. Conc. HNO_3 can be stored in container of
(a) *Al* (b) *Sn* (c) *Cu* (d) *Zn*
26. HNO_3 in aqueous solution yields
(a) NO_3^- and H^+ (b) NO_3^- and H_3O^+ (c) NO_2^- and OH^- (d) N_2O_5 and H_2O
27. The reaction, which forms nitric oxide, is
(a) *C* and N_2O (b) *Cu* and N_2O (c) *Na* and NH_3 (d) *Cu* and HNO_3
28. Liquid Ammonia is used for refrigeration because
(a) It has a high dipole moment (b) It has a high heat of vapourisation
(c) It is basic (d) It is a stable compound
29. Which has highest concentration of *N*
(a) Urea (b) Calcium ammonium nitrate
(c) Ammonium sulphate (d) Nitrolin
30. The product Obtained by heating $(NH_4)_2SO_4$ and *KCNO* is
(a) Hydrocyanic acid (b) Ammonia (c) Ammonium cyanide (d) Urea
31. Which of the following is nitrogenous fertilizers
(a) Bone meal (b) Thomas meal
(c) Nitro phosphate (d) Ammonium sulphate
32. A neutral fertilizer among the following compounds is
(a) Urea (b) Ammonium nitrate
(c) Ammonium sulphate (d) Calcium ammonium nitrate
33. Which oxide of nitrogen is obtained on heating ammonium nitrate at $250^\circ C$
(a) Nitric oxide (b) Nitrous oxide (c) Nitrogen dioxide (d) Dinitrogen oxide
34. Nitrates of all metals are
(a) Unstable (b) Stable (c) Coloured (d) Soluble
35. Urea is preferred to ammonium sulphate as a nitrogenous fertilizer because
(a) It is more soluble in water
(b) It is cheaper than ammonium sulphate
(c) It is quite stable
(d) It does not cause acidity in the soil
36. In the reaction, $P_2O_5 + 3CaO \rightarrow Ca_3(PO_4)_2$; P_2O_5 acts as.....
(a) Acidic flux (b) Basic Flux (c) Basic impurity (d) Acidic impurity
37. P_4O_{10} is not used with to dry NH_3 gas because
(a) P_4O_{10} is basic and NH_3 is acidic (b) P_4O_{10} is acidic and NH_3 is basic
(c) P_4O_{10} is not a drying agent (d) P_4O_{10} reacts with moisture in NH_3
38. Which of the following compound is tribasic acid

GRAVITY CLASSES

- (a) H_3PO_2 (b) H_3PO_3 (c) H_3PO_4 (d) $H_4P_2O_7$
39. Which acid is not formed by the action of water on phosphorus pentoxide
(a) H_3PO_3 (b) H_3PO_4 (c) $H_4P_2O_7$ (d) HPO_7
40. On boiling, phosphorus with KOH solution product formed is
(a) Potassium phosphate (b) Phosphorus pentoxide
(c) Phosphorus hydroxide (d) Phosphine
41. Which one is a peroxide
(a) NO_2 (b) MnO_2 (c) BaO_2 (d) SO_2
42. Oleum is chemically known as
(a) H_2SO_3 (b) H_2SO_5 (c) $H_2S_2O_7$ (d) $H_2S_2O_8$
43. Aqueous solutions of hydrogen sulphide and sulphur dioxide when mixed together, yield
(a) Sulphur and water (b) Sulphur trioxide and water
(c) Hydrogen peroxide and sulphur (d) Hydrogen and sulphurous acid
44. In the preparation of sulphuric acid, V_2O_5 is used in the reaction, which is
(a) $S + O_2 \rightarrow SO_2$ (b) $2SO_2 + O_2 \rightarrow 2SO_3$
(c) $SO_2 + H_2O \rightarrow H_2SO_4$ (d) $N_2 + 3H_2 \rightarrow 2NH_3$
45. The reaction $H_2S + H_2O_2 \rightarrow S + 2H_2O$ manifests
(a) Acidic nature of H_2O_2 (b) Alkaline nature of H_2O_2
(c) Oxidizing nature of H_2O_2 (d) Reducing action of H_2O_2
46. Order of electron affinity of F, Cl, Br and I is
(a) $F < Cl < Br < I$ (b) $F > Cl > Br > I$ (c) $F < Cl > Br > I$ (d) $F > Cl > Br < I$
47. Glass reacts with HF to produce
(a) SiF_4 (b) H_2SiF_6 (c) H_2SiO_3 (d) Na_3AlF_6
48. Fluorine with dilute $NaOH$ gives
(a) OF_2 (b) O_3 (c) O_2 (d) HF and O_2
49. Which of the following is prepared by electrolytic method
(a) Ca (b) Sn (c) S (d) F_2
50. The correct order of solubility in water for He, Ne, Ar, Kr, Xe , is
(a) $He > Ne > Ar > Kr > Xe$ (b) $Ne > Ar > Kr > He > Xe$
(c) $Xe > Kr > Ar > Ne > He$ (d) $Ar > Ne > He > Kr > Xe$