

Chapter 9

Hydrogen

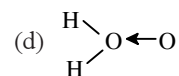
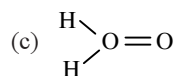
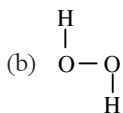
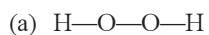
- Which of the following statements about hydrogen is incorrect?
(a) Hydronium ion, H_3O^+ exists freely in solution.
(b) Dihydrogen does not act as a reducing agent.
(c) Hydrogen has three isotopes of which tritium is the most common.
(d) Hydrogen never acts as cation in ionic salts.
(NEET-I 2016)
- Some statements about heavy water are given below:
(i) Heavy water is used as a moderator in nuclear reactors.
(ii) Heavy water is more associated than ordinary water.
(iii) Heavy water is more effective solvent than ordinary water.
Which of the above statements are correct?
(a) (i) and (ii) (b) (i), (ii) and (iii)
(c) (ii) and (iii) (d) (i) and (iii)
(Mains 2010)
- The structure of H_2O_2 is
(a) spherical (b) non-planar
(c) planar (d) linear
(2003)
- Which one of the following pairs of substances on reaction will not evolve H_2 gas?
(a) Copper and HCl (aqueous)
(b) Iron and steam
(c) Iron and H_2SO_4 (aqueous)
(d) Sodium and ethyl alcohol
(1998)
- The volume strength of 1.5 N H_2O_2 solution is
(a) 8.8 (b) 8.4
(c) 4.8 (d) 5.2
(1997, 1996)
- The O – O – H bond angle in H_2O_2 is
(a) 106° (b) $109^\circ 28'$
(c) 120° (d) 97° *(1994)*
- Which of the following groups of ions makes the water hard?
(a) Sodium and bicarbonate
(b) Magnesium and chloride
(c) Potassium and sulphate
(d) Ammonium and chloride. *(1994)*
- One would expect proton to have very large
(a) charge
(b) ionization potential
(c) hydration energy
(d) radius. *(1993)*
- At its melting point ice is lighter than water because
(a) H_2O molecules are more closely packed in solid state
(b) ice crystals have hollow hexagonal arrangement of H_2O molecules.
(c) on melting of ice the H_2O molecules shrinks in size
(d) ice forms mostly heavy water on first melting. *(1992)*
- Hydrogen peroxide molecules are
(a) monoatomic and form X_2^- ions
(b) diatomic and form X^- ions
(c) diatomic and form X_2^- ions
(d) monoatomic and form X^- ions. *(1991)*
- The ionization of hydrogen atom would give rise to
(a) hydride ion (b) hydronium ion
(c) proton (d) hydroxyl ion. *(1990)*

12. Which of the following metal evolves hydrogen on reacting with cold dilute HNO_3 ?

- (a) Mg (b) Al (c) Fe (d) Cu

(1989)

13. Which of the following is the true structure of H_2O_2 ?



(1989)

14. The reaction of H_2O_2 with H_2S is an example of reaction.

- (a) addition (b) oxidation
(c) reduction (d) acidic

(1988)



Answer Key

1. (b,c) 2. (a) 3. (b) 4. (a) 5. (b) 6. (d) 7. (b) 8. (c) 9. (b) 10. (b)
11. (c) 12. (a) 13. (b) 14. (b)