

TOPIC : P- BLOCK ELEMENTS

- Hydrolysis of one mole of peroxodisulphuric acid produces
 - two moles of sulphuric acid
 - two moles of peroxomonosulphuric acid
 - one mole of sulphuric acid and one mole of peroxomonosulphuric acid
 - one mole of sulphuric acid, one mole of peroxomonosulphuric acid and one mole of hydrogen peroxide
- The volume strength of 0.40 M H_2O_2 solution is
 - 4.48
 - 4.40
 - 4.84
 - 8.40
- The volume of 10 volume H_2O_2 solution that decolourises 200 ml of 2N KMnO_4 solution in acidic medium is
 - 112 ml
 - 336 ml
 - 200 ml
 - 224 ml
- A colourless gas which burns with blue flame and reduces hot copper oxide to copper is
 - CO
 - SO_2
 - O_2
 - NO_2
- The normality of 30 volume H_2O_2 solution is
 - 3.57
 - 7.53
 - 5.73
 - 5.36
- Aluminium reacts with aqueous sodium hydroxide to give hydrogen and
 - sodium aluminate
 - aluminium hydroxide
 - sodium meta aluminate
 - sodium carbonate and aluminium
- Moist iodine reacts with ozone to give :
 - HI
 - HIO_3
 - I_2O_5
 - I_2
- On strong heating $\text{Pb}(\text{NO}_3)_2$ gives
 - O_2
 - NO_2
 - $\text{NO}_2 + \text{O}_2$
 - NO
- Pick out the incorrect statement regarding ozone.
 - O_3 is an unstable, dark-blue diamagnetic gas
 - The central oxygen in O_3 is sp^2 -hybridized
 - It causes the tailing of mercury
 - It does not react with KOH
- Permutit is a technical name given to
 - Aluminate of calcium and sodium
 - Silicates of calcium and sodium
 - Hydrated silicates of aluminium and sodium
 - Silicates of calcium and potassium
- Which of the following solutions does not change its colour on passing ozone through it
 - starch iodide solution
 - alcoholic solution of benzidine
 - acidic solution of potassium dichromate
 - acidified solution of FeSO_4
- Which of the following leaves no residue on heating?
 - $\text{Cu}(\text{NO}_3)_2$
 - NaNO_3
 - $\text{Pb}(\text{NO}_3)_2$
 - NH_4NO_3

13. Ozone oxidises aqueous iodine to
(A) I_3^- (B) HIO_3 (C) I_2O_5 (D) ICl
14. Ammonia can be dried by
(A) Conc. H_2SO_4 (B) P_4O_{10} (C) CaO (D) anhydrous $CaCl_2$
15. Action of conc. HNO_3 on metallic tin produces
(A) Stannous nitrite (B) Stannous nitrate
(C) Stannic nitrate (D) Metastannic acid
16. When zinc reacts with very dilute nitric acid it produces
(A) NO (B) NH_4NO_3 (C) NO_2 (D) H_2
17. Ammonia is dried over
(A) Slaked lime (B) Calcium chloride
(C) Phosphorous pentoxide (D) Quick lime
18. Tailing of mercury is due to the formation of
(A) Mercuric oxide (B) Mercurous oxide
(C) Mercuric chloride (D) Mercurous chloride
19. Which of the following suppresses the decomposition of H_2O_2 ?
(A) MnO_2 (B) Finely divided metals
(C) Acetanilide (D) Dust particles
20. Ammonium phosphate on heating gives
(A) Phosphoric acid and ammonia (B) Ammonium phosphide and ammonia
(C) Meta phosphoric acid and ammonia (D) None of these
21. Which of the following is a metallic hydride?
(A) $LaH_{2.8}$ (B) CaH_2 (C) SnH_4 (D) $LiBH_4$
22. Calgon used as water softner is
(A) $Na_2 [Na_4(PO_3)_6]$ (B) $Na_4 [Na_2(PO_3)_6]$
(C) $Na_2 [Na(PO_4)_5]$ (D) $Na_4 [Na_2(PO_4)_6]$
23. During concentration of hydrogen peroxide, the removal of last traces of water from 99% H_2O_2 is carried out by
(A) Vacuum distillation (B) Placing in a vacuum desicator
(C) Cooling in a freezing mixture (D) Slow evaporation in sun
24. In the calgon process of softening of water, which of the following is used?
(A) Sodium polymetaphosphate (B) Hydrated sodium aluminium silicate
(C) Cation exchange resins (D) Anion exchange resins
25. Hydrogen peroxide is used as an antiseptic under the name
(A) Bleaching powder (B) Perhydrol
(C) Nessler's reagent (D) Catechol
26. The adsorption of hydrogen by platinum is known as :
(A) Absorption (B) Hydrogenation
(C) Occlusion (D) Dehydrogenation
27. The compound $H_2N - Hg - O - Hg - I$ is formed by the action of
(A) NH_3 and HgO in the presence of iodine
(B) NI_3 , HgO and H_2O

- (C) $\text{NH}_3 + \text{K}_2\text{HgI}_4$
 (D) $\text{KI} + \text{NH}_3 + \text{Hg}$
28. Which substance does not speed up decomposition of H_2O_2 ?
 (A) Glycerol (B) Pt (C) Gold (D) MnO_2
29. Ozone readily dissolves in
 (A) Water (B) Turpentine oil
 (C) Carbon disulphide (D) Ammonia
30. In ordinary hydrogen, the approximate composition of ortho and parahydrogen is respectively
 (A) 75%, 25% (B) 25%, 75% (C) 50%, 50% (D) 99%, 1%
31. Hydron is name given to
 (A) H_3O^+
 (B) H^+
 (C) Mixture of isotopes of hydrogen in their proportion to the natural abundance of H and D
 (D) D^+
32. Hydrogen peroxide was first time prepared by
 (A) Gay Lussac (B) Bernard (C) Thenard (D) Priestley
33. Nitrate ion is iso-structural with
 (A) BF_4^{-1} (B) CO_3^{2-} ion (C) SO_4^{2-} ion (D) All the above
34. Yellow colour of usual HNO_3 is due to the presence of
 (A) NO_2 (B) N_2O (C) NO (D) N_2O_5
35. Aqua fortis is name given to
 (A) HNO_3 (B) HNO_2 (C) H_2NO_3 (D) $\text{H}_2\text{N}_2\text{O}_2$
36. Bond order of N – O bond in nitrate is
 (A) 1 (B) 1.33 (C) 1.5 (D) 2
37. Borax is
 (A) $\text{Na}_2\text{B}_4\text{O}_7 \cdot 4\text{H}_2\text{O}$ (B) $\text{Na}_2\text{B}_4\text{O}_7 \cdot 10\text{H}_2\text{O}$
 (C) $\text{Ca}_2\text{B}_6\text{O}_{11} \cdot 5\text{H}_2\text{O}$ (D) $\text{NaOH} \cdot \text{B}_2\text{O}_3$
38. An inorganic compound gives off O_2 on heating. It also makes the colourless solution of potassium iodide to acquire light purple colour. The compound can be
 (A) SO_3 (B) KNO_3 (C) H_2O_2 (D) H_2O
39. The hair dye available in the market generally contain two bottles one containing dye and the other containing hydrogen peroxide. The two bottles are mixed before applying the dye. The function of hydrogen peroxide is
 (A) To dilute the dye
 (B) To oxidise the dye to give desired colour
 (C) To reduce the dye to give desired colour
 (D) To acidity the dye solution
40. Which of the following processes does not involve a catalyst?
 (A) Haber's process (B) Thermite process
 (C) Ostwald process (D) Contact process
41. Decomposition of hydrogen peroxide is prevented by
 (A) NaOH (B) MnO_2 (C) Glycerol (D) Oxalic acid
42. Which of the following oxide of nitrogen is the anhydride of nitrous acid?
 (A) NO (B) N_2O_3 (C) N_2O_4 (D) N_2O_5

43. NH_3 will not give N_2 gas on reacting with
(A) CuO (B) CaOCl_2
(C) NaOCl / gelatin (D) Limited quantity of Cl_2
44. Ozone can be tested by
(A) Hg (B) Ag (C) Na (D) None of these
45. Ammonia is a Lewis base. It forms complexes with cations. Which one of the following cations forms complex with ammonia
(A) Ag^+ (B) Cu^{2+} (C) Both A and B (D) None of these

ANSWERS KEY

1	C	2	A	3	D	4	A	5	D
6	C	7	B	8	C	9	D	10	C
11	C	12	D	13	B	14	C	15	D
16	B	17	D	18	B	19	C	20	C
21	A	22	A	23	C	24	A	25	B
26	C	27	C	28	A	29	B	30	A
31	C	32	C	33	B	34	A	35	A
36	B	37	B	38	C	39	B	40	B
41	C	42	B	43	C	44	A	45	C