

MORE QUESTIONS SOLVED

I. Very Short Answer Type Questions

Question 1. Which isotope of hydrogen is radioactive? Answer: Tritium.

Question 2. What is the importance of heavy water with regard to nuclear power generation?

Answer: It is used as a moderator and helps to control the nuclear reaction.

Question 3. What is zeolite?

Answer: It is hydrated sodium aluminium silicate, Na₂Al₂Si₂O₈.xH₂O.

Question 4. What is water gas? How is it prepared? Answer: Mixture of CO and $\rm H_2$ in the ratio of 1:1 is called water gas. It is prepared by passing steam over red hot coke.

$$C(s) + H_2O(g) \xrightarrow{1270K} CO(g) + H_2(g)$$

Question 5. Write two uses of interstitial hydrides.

Answer: (i) In the storage of H_2 .

(ii) Catalyst for hydrogenation reaction.

Question 6. Give an example of an ionic hydride and a covalent hudride:

Answer: NaH is an ionic hydride and B_2H_6 is a covalent hydride.

Question 7. Give two advantages of using hydrogen over gasoline as a fuel.

Answer:

- High heat of combustion
- It is pollution free.

Question 8. What type of elements form interstitial hydrides? Answer: d-block and f-block elements.

Question 9. What is perhydrol?

Answer: Perhydrol is the trade name of $\rm H_2O_2$. It is used as an antiseptic.

Question 10. What is meant by hard water?

Answer: Water which does not produce lathers with soap is known as hard water. Hardness is due to the presence of bicarbonates, sulphates and chlorides of Ca^{2+} and Mg^{2+} .

Question 11. Which gas is evolved when ${\rm Mg}_3{\rm N}_2$ (Magnesium nitride) is treated with ${\rm H}_2{\rm O}$? Give chemical reaction.

Answer: NH_3 gas is evolved.

 $Mg_3N_2 + 6H_2O \rightarrow 3Mg(OH)_2 + 2NH_3$

Question 12. Which compounds cause temporary hardness of water?

Answer: $Ca(HCO_3)_2$ and Mg $(HCO_3)_2$

Question 13. Which isotope of hydrogen does not have neutron? Answer: ${}^{1}_{1}H$ does not have neutron. It is called protium.

Question 14. Name a substance which can oxidise $\rm H_2O_2$ Answer: Acidified KMnO₄.

Question 15. Which type of hydrides are generally non-stoichiometric in nature?

Answer: Interstitial hydrides are non-stoichiometric in nature.

Question 16. What is the cause of bleaching action of H_2O_2 ? Answer: $H_2O_2(I) \rightarrow H_2O(I) + O(g)$

Nascent oxygen produced is responsible for bleaching action.

Question 17. What is the use of hydrogen in the manufacture of Vanaspati Ghee?

Answer: H_2 is used as reducing agent to convert vegetable oil into vegetable ghee.

Question 18. Name the phenomenon of adsorption of hydrogen on metal surface.

Answer: Occlusion.

