

CLASS : XIIth

DATE :

SUBJECT : CHEMISTRY

DPP NO. :7

Topic :-HYDROGEN

- Heavy water is used in atomic reactor as
 - Moderator
 - Coolant
 - Both moderator and coolant
 - Neither coolant nor moderator
- The exhausted Permutit is generally regenerated by percolating through it a solution of:
 - Sodium chloride
 - Calcium chloride
 - Magnesium chloride
 - Potassium chloride
- The best explanations for not placing hydrogen with the group of alkali metals or halogens is:
 - Hydrogen can form compounds with all other elements
 - Hydrogen is much lighter element than the alkali metals or the halogens
 - The ionization energy of hydrogen is too high for group of alkali metals but too low for halogen group
 - None of the above
- Hydrogen molecule differs from chlorine molecule in the following respect.
 - Hydrogen molecule is non-polar but chlorine molecule is polar
 - Hydrogen molecule is polar while chlorine molecule is non-polar
 - Hydrogen molecule can form intermolecular hydrogen bonds but chlorine molecule does not
 - Hydrogen molecule cannot participate in coordinate bond formation but chlorine molecule can
- The geometry of water molecule is same as that of:
 - CO₂
 - C₂H₄
 - Chlorine oxide
 - Boron trifluoride
- Hydrogen peroxide does not:
 - Liberate iodine from KI
 - Turn the titanium salt yellow
 - Give silver peroxide with moist silver oxide
 - Turn the mixture of aniline, KClO₃ and dil. H₂SO₄ violet
- The most dangerous method of preparing hydrogen would be by the action of dil. HCl and:
 - Zn
 - Fe
 - K
 - Al
- When zeolite which is hydrated sodium aluminium silicate is treated with hard water, the sodium ions are exchanged with
 - H⁺ ions
 - Mg²⁺ ion
 - Ca²⁺ ion
 - both Ca²⁺ and Mg²⁺

9. 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
10. During hydrogenation of oil the catalyst commonly used is:
- Pd on CuCl_2
 - Ni
 - Fe
 - V_2O_5
11. Oxygen and hydrogen react to form water. This discovery was made by:
- Priestley
 - Cavendish
 - Scheele
 - Newton
12. Which one of the following processes will produce hard water?
- Saturation of water with CaCO_3
 - Saturation of water with MgCO_3
 - Saturation of water with CaSO_4
 - Addition of Na_2SO_4 to water
13. The oxygen atom of H_2O_2 used for oxidation is bound by:
- Electrovalent bond
 - Co-ordinate bond
 - Covalent bond
 - None of these
14. Which reaction shows oxidizing nature of H_2O_2 ?
- $\text{H}_2\text{O}_2 + 2\text{KI} \rightarrow 2\text{KOH} + \text{I}_2$
 - $\text{Cl}_2 + \text{H}_2\text{O}_2 \rightarrow 2\text{HCl} + \text{O}_2$
 - $\text{H}_2\text{O}_2 + \text{Ag}_2\text{O} \rightarrow 2\text{Ag} + \text{H}_2\text{O} + \text{O}_2$
 - $\text{NaClO} + \text{H}_2\text{O}_2 \rightarrow \text{NaCl} + \text{H}_2\text{O} + \text{O}_2$
15. H_2O_2 is manufactured these days
- By burning hydrogen in excess of oxygen
 - By the action of H_2O_2 on BaO_2
 - By the action of H_2SO_4 on Na_2O_2
 - By electrolysis of 50% H_2SO_4
16. MnO_2 liberates oxygen from a solution of H_2O_2 (the action being catalytic) only if the solution is:
- Basic
 - Acidic
 - Neutral
 - None of these
17. Ionic hydrides react with water to give
- Hydride ions
 - Acidic solutions
 - Protons
 - Basic solutions
18. Hydrogen is evolved by the action of cold dilute HNO_3 on:
- Fe
 - Mg or Mn
 - Cu
 - Al
19. Hydrogen peroxide for the first time was prepared by:
- Priestley
 - Thenard
 - Gay-Lussac
 - Bernard

20. Which pair does not show hydrogen isotopes?

a) *Ortho* hydrogen and *para* hydrogen

b) Protium and deuterium

c) Deuterium and tritium

d) Tritium and protium

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