Q.1 The oxidation number of phosphorus in $Ba(H_2PO_2)_2$ is -

(1) + 3   (2) + 2   (3) + 1   (4) – 1

Q.2 Which one of the following statement is not correct ?

(1) Oxidation state of S in $(NH_4)_2S_2O_8$ is + 6

(2) Oxidation number of Os in OsO_4 is + 8

(3) Oxidation state of S in H_2SO_5 is + 8

(4) Oxidation number of O in KO_2 is $-\dfrac{1}{2}$

Q.3 Which of the following shows highest oxidation number in combined state :

(1) Os   (2) Ru

(3) Both (1) and (2)   (4) None

Q.4 The oxidation state of S in $Na_2S_4O_6$ is –

(1) + 2.5

(2) + 2 and + 3 (two S have + 2 and other two have + 3)

(3) + 2 and + 3 (three S have + 2 and one S has + 3)

(4) + 5 and 0 (two S have + 5 and the other two S have 0)

Q.5 Oxidation number of Fe in $Fe_{0.94}$ O is -

(1) 200   (2) 200/94

(3) 94/200   (4) None

Q.6 Oxidation number of carbon in carbon suboxide (C_3O_2) is -

(1) $\dfrac{+2}{3}$ (2) $\dfrac{+4}{3}$

(3) + 4   (4) $\dfrac{-4}{3}$

Q.7 Oxidation number of central sulphur atom in $Na_2S_2O_3$ would be -

(1) + 6   (2) + 2   (3) − 2   (4) 0

Q.8 The oxidation state of molybdenum in its complex, $[Mo_2O_4(C_2H_4)_2(H_2O)_2]^{2-}$ is-

(1) + 2   (2) + 3   (3) + 4   (4) +5

Q.9

Compounds	O.N.
(a) $KMn*O_4$	(i) + 4
(b) $Ni*(CO)_4$	(ii) +7
(c)$[Pt*(NH_3)_2 Cl_2]Cl_2$	(iii) 0
(d) Na_2O_2*	(iv) − 1

The correct code for the O.N. of astersked atom would be :

	A	B	C	D
(1)	i	ii	iii	iv
(2)	iv	iii	ii	i
(3)	ii	iii	i	iv
(4)	iv	i	ii	iii

Q.10 When P reacts with caustic soda, the products are PH_3 and NaH_2PO_2. The reaction is an example of -

(1) Oxidation

(2) Reduction

(3) Both oxidation and reduction

(4) Neutralisation

Q.11 In the brown ring complex $[Fe(H_2O)_5NO^+]SO_4$, the oxidation number of Fe is –
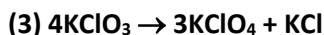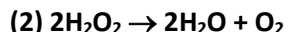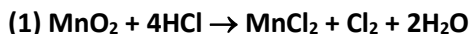
(1) + 1   (2) + 2   (3) + 3   (4) + 4

Q.12 Compound $YBa_2Cu_3O_7$ is a super conductor. The O.N. of the copper in the compound will be : [O. No. of Y = + 3] -

(1) + 7/3   (2) zero

(3) + 2   (4) + 1

Q.13 Which of the following is not a redox change ?

(1) $2H_2S + SO_2 \rightarrow 2H_2O + 3S$

(2) $2BaO + O_2 \rightarrow 2BaO_2$

(3) $BaO_2 + H_2SO_4 \rightarrow BaSO_4 + H_2O_2$

(4) $2KClO_3 \rightarrow 2KCl + 3O_2$

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Q.14 Which of the following example does not represent disproptionation -

(1) $MnO_2 + 4HCl \rightarrow MnCl_2 + Cl_2 + 2H_2O$

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

(3) $4KClO_3 \rightarrow 3KClO_4 + KCl$

(4) $3Cl_2 + 6NaOH \rightarrow 5NaCl + NaClO_3 + 3H_2O$

Q.15 The decomposition of $KClO_3$ to KCl and O_2 on heating is an example of :
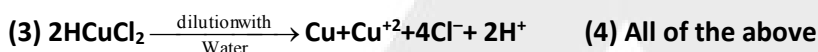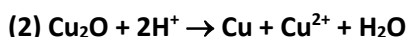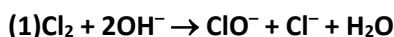
(1) Intermolecular redox change

(2) Intramolecular redox change

(3) Disproportionation or auto redox change

(4) None

Q.16 Which of the following change represents a disproportionation reaction (s) :

(1) $Cl_2 + 2OH^- \rightarrow ClO^- + Cl^- + H_2O$

(2) $Cu_2O + 2H^+ \rightarrow Cu + Cu^{2+} + H_2O$

(3) $2HCuCl_2 \xrightarrow{\frac{dilution\,with}{Water}} Cu + Cu^{+2} + 4Cl^- + 2H^+$ (4) All of the above

Q.17 One mole of N_2H_4 loses 10 mole of electrons to form a new compound Y. Assuming that all nitrogen appear in the new compound, what is oxidation state of nitrogen ? (there is no change in the oxidation state of hydrogen)

(1) – 1   (2) – 3

(3) + 3   (4) + 5

Q.18 How many electrons should X_2H_4 liberate so that in the new compound x shows oxidation number of –1/2 [E.N. x > H] –
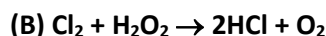
(1) 10   (2) 4   (3) 3   (4) 2

Q.19 Reaction (A) $S^{-2} + 4H_2O_2 \rightarrow SO_4^{2-} + 4H_2O$

(B) $Cl_2 + H_2O_2 \rightarrow 2HCl + O_2$

The true statement regarding the above reactions is :

(1) H_2O_2 acts as reductant in both the reactions

(2) H_2O_2 acts as oxidant in reaction (A) and reductant in reaction (B).

(3) H_2O_2 acts as an oxidant in both the reactions

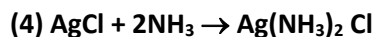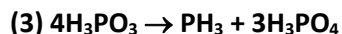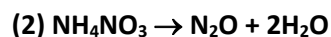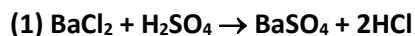(4) H_2O_2 acts as reductant in reaction (A) and oxidant in reaction (B).

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Q.20 A compound contains atoms A, B and C. The oxidation number of A is +2, of B is +5 and of C is – 2. The possible formula of the compound is :

(1) ABC_2

(2) $B_2(AC_3)_2$

(3) $A_3(BC_4)_2$

(4) $A_3(B_4C)_2$

Q.21 In the reaction, $VO + Fe_2O_3 \rightarrow FeO + V_2O_5$, the eq. wt. of V_2O_5 is equal to its -

(1) Mol. wt.

(2) Mol. wt./8

(3) Mol. wt./6

(4) None of these

Q.22 Molecular weight of $KBrO_3$ is M. What is its equivalent weight, if the reaction is –

$BrO_3^- \rightarrow Br^-$ (acidic medium)

(1) M

(2) M/4

(3) M/6

(4) 6 M

Q.23 In the reaction : $A^{-n_2} + xe^- \rightarrow A^{-n_1}$, here x will be -

(1) $n_1 + n_2$

(2) $n_2 - n_1$

(3) $n_1 - n_2$

(4) $n_1 . n_2$

Q.24 Equivalent weight of FeC_2O_4 in the change :

$FeC_2O_4 \rightarrow Fe^{3+} + CO_2$ is -

(1) M/3

(2) M/6

(3) M/6

(4) M/1

Q.25 The number of mole of oxalate ions oxidised by one mole of MnO_4^- is :

(1) 1/5

(2) 2/5

(3) 5/2

(4) 5

Q.26 In a reaction 4 mole of electrons are transferred to one mole of HNO_3 when it acts as an oxidant. The possible reduction product is :

(1) (1/2) mol N_2

(2) (1/2) mole N_2O

(3) 1 mol of NO_2

(4) 1 mole NH_3

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Q.27 $2KMnO_4 + 5H_2S + 6H^+ \rightarrow 2Mn^{2+} + 2K^+ + 5S + 8H_2O$

In the above reaction, how many electrons would be involved in the oxidation of 1 mole of reductant ?

(1) 2   (2) 5   (3) 10   (4) 1

Q.28 Select the example of disproportionation reaction -

(1) $BaCl_2 + H_2SO_4 \rightarrow BaSO_4 + 2HCl$

(2) $NH_4NO_3 \rightarrow N_2O + 2H_2O$

(3) $4H_3PO_3 \rightarrow PH_3 + 3H_3PO_4$

(4) $AgCl + 2NH_3 \rightarrow Ag(NH_3)_2 Cl$

Q.29 The oxidation state of + 1 for phosphorous is found in :
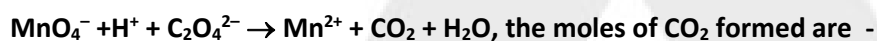
(1) Phosphorous acid

(2) Orthophosphoric acid

(3) Hypo phosphorous acid

(4) Hypo phosphoric acid

Q.30 In the balanced equation
$MnO_4^- + H^+ + C_2O_4^{2-} \rightarrow Mn^{2+} + CO_2 + H_2O$, the moles of CO_2 formed are -
(1) 2   (2) 4   (3) 5   (4) 10

ANSWER KEY

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