SHIKSHA CLASSES

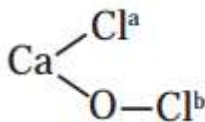|		
Subject : Chemistry	**Question Paper**	Total Marks :25
Class : XI	6 : Redox Reaction	Time : 1 Hour

SECTION A

Q.1 : Choose the correct option :   4

i) Which of the following halogens does always show oxidation state -1 ?

   a) F   b) Cl

   c) Br   d) I

ii) Oxidation numbers of Cl atoms marked as Cl^a and Cl^b in CaOCl2 (bleaching powder) are

$$Ca \overset{Cl^a}{\underset{O-Cl^b}{<}}$$

   a) zero in each

   b) -1 in Cl^a and +1 in Cl^b

   c) +1 in Cl^a and -1 in Cl^b

   d) 1 in each

iii) The oxidation state of phosphorus in Ba $(H_2PO_2)_2$ is ....

   a) + 3   b) + 2

   c) + 1   d) –1

iv) Which is the correct stock notation for manganese dioxide?

   a) $Mn(I)O_2$ b) $Mn(II)O_2$

   c) $Mn(III)O_2$ d) $Mn(IV)O_2$
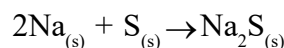
Q.2 : Answer the following :   2

i) Define Oxidation agent.

ii) Define Reducing agent.

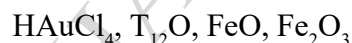## SECTION B

: Answer the following : (ANY 3)   6

Q.3 : Justify the following reaction as redox reaction.

$$2Na_{(s)} + S_{(s)} \rightarrow Na_2S_{(s)}$$

Q.4 : Assign oxidation number to each element in the following compound or ions :

i) $K_2Cr_2O_7$

Q.5 : Provide stock notation number to each element in the following compounds :

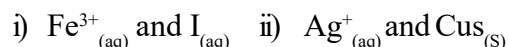$HAuCl_4$, $T_{12}O$, FeO, Fe_2O_3

Q.6 : Define the terms oxidation and reluctant In terms of oxidation number.

**Q.7 :** Explain working of Daniel cell.
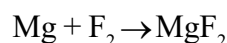
SECTION C

: Answer the following : (ANY 3)   9

Q.8 : By using standard electrode potential table, predict whether the reaction between two species is spontaneous or not.

i) $Fe^{3+}_{(aq)}$ and $I_{(aq)}$ ii) $Ag^+_{(aq)}$ and $Cus_{(S)}$

Q.9 : Using oxidation number concept, identify the redox reactions. Identify oxidizing and reducing agent in case of redox reactions.

$$Zn_{(S)} + 2HCl_{(aq)} \rightarrow ZnCl_{2(aq)} + H_{2(g)}$$
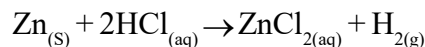
Q.10 : Justify the following reaction as redox in terms of electron tansfer.

$$Mg + F_2 \rightarrow MgF_2$$

Q.11 : Define :

i) Displacement reaction

ii) Oxidation terms of electron transfer

iii) Reduction in terms of e- transfer.

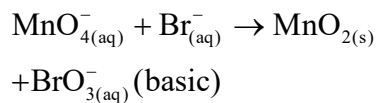**Q.12 :** Calculate the oxidation number of underlined atoms.

i) $H_3\underline{P}O_3$ ii) $K_2\underline{C}_2O_4$ iii) $H_2\underline{S}_4O_6$

Section D

: Answer the following : (ANY 1)   4

Q.13 : Balance the following reactions by oxidation number method :

$$MnO_{4(aq)}^- + Br_{(aq)}^- \rightarrow MnO_{2(s)} + BrO_{3(aq)}^- \text{(basic)}$$

Q.14 : Balance the following redox equations by hay reaction method :

$$H_2C_2O_{4(aq)} + MnO_{4(aq)}^- \rightarrow CO_{2(g)} Mn_{(aq)}^{2+} \text{(acidic)}$$

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