

NEET CHEMISTRY

Topic: Hydrogen and its compound

Q.1 The catalyst used in process of manufacture of H_2 from water gas is -

- (1) Finely divided Ni (2) V_2O_5
(3) Pb (4) $Fe_2O_3 + Cr_2O_3$

Q.2 The most abundant isotope of hydrogen is -

- (1) Tritium (2) Deuterium
(3) Protium (4) Para hydrogen

Q.3 Hydrogen cannot be placed with alkali metals because -

- (1) it shows +1 oxidation state
(2) it is liberated at cathode
(3) It reducing properties
(4) it is diatomic & non-metallic

Q.4 Ratio of $O-H_2$ and $p-H_2$ at room temperature is -

- (1) 1 : 1 (2) 3 : 1
(3) 1 : 3 (4) 2 : 5

Q.5 Hydrogen peroxide is not -

- (1) A reducing agent
(2) An oxidising agent
(3) A dehydrating agent
(4) A bleaching agent

- Q.6** Decomposition of H_2O_2 is retarded by -
- (1) Acetanilide
 - (2) MnO_2
 - (3) Zinc
 - (4) Finely divided metals
- Q.7** H_2O_2 is stored in -
- (1) Iron container after addition of stabilizer
 - (2) Glass container after addition of stabilizer
 - (3) Plastic container after addition of stabilizer
 - (4) None
- Q.8** Hydrogen peroxide is manufactured by the autoxidation of -
- (1) 2-ethylanthraquinol
 - (2) Anthraquinone
 - (3) Naphtalene
 - (4) Anthracene
- Q.9** Hydrogen peroxide has a -
- (1) Linear structure
 - (2) Pyramidal structure
 - (3) Closed book type structure
 - (4) Half open book type structure
- Q.10** The bleaching properties of H_2O_2 are due to its -
- (1) Reducing properties
 - (2) Oxidising properties
 - (3) Unstable nature
 - (4) Acidic nature
- Q.11** H_2O_2 is prepared in the laboratory when -
- (1) MnO_2 is added to dilute cold H_2SO_4
 - (2) BaO_2 is added to CO_2 bubbling through cold water
 - (3) PbO_2 is added to an acidified solution of KMnO_4
 - (4) Na_2O_2 is added to boiling water

Q.12 Para hydrogen is -

- (1) Less stable than ortho hydrogen
- (2) More stable than ortho hydrogen
- (3) As stable as ortho hydrogen
- (4) None of these

Q.13 Atomic hydrogen is obtained by -

- (1) Electrolysis of heavy water
- (2) Reaction of water with heavy metals
- (3) Thermal decomposition of water
- (4) Passing silent electric discharge through hydrogen at low pressure

Q.14 Ortho and Para hydrogen differ -

- (1) In the number of protons
- (2) In the molecule mass
- (3) In the nature of spins of protons
- (4) In the nature of spins of electrons

Q.15 Which is poorest reducing agent -

- (1) Nascent hydrogen
- (2) Atomic hydrogen
- (3) Dihydrogen
- (4) All have same reducing strength

Q.16 Ionic hydrides is -

- (1) NH_3
- (2) BeH_2
- (3) MgH_2
- (4) CaH_2

Q.17 Out of the following metals which will give H_2 on reaction with NaOH -

- (I) Zn (II) Mg
(III) Al (IV) Be
(1) I, II, III, IV (2) I, III, IV
(3) II, IV (4) I, III

Q.18 The gas used in the hydrogenation of oils in presence of nickel as a catalyst is -

- (1) methane (2) ethane
(3) ozone (4) hydrogen

Q.19 Weakest reducing agent -

- (1) Atomic hydrogen
(2) Nascent hydrogen
(3) Molecular hydrogen
(4) Occluded hydrogen

Q.20 The conversion of atomic hydrogen into molecular hydrogen is -

- (1) Endothermic change
(2) Exothermic change
(3) Photochemical change
(4) Nuclear change

Q.21 Nuclear isomerism is exhibited by -

- (1) Molecular H only
(2) All diatomic molecule
(3) All diatomic molecule having even Z value
(4) All diatomic molecule having odd Z value

Q.22 Which combination cannot be used for the preparation of hydrogen gas in the laboratory?

(I) zinc/conc.H₂SO₄ (II) zinc/dil.HNO₃

(III) pure zinc/dil. H₂SO₄

(1) I and II (2) I, II, III

(3) III only (4) I and III

Q.23 At sun atmosphere which of the following form is stable -

(1) Ortho H (2) Para H

(3) Molecular H (4) None

Q.24 H₂ gas can not be prepared by -

(1) Be + NaOH (2) Na + NaOH

(3) Mg + NaOH (4) By (2 & 3) method

Q.25 What is the false about Lane's process ?

(1) Method is used for manufacture of dihydrogen

(2) It involves the oxidation of iron by steam

(3) It involves the reduction of steam by iron

(4) It involves the oxidation of water gas

Q.26 The adsorption of hydrogen by metals is called -

(1) Dehydrogenation (2) Hydrogenation

(3) Occlusion (4) Absorption

Q.27 Ionic hydrides are usually -

(1) Good electrically conductors when solid

(2) Easily reduced

(3) Good reducing agents

(4) Liquid at room temperature

Q.28 Water is said to be permanently hard when it contains -

- (1) Sulphates of Mg & Ca
- (2) Bicarbonates of Mg & Ca
- (3) Sulphates of Cu & Hg
- (4) Carbonates and Bicarbonates of Mg & Ca

Q.29 When zeolite, which is hydrated sodium aluminium silicate, is treated with hard water the sodium ions are exchanged with -

- (1) H⁺ ions (2) Ca²⁺ ions
- (3) SO₄²⁻ ions (4) OH⁻ ions

Q.30 In Bosch's process which gas is utilised for the production of hydrogen -

- (1) Producer gas (2) Water gas
- (3) Coal gas (4) Natural gas

ANSWER KEY

Que.	1	2	3	4	5	6	7	8	9	10
Ans.	4	3	4	2	3	1	3	1	4	2
Que.	11	12	13	14	15	16	17	18	19	20
Ans.	2	1	4	3	3	4	2	4	3	2
Que.	21	22	23	24	25	26	27	28	29	30
Ans.	4	2	4	4	4	3	3	1	2	2