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**Max Time : 1 hr** **Class = 11th Chemistry Test Max Marks : 25**

**Redox**

1. Multiple choice questions : [ 1 X 5 = 5 ]
2. In acidic medium, H2O2 changes Cr2 to CrO5 which has two (–O – O–) bonds. Oxidation state of Cr in CrO5 is :

|  |  |  |  |
| --- | --- | --- | --- |
| a) + 5 | b) + 3 | c) + 6 | d) – 10 |

1. Oxidation state of Fe in Fe3O4 is :

|  |  |  |  |
| --- | --- | --- | --- |
| a) 3/2 | b) 4/5 | c) 5/4 | d) 8/3 |

1. The oxidation state of Cr in K2Cr2O7 is :

|  |  |  |  |
| --- | --- | --- | --- |
| a) + 5 | b) +3 | c) + 6 | d) + 7 |

1. Which of the following is a set of reducing agents?

|  |  |  |  |
| --- | --- | --- | --- |
| a) HNO3 , Fe2+ , F2 | b) F – , Cl – , | c) I – , Na , Fe2+ | d) Cr2, , Na |

1. A metal ion M3+ loses 3 electrons, its oxidation number will be

|  |  |  |  |
| --- | --- | --- | --- |
| a) + 3 | b) + 6 | c) 0 | d) – 3 |

1. Define disproportionation reaction ? Give one example. [ 1 ]
2. Define oxidation and reduction in terms of electrons. [ 1 ]
3. Assign the oxidation numbers to the underlined elements in each of the following species :

a) NaH2PO4 b) NaHSO4 c) H4P2O7 d) K2 MnO4 [ 1 x 4 = 4 ]

1. Balance the following equations by ion-electron method [ 2 x 2 = 4 ]

a) (aq) + SO2 (g) → Mn2+ (aq) + (aq) [ In Acidic medium ]

b) (aq) + SO2 (g) → Cr3+ (aq) + (aq) [ In Acidic medium ]

1. Balance the following equations by Oxidation number method [ 2 x 2 = 4 ]

a) Fe3O4 + C → Fe + CO b) I2 + HNO3 → HIO3 + NO2 + H2O

1. Balance the following equations in basic medium by ion-electron method and identify the oxidizing agent and the reducing agent. [ 3 x 2 = 6 ]

a) P4 (s) + OH – (aq) → PH3 (g) + H2 (aq)

b) N2H4 (l) + (aq) → NO (g) + Cl – (g)