DPP
DAILY PRACTICE PROBLEMS

CLASS : XIIth
DATE :

SOLUTION

SUBJECT : CHEMISTRY
DPP NO. : 2

Topic :-HYDROGEN

1 **(b)**
Hydrogen forms maximum number of compounds in chemistry (not carbon).

2 **(b)**
$H_2O_2 \longrightarrow H_2O + [O]$

3 **(d)**
Amphoteric solvent dissolves both acids and bases.

$\therefore$ H_2O_2 is amphoteric solvent because it dissolves both acids and bases.

5 **(b)**
Meq. of $H_2O_2 = 1000 \times 1.5$

$\therefore \quad \frac{w}{34/2} \times 1000 = 1000 \times 1.5 (E_{H_2O_2} = M/2)$

$\therefore \quad w = 25.5$ g

6 **(b)**
$BaO_2 + CO_2 + H_2O \longrightarrow H_2O_2 + BaCO_3$

7 **(b)**
$Mn^{7+} + 5e \longrightarrow Mn^{2+}$.

8 **(b)**
Its pH is 7.

9 **(c)**
A characteristic of hydrogen.

10 **(b)**
Deuterium ($_1H^2$) has stable nuclei, because the ratio of $\frac{n}{p} = 1$.

11 **(d)**
Bicarbonates of Ca and Mg are responsible for temporary hardness.

14 **(a)**
It does not have impaired electrons.

15 **(a)**
1mL H_2O_2 solution gives 11.2 mL O_2 at NTP

$\therefore$ 100 mL H_2O_2 solution gives $O_2 = 100 \times 11.2$

$= 1120.0$ mL O_2 at NTP

H_2O_2 decomposes as

$$2H_2O_2\ (l) \rightarrow 2H_2O\ (l) + O_2(g)$$

$\therefore$ 22400 mL O_2 at NTP is obtained from 68g H_2O_2

$\therefore$ 1 mL O_2 at NTP is obtined from

$$= \frac{68}{22400}\ \text{g}\ H_2O_2$$

$\therefore$ 1120 mL O_2 at NTP is obtained from

$$= \frac{68}{22400} \times 1120$$

$$= 34\ \text{g}$$

$$w = \frac{M \times m \times V}{1000}$$

$$M = 1.0$$

16 **(b)**

It is a fact.

17 **(a)**

$$\left[H_2O_2 \rightarrow H_2O + \frac{1}{2}O_2\right] \times 2$$

$$2H_2O_2 \rightarrow 2H_2O + O_2$$

68 g 22.4 L at NTP

$\because$ 22.4 L O_2 at NTP is obtained by 68 g of H_2O_2

$\therefore$ 20 L O_2 at NTP will be obtained by H_2O_2

$$= \frac{68}{22.4} \times 20 = 60.7\ \text{g/L}$$

$\therefore$ 1000 mL O_2 at NTP is obtained by $H_2O_2 = 60.7$ g

$$\therefore \text{Percentage strength} = \frac{60.7 \times 100}{1000} = 6.07\ \text{g}$$

18 **(a)**

$Zn + H_2SO_4 \longrightarrow ZnSO_4 + H_2$

$Zn + 2NaOH \longrightarrow Na_2ZnO_2 + H_2$

19 **(d)**

Atomic hydrogen is obtained by passing ordinary hydrogen through an electric arc.

$$H_2 \xrightarrow[200^0C]{\text{Electric arc,}} 2H;\ \triangle H = 104.5 \text{ kcal mol}^{-1}$$

20 **(c)**

CO_2 escapes out slowly.

ANSWER-KEY										
Q.	1	2	3	4	5	6	7	8	9	10
A.	B	B	D	D	B	B	B	B	C	A
Q.	11	12	13	14	15	16	17	18	19	20
A.	B	B	D	A	A	B	A	A	D	C