

CLASS : XIIth

DATE :

SUBJECT : CHEMISTRY

DPP NO. :6

Topic :-HYDROGEN

- The hardness of water is due to Metal ions.
a) Ca^{2+} and Na^+ b) Mg^{2+} and K^+ c) Ca^{2+} and Mg^{2+} d) Zn^{2+} and Ba^{2+}
- Under what conditions of temperature and pressure, the formation of atomic hydrogen from molecular hydrogen will be favoured more?
a) High temperature and low pressure
b) Low temperature and low pressure
c) High temperature and high pressure
d) Low temperature and high pressure
- Heavy hydrogen is used:
a) In filling the balloons
b) In studying reaction mechanism
c) In calculating heat of formation
d) Iron hydroxide precipitates
- The reaction, $\text{H}_2\text{S} + \text{H}_2\text{O}_2 \rightarrow \text{S} + 2\text{H}_2\text{O}$ manifests:
a) Acidic nature of H_2O_2 b) Alkaline nature of H_2O_2
c) Oxidizing nature of H_2O_2 d) Reducing nature of H_2O_2
- Decomposition of H_2O_2 is accompanied by:
a) Decrease in free energy b) Increase in free energy
c) No change in free energy d) Evolution of heat
- Which of the following statements is correct? Dielectric constant of H_2O_2
a) Increases with dilution b) Decreases with dilution
c) Is unaffected on dilution d) None of the above
- Heavy water is not used for drinking because:
a) It is poisonous
b) It is costly
c) Its physiological action is different from ordinary water
d) Its chemical properties are different from ordinary water
- Maximum density of heavy water is at:
a) 0 C b) 4 C c) 11.6 C d) 3.8 C

9. The catalyst used in Bosch process of manufacture of H_2 is:
a) Finely divided Ni b) V_2O_5 c) Pd d) $Fe_2O_3 + Cr_2O_3$
10. In which of the following reactions, H_2O_2 behaves as a reducing agent?
a) $Na_2SO_3(aq) + H_2O_2(aq) \rightarrow Na_2SO_4(aq) + H_2O(l)$
b) $PbO_2(s) + H_2O_2(aq) \rightarrow PbO(s) + H_2O(l) + O_2(g)$
c) $2KI(aq) + H_2O_2(aq) \rightarrow 2KOH(aq) + I_2(s)$
d) $KNO_2(aq) + H_2O_2(aq) \rightarrow KNO_3(aq) + H_2O(l)$
11. Among CaH_2 , NH_3 , NaH and B_2H_6 , which are covalent hydride?
a) NH_3 and B_2H_6 b) NaH and CaH_2 c) NaH and NH_3 d) CaH_2 and B_2H_6
12. In which reaction hydrogen is not formed?
a) Copper and hydrochloric acid
b) Iron and sulphuric acid
c) Magnesium and steam
d) Sodium and alcohol
13. The adsorption of hydrogen by metals is called
a) Adsorption b) Occlusion c) Hydrogenation d) Dehydrogenation
14. A molten ionic hydride on electrolysis gives:
a) H^+ ion moving towards the cathode
b) H^+ ion moving towards the anode
c) H_2 is liberated at anode
d) H_2 is liberated at cathode
15. Moist hydrogen cannot be dried over concentrated H_2SO_4 because:
a) It can catch fire
b) It is reduced by H_2SO_4
c) It is oxidized by H_2SO_4
d) It decomposes H_2SO_4
16. Both temporary and permanent hardness are removed on boiling water with:
a) $Ca(OH)_2$ b) Na_2CO_3 c) $CaCO_3$ d) CaO
17. The weight percentage of deuterium in heavy water is:
a) 22 b) 11.11 c) 4 d) 20
18. Very pure hydrogen (99.9%) can be made by which of the following processes?
a) Mixing natural hydrocarbons of high molecular weight
b) Electrolysis of water
c) Reaction of salt like hydrides with water

d) Reaction of methane with steam

19. Density of water is maximum at:

a) 0°C

b) 100 C

c) 4°C

d) 0 K

20. The most reactive isotope of H is:

a) ${}^1_1\text{H}^1$

b) ${}^1_1\text{H}^2$

c) ${}^1_1\text{H}^3$

d) All the same reactivity

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