

Date Planned ://	Daily Tutorial Sheet-5	Expected Duration : 90 Min	
Actual Date of Attempt : / /	Level-1	Exact Duration :	

61.	Which of	the foll	owing is	dienrone	rtionation	reaction	9
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(A) 
$$CaCO_3 + 2H^+ \longrightarrow Ca^{2+} + H_2O + CO_2$$
 (B)  $2CrO_4^{2-} + 2H^+ \longrightarrow Cr_2O_7^{2-} + H_2O$ 

(C) 
$$Cr_2O_7^{2-} + 2OH^- \longrightarrow 2CrO_4^{2-} + H_2O$$
 (D)  $Cu_2O + 2H^+ \longrightarrow Cu + Cu^{2+} + H_2O$ 

**62.** In the following reaction, 
$$3Br_2 + 6CO_3^{2-} + 3H_2O \longrightarrow 5Br^- + BrO_3^- + 6HCO_3^-$$

- (A) Bromine is oxidised and carbonate is reduced
- **(B)** Bromine is reduced and water is oxidised
- **(C)** Bromine is neither reduced nor oxidized
- **(D)** Bromine is both reduced and oxidised

## **63.** The conversion of sugar $C_{12}H_{22}O_{11} \longrightarrow CO_2$ is:

- (A) Oxidation (B) Reduction
- (C) Neither oxidation nor reduction (D) Both oxidation and reduction

- (A)  $F_2$  (B)  $Cl_2$  (C)  $Br_2$  (D)  $I_2$
- **65.** Of the four oxyacids of chlorine the strongest oxidising agent in dilute aqueous solution is:
  - (A)  $\mathrm{HClO}_4$  (B)  $\mathrm{HClO}_3$  (C)  $\mathrm{HClO}_2$  (D)  $\mathrm{HOCl}$
- \*66. Which of the following behaves as both oxidising and reducing agents?
  - (A)  $H_2SO_3$  (B)  $SO_2$  (C)  $H_2S$  (D)  $HNO_3$
- **\*67.** Which of the following can act as reducing agent?
- (A) NaNO<sub>2</sub> (B) NaNO<sub>3</sub> (C) HI (D) SnCl<sub>2</sub>
- **\*68.** Which of the following can work as oxidising agent?
- (A)  $O_2$  (B)  $KMnO_4$  (C)  $H_2O_2$  (D)  $H_2S$
- **69.** The possible oxidation number of As are :

**(A)** 
$$+ 2$$
 and  $+ 3$  **(B)**  $+ 3$  and  $+ 5$ 

(C) 
$$+ 3$$
 and  $+ 4$  (D) None of these

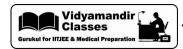
**70.** The valency of Cr in the complex  $[Cr(H_2O)_4Cl_2]^+$  is:

**71.** What is the equivalent mass of  $IO_4^-$  when it is converted into  $I_2$  in acidic medium?

(A) 
$$\frac{M}{6}$$
 (B)  $\frac{M}{7}$  (C)  $\frac{M}{5}$  (D)  $\frac{M}{4}$ 

**72.** The equivalent weight of  $KIO_3$  in the reaction  $2Cr(OH)_3 + 4OH^- + KIO_3 \longrightarrow 2CrO_4^{2-} + 5H_2O + KI$  is:

(A) Mol. wt. (B) 
$$\frac{\text{Mol. wt.}}{6}$$
 (C)  $\frac{\text{Mol. wt.}}{2}$  (D)  $\frac{\text{Mol. wt.}}{3}$ 



- 73. In alkaline medium,  $ClO_2$  oxidises  $H_2O_2$  to  $O_2$  and is reduced to  $Cl^-$ , then how many mole of  $H_2O_2$  will be oxidised by one mole of  $ClO_2$ ?
  - **(A)** 1.0
- **(B)** 1.5
- **(C)** 2.5
- **(D)** 3.5
- **74.**  $MnO_4^{2-}$  (1 mole) in neutral aqueous medium disproportionates to :



- (A)  $\frac{2}{3}$  mole of MnO<sub>4</sub> and  $\frac{1}{3}$  mole of MnO<sub>2</sub> (B)  $\frac{1}{3}$  mole of MnO<sub>4</sub> and  $\frac{2}{3}$  mole of MnO<sub>2</sub>
- (C)  $\frac{1}{3}$  mole of Mn<sub>2</sub>O<sub>7</sub> and  $\frac{1}{3}$  mole of MnO<sub>2</sub> (D)  $\frac{2}{3}$  mole of Mn<sub>2</sub>O<sub>7</sub> and  $\frac{1}{3}$  mole of MnO<sub>2</sub>
- **75. Statement 1:** Equivalent weight of NH<sub>3</sub> in the reaction  $N_2 + H_2 \longrightarrow NH_3$  is  $\frac{17}{3}$  while that of  $N_2$  is  $\frac{28}{6}$ .

**Statement 2:** Equivalent weight =  $\frac{\text{Molecular weight}}{\text{number of } e^{-} \text{lost or gained}}$ 

- (A) Statement-1 is True, Statement-2 is True and Statement-2 is a correct explanation for Statement-1.
- **(B)** Statement-1 is True, Statement-2 is True and Statement-2 is NOT a correct explanation for Statement-1.
- (C) Statement-1 is True, Statement-2 is False.
- **(D)** Statement-1 is False, Statement-2 is True.

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