

## CHEMISTRY

### Redox Reactions

#### Oxidation Number

11. The oxidation number of sulphur in  $S_8$ ,  $S_2F_2$ ,  $H_2S$  respectively are  
 (1) 0, +1 and -2  
 (2) +2, +1 and -2  
 (3) 0, +1 and +2  
 (4) -2, +1 and -2
12. Oxidation numbers of chlorine atoms in  $CaOCl_2$  are  
 (1) 0, 0 (2) -1, 1  
 (3) -1, +1 (4) none
13. The average oxidation state of sulphur in  $Na_2S_4O_6$  is  
 (1) +2.5 (2) +2  
 (3) +3.0 (4) +3.5
14. In which of the following compounds, iron has lowest oxidation state?  
 (1)  $K_3[Fe(CN)_6]$   
 (2)  $K_4[Fe(CN)_6]$   
 (3)  $FeSO_4(NH_4)_2SO_4 \cdot 6H_2O$   
 (4)  $Fe(CO)_5$
15. Which reaction involves neither oxidation nor reduction?  
 (1)  $CrO_4^{2-} \rightarrow Cr_2O_7^{2-}$   
 (2)  $Cr \rightarrow CrCl_3$   
 (3)  $Na \rightarrow Na^+$   
 (4)  $2S_2O_3^{2-} \rightarrow S_4O_6^{2-}$
16. In the compounds  $KMnO_4$  and  $K_2Cr_2O_7$ , the highest oxidation state is of the element  
 (1) potassium (2) manganese  
 (3) chromium (4) oxygen

17. Match column-I (compound) with column-II (oxidation state of underlined element) and choose the correct option.

Column-I	Column-II
(A) $\underline{Cu}O$	(p) 4
(B) $\underline{Mn}O_2$	(q) 3
(C) $H\underline{Au}Cl_4$	(r) 2
(D) $\underline{Tl}_2O$	(s) 1

- (1) A-(r), B-(p), C-(q), D-(s)  
 (2) A-(s), B-(r), C-(p), D-(q)  
 (3) A-(r), B-(s), C-(p), D-(q)  
 (4) A-(s), B-(q), C-(p), D-(r)
18. Among  $NH_3$ ,  $HNO_3$ ,  $NaN_3$  and  $Mg_3N_2$  the number of molecules having nitrogen in negative oxidation state is  
 (1) 1 (2) 2  
 (3) 3 (4) 4
19. **Assertion:**  $HClO_4$  is a stronger acid than  $HClO_3$ .  
**Reason:** Oxidation state of Cl in  $HClO_4$  is +VII and in  $HClO_3$  +V.  
 (1) Assertion is correct, reason is correct, reason is a correct explanation for assertion  
 (2) Assertion is correct, reason is correct, reason is not a correct explanation for assertion  
 (3) Assertion is correct, reason is incorrect  
 (4) Assertion is incorrect, reason is correct

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20. Amongst the following, identify the species with an atom in +6 oxidation state  
 (1)  $MnO_4^-$  (2)  $Cr(CN)_6^{3-}$   
 (3)  $NiF_6^{2-}$  (4)  $CrO_2Cl_2$