

CLASS : XII<sup>th</sup>

DATE :

SUBJECT : CHEMISTRY

DPP NO. :10

## Topic :-HYDROGEN

- Point out the incorrect statement.
  - Hardness of water depends upon its soap consuming power
  - Temporary hardness is due to bicarbonates of calcium and magnesium
  - Permanent hardness is due to soluble sulphates, chlorides and nitrates of Ca and Mg
  - Permanent hardness can be removed by boiling water
- $\text{H}_2\text{O}_2$  converts potassium ferrocyanide to ferricyanide. The change observed in the oxidation state of iron is:
  - $\text{Fe}^{2+} \rightarrow \text{Fe}^{3+}$
  - $\text{Fe} \rightarrow \text{Fe}^{2+}$
  - $\text{Fe}^{3+} \rightarrow \text{Fe}^{2+}$
  - $\text{Fe}^{2+} \rightarrow \text{Fe}^+$
- Which of the following is correct about heavy water?
  - Water at  $4^\circ\text{C}$  having maximum density is known as heavy water
  - It is formed by the combination of heavier isotope of hydrogen and oxygen
  - It is heavier than water
  - None of the above
- Hydrogen is prepared on large scale for industrial use
  - by  $\text{Zn} + \text{H}_2\text{SO}_4$
  - by  $\text{Al} + \text{NaOH}$
  - by  $\text{Na} + \text{C}_2\text{H}_5\text{OH}$
  - From water gas
- Hydrogen is obtained by the action of an alloy of silicon and iron with  $\text{NaOH}$ . The process is called:
  - Wood process
  - Bosch process
  - Haber process
  - Silicol process
- In transforming 0.01 mole of  $\text{PbS}$  to  $\text{PbSO}_4$ , the volume of 10 volume  $\text{H}_2\text{O}_2$  required will be
  - 11.2mL
  - 22.4mL
  - 33.6mL
  - 44.8mL
- Hydrogen peroxide when added to a solution of potassium permanganate acidified with sulphuric acid
  - Forms water only
  - Acts as an oxidising agent
  - Acts as a reducing agent
  - Reduces sulphuric acid
- Water is oxidised to oxygen by

- a)  $\text{ClO}_2$                       b)  $\text{KMnO}_4$                       c)  $\text{H}_2\text{O}_2$                       d) Fluorine
9. The most abundant element in the universe is thought to be  
a) Carbon                      b) Oxygen                      c) Hydrogen                      d) Nitrogen
10. In the preparation of hydrogenated oil the chemical reaction involving hydrogen is called:  
a) Hydrogenation              b) Reduction                      c) Dehydrogenation              d) Oxidation
11. The most abundant isotope of hydrogen is:  
a) Tritium                      b) Deuterium                      c) Protium                      d) Para-hydrogen
12. Which statement is not correct for hydrogen peroxide?  
a) Pure  $\text{H}_2\text{O}_2$  is fairly stable  
b) It sometimes acts as a reducing agent  
c) It acts as an oxidizing agent  
d) Aqueous solution of  $\text{H}_2\text{O}_2$  is weakly basic
13. Which one is correct for perhydrol?  
a) It is 30%  $\text{H}_2\text{O}_2$  or 100 vol.  $\text{H}_2\text{O}_2$   
b) Its molarity is 8.8 M  
c) It is used as antiseptic and germicide  
d) All of the above
14. Hydrogen has a tendency to gain one electron in order to acquire helium configuration. It thus, resembles:  
a) Alkali metals                      b) Noble gases                      c) Halogens                      d) Alkaline earth metals
15. Calgon is an industrial name given to:  
a) Normal sodium phosphate              b) Sodium meta-aluminate  
c) Sodium hexa meta-phosphate              d) Hydrated sodium aluminium silicate
16. For the bleaching of hair, the substance used is:  
a)  $\text{SO}_2$                       b) Bleaching powder              c)  $\text{H}_2\text{O}_2$                       d)  $\text{O}_3$
17. In solid hydrogen, the intermolecular bonding is:  
a) Ionic                      b) Van der Waals'                      c) Metallic                      d) Covalent
18. The species that does not contains peroxide ions is:  
a)  $\text{PbO}_2$                       b)  $\text{H}_2\text{O}_2$                       c)  $\text{SrO}_2$                       d)  $\text{BaO}_2$
19. The critical temperature of water is higher than that of  $\text{O}_2$  because  $\text{H}_2\text{O}$  molecule has:  
a) Fewer electrons than oxygen              b) Two covalent bonds  
c) V-shape                      d) Dipole moment
20. Pure  $\text{H}_2\text{O}_2$  is:  
a) Colourless liquid                      b) A gas

c) Blue syrupy liquid

d) Pale blue syrupy liquid

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