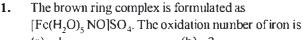
## **DPP - Daily Practice Problems**

## **Chapter-wise Sheets**

## Redox Reactions

Max. Marks: 180 Marking Scheme: + 4 for correct & (-1) for incorrect Time: 60 min.

**INSTRUCTIONS**: This Daily Practice Problem Sheet contains 45 MCQ's. For each question only one option is correct. Darken the correct circle/ bubble in the Response Grid provided on each page.



(a) I

(b) 2

(c) 3

(d) 0

2. In which of the following reactions, there is no change in valency?

(a)  $4KCIO_3 \rightarrow 3KCIO_4 + KCI$ 

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

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

(d)  $2 \text{ BaO} + \text{O}_2 \rightarrow 2 \text{ BaO}_2$ 

3. The oxidation state of chromium in the final product formed by the reaction between K1 and acidified potassium dichromate solution is: (a) +3

(b) +2

(c) +6

(d) +4

4. In which of the following pairs, there is greatest difference in the oxidation number of the underlined elements?

(a)  $\underline{NO}_2$  and  $\underline{N}_2O_4$ 

(b)  $\underline{P}_2O_5$  and  $\underline{P}_4O_{10}$ 

(c)  $N_2O$  and NO

(d)  $\underline{SO}_2$  and  $\underline{SO}_3$ 

5. A compound of Xe and F is found to have 53.5% of Xe. What is oxidation number of Xe in this compound?

(a) -4

(b) 0

(c) +4

(d) + 6

RESPONSE GRID

1. abcd

2. (a)(b)(c)(d)

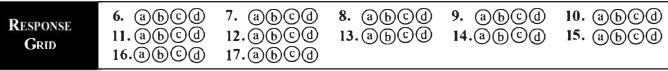
3. abcd

4. (a)(b)(c)(d)

5.

(a)(b)(c)(d)

(a) A = stronger reducing agent Atomic number of an element is 22. The highest O.S. B = weaker reducing agent exhibited by it in its compounds is (b) A = stronger oxidising agent (b) 2 B = weaker oxidising agent (d) 4 (c) 3 A = weaker oxidising agent The reaction in which hydrogen peroxide acts as a reducing B = stronger oxidising agent (d) Both (a) and (c)  $PbS+4H_2O_2 \rightarrow PbSO_4 + 4H_2O$ 12. If equal volume of reactants are used, then no. of moles of  $2KI+H_2O_2 \rightarrow 2KOH+l_2$ KMnO<sub>4</sub> (moles per litre) used in acidic medium required to completely oxidise 0.5 M FeSO<sub>3</sub>?  $2FeSO_4 + H_2SO_4 + H_2O_2 \rightarrow Fe_2(SO_4)_3 + 2H_2O$ (b) 0.1 (a) 0.3 (c) 0.2 (d) 0.4 (d)  $Ag_2O + H_2O_2 \rightarrow 2Ag + H_2O + O_2$ If rod of a metal (x) is put in a metal ion solution which Of the following reactions, only one is a redox reaction. is blue in colour, solution turn colourless. The metal rod and solution respectively are? (a)  $Ca(OH)_2 + 2HCI \rightarrow CaCl_2 + 2H_2O$ (b) Zinc and Ni(II) Zinc and Cu(II) (c) Aluminium and Cu(II) (d) Both (a) and (c) (b)  $BaCl_2 + MgSO_4 \rightarrow BaSO_4 + MgCl_2$ 14. In the reaction between SO<sub>2</sub> and O<sub>3</sub> the equivalent weight of sulphur in product is (c)  $2S_2O_7^{2-} + 2H_2O \rightarrow 4SO_4^{2-} + 4H^+$ (a) the same as its molecular weight (d)  $Cu_2S + 2FeO \rightarrow 2Cu + 2Fe + SO_3$ half of the molecular weight Arrange the following in the order of their decreasing one-third of the molecular weight electrode potentials: Mg, K, Ba and Ca (d) one-fourth of the molecular weight 15. When KMnO<sub>4</sub> reacts with acidified FeSO<sub>4</sub> (a) K > Ca > Ba > Mg(b) Ba > Ca > K > Mg(a) FeSO<sub>4</sub> is oxidised and KMnO<sub>4</sub> is reduced (c) Ca > Mg > K > Ba(d) Mg > Ca > Ba > K(b) only KMnO<sub>4</sub> is oxidised 10. Which of the following statements are correct concerning (c) only FeSO<sub>4</sub> is oxidised redox properties? (d) None of these A metal M for which E° for the half life reaction Consider the following reaction:  $M^{n+} + ne^- \rightleftharpoons M$  is very negative will be a good  $xMnO_4^- + yC_2O_4^{2-} + zH^+ \rightarrow xMn^{2+} + 2yCO_2 + \frac{z}{2}H_2O$ reducing agent. The oxidizing power of the halogens decreases from The value's of x, y and z in the reaction are, respectively: chlorine to iodine. (a) 5, 2 and 16 (b) 2, 5 and 8 (iii) The reducing power of hydrogen halides increases from (c) 2,5 and 16 (d) 5, 2 and 8 hydrogen chloride to hydrogen iodide 17. When Cl<sub>2</sub> gas reacts with hot and concentrated sodium (i), (ii) and(iii) (a) (b) (i) and (ii) hydroxide solution, the oxidation number of chlorine (c) (i) only (d) (ii) and (iii) changes from: 11. A negative E• means that redox couple is a \_\_\_\_A\_\_ than zero to+l and zero to the H<sup>+</sup>/H<sub>2</sub> couple -5(b) zero to -l and zero to +5 A positive E means that the redox couple is a B (c) zero to-l and zero to +3 than H<sup>+</sup>/H<sub>2</sub> couple



compound oxidation state  (a) [Co(NH <sub>3</sub> ) <sub>2</sub> Ci][Cl <sub>2</sub> 0 (b) NH <sub>4</sub> )H, OH — I (c) (N <sub>2</sub> H <sub>3</sub> ) <sub>2</sub> SO <sub>4</sub> — 2 (d) Mg <sub>3</sub> N <sub>2</sub> — 3  19. Standard electrode potentials of redox couples A <sup>2+</sup> /A, B <sup>2+</sup> /B, C <sup>2+</sup> /C and D <sup>2+</sup> /D arc 0.3V, −0.5V, −0.75V and 0.9V respectively. Which of these is best oxidising agent and reducing agent respectively—  (a) D <sup>2+</sup> /D and B <sup>2+</sup> /B (b) B <sub>2</sub> +/B and D <sup>2+</sup> /D (c) D <sup>2+</sup> /D and C <sup>2+</sup> /C (d) C <sup>2+</sup> /C and D <sup>2+</sup> /D (e) D <sup>2+</sup> /D and C <sup>2+</sup> /C (d) C <sup>2+</sup> /C and D <sup>2+</sup> /D (e) D <sup>2+</sup> /D and C <sup>2+</sup> /C (d) C <sup>2+</sup> /C and D <sup>2+</sup> /D (e) D <sup>2+</sup> /D and C <sup>2+</sup> /C (d) C <sup>2+</sup> /C and D <sup>2+</sup> /D (e) Windox of MnO <sub>4</sub> and Windox of MnO <sub>2</sub> (b) Windox of MnO <sub>3</sub> and Windox of MnO <sub>2</sub> (c) Windox of MnO <sub>3</sub> and Windox of MnO <sub>2</sub> (d) Windox of MnO <sub>3</sub> and Windox of MnO <sub>2</sub> (e) Windox of MnO <sub>3</sub> and Windox of MnO <sub>2</sub> (f) Windox of MnO <sub>3</sub> and Windox of MnO <sub>2</sub> (g) Windox of MnO <sub>3</sub> and Windox of MnO <sub>2</sub> (g) Windox of MnO <sub>3</sub> and Windox of MnO <sub>2</sub> (g) Windox of MnO <sub>3</sub> and Windox of MnO <sub>2</sub> (g) Windox of MnO <sub>3</sub> and Windox of MnO <sub>2</sub> (g) Windox of MnO <sub>3</sub> and Windox of MnO <sub>2</sub> (g) Windox of MnO <sub>3</sub> and Windox of MnO <sub>2</sub> (g) Windox of MnO <sub>3</sub> and Windox of MnO <sub>2</sub> (g) Windox of MnO <sub>3</sub> and Windox of MnO <sub>2</sub> (g) Windox of MnO <sub>3</sub> and Windox of MnO <sub>2</sub> (g) Windox of MnO <sub>3</sub> and Windox of MnO <sub>2</sub> (g) Windox of MnO <sub>3</sub> and Windox of MnO <sub>2</sub> (g) Windox of MnO <sub>3</sub> and Windox of MnO <sub>2</sub> (g) Windox of MnO <sub>3</sub> and Windox of MnO <sub>2</sub> (g) Windox of MnO <sub>3</sub> and Windox of MnO <sub>2</sub> (g) Windox of MnO <sub>3</sub> and Windox of MnO <sub>2</sub> (g) Windox of MnO <sub>3</sub> and Windox of MnO <sub>2</sub> (g) Windox of MnO <sub>3</sub> and Windox of MnO <sub>2</sub> (g) Windox of MnO <sub>3</sub> and Windox of MnO <sub>2</sub> (g) Windox of MnO <sub>3</sub> and Windox of MnO <sub>2</sub> (g) Windox of MnO <sub>3</sub> and Windox of MnO <sub>2</sub> (h) When SO <sub>3</sub> is passed through acidified solution of potentials of the half-reactions are below: F <sub>2</sub> (g) + 2e <sup>-</sup> → 2F <sup>-</sup> (aq); E <sup>-</sup> = +2.85 V Ci <sub>3</sub> (g) +2e <sup>-</sup> → 2F <sup>-</sup> (aq); E <sup>-</sup> = +2.85 V Ci <sub>3</sub> (g) +2e <sup>-</sup> → 2F <sup>-</sup> (aq); E <sup>-</sup> = +1.36 V Br <sub>2</sub> (g) +2e <sup>-</sup> → 2F <sup>-</sup> (aq); E <sup>-</sup> = +1.36 V Br <sub>2</sub> (g) +2e <sup>-</sup> → 2F <sup>-</sup> (aq); E <sup>-</sup> = +1.36 V Br <sub>2</sub> (g) +2e <sup>-</sup> → 2F <sup>-</sup> (aq); E <sup>-</sup> = +1.36 V Br <sub>2</sub> (g) +2e <sup>-</sup> → 2F <sup></sup>	8.	Oxidation state for nitrogen is incorrectly given for		(a) Highest = $KO_2$ , lowest = $H_2O_2$
(a) $  \text{Co}(\text{NH}_3)_5 \text{Cl}   \text{Cl}_2 $ (b) $  \text{NH}_5 \text{OH} $ (c) $  \text{NH}_4 \text{J}_5 \text{SO}_4 $ (d) $  \text{Mg}_3 \text{Ng}_2 $ 39. Standard electrode potentials of redox couples $  \text{A}^2 \times \text{Ng}   \text{Red} \times \text{Ng}_2 \times Ng$				
<ul> <li>(b) NH<sub>2</sub>OH</li> <li>(c) (N<sub>2</sub>H<sub>3</sub>)<sub>2</sub>SO<sub>4</sub></li> <li>-2</li> <li>(d) Mg<sub>3</sub>N<sub>2</sub></li> <li>-3</li> <li>(e) Mg<sub>2</sub>N<sub>3</sub></li> <li>-2</li> <li>(f) Mg<sub>3</sub>N<sub>3</sub></li> <li>-2</li> <li>(g) Mg<sub>2</sub>N<sub>3</sub></li> <li>-2</li> <li>(h) Mg<sub>3</sub>N<sub>3</sub></li> <li>(h) HPO<sub>3</sub></li> <li>(h) HPO</li></ul>		-		
(c) (N <sub>2</sub> H <sub>3</sub> ) <sub>2</sub> SO <sub>4</sub> —2 (d) Mg <sub>3</sub> N <sub>2</sub> —3 (9. Standard electrode potentials of redox couples A²/iA, B²/iB, C²/iC and D²/Dare.0.3V, −0.5V and 0.9V respectively. Which of these is best exidising agent and reducing agent respectively— (a) D²+/D and B²+/B (b) B₂+/B and D²+/D (c) D²+/D and C²+/C (d) C²+/C and D²+/D (d) C²+/C and D²+/D (e) D²+/D and C²+/C (d) C²+/C and D²+/D (e) D²+/D and C²+/C (d) C²+/C and D²+/D (e) D²+/D and C³+/C (d) C²+/C and D²+/D (e) D²+/D and C³+/C (d) C²+/C and D²+/D (e) D²+/D and C³+/D (d) C²+/C and D²+/D (e) D²+/D and C³+/D (d) C²+/C and D²+/D (e) D²+/D and C³+/D (e) D²+/D and D²+/D (e) D²+/D an				
<ul> <li>(d) Mg/S/<sup>2</sup> 4</li></ul>		<u> -</u>	26.	The most powerful oxidizing agent from the following is
<ul> <li>9. Standard electrode potentials of redox couples A²²/A, B²²/B, C²²/C and D²²/D arc 0.3V, −0.5V, −0.75V and 0.9V respectively. Which of these is best oxidising agent and reducing agent respectively. <ul> <li>(a) D²²/D and B²²/B</li> <li>(b) B²/B and D²²/D</li> <li>(c) D²²²/D and C²²/C</li> <li>(d) C²²/C and D²²/D</li> </ul> </li> <li>10. MnO₄²² (1 mole) in neutral aqueous medium disproportionates to (a) 2/3 mole of MnO₄ and 1/3 mole of MnO₂ (b) 1/3 mole of MnO₄ and 1/3 mole of MnO₂ (c) 1/3 mole of MnO₄ and 1/3 mole of MnO₂ (d) 2/3 mole of MnO₂ and 1/3 mole of MnO₂ (e) 1/3 mole of MnO₂ (f) 2/3 mole of MnO₂ (h) 2/3 mole of</li></ul>		1 1 2 3/2 4		(a) $H_3BO_3$ (b) $HPO_3$
A <sup>2+</sup> /A, B <sup>2+</sup> /B, C <sup>2+</sup> /C and D <sup>2+</sup> /D arc C, 3V, −0,5V and 0.9V respectively. Which of these is best oxidising agent and reducing agent respectively −  (a) D <sup>2+</sup> /D and B <sup>2+</sup> /B (b) B <sub>2+</sub> /B and D <sup>2+</sup> /D  (b) MnO <sub>4</sub> <sup>2−</sup> (1 mole) in neutral aqueous medium disproportionates to  (a) 2/3 mole of MnO <sub>4</sub> and 1/3 mole of MnO <sub>2</sub> (b) 1/3 mole of MnO <sub>4</sub> and 2/3 mole of MnO <sub>2</sub> (c) L <sup>3</sup> mole of MnO <sub>4</sub> and 2/3 mole of MnO <sub>2</sub> (d) 2/3 mole of MnO <sub>4</sub> and 2/3 mole of MnO <sub>2</sub> (d) 2/3 mole of MnO <sub>4</sub> and 2/3 mole of MnO <sub>2</sub> (d) 2/3 mole of MnO <sub>2</sub> and 2/3 mole of MnO <sub>2</sub> (d) 2/3 mole of MnO <sub>2</sub> and 2/3 mole of MnO <sub>2</sub> (d) 2/3 mole of Mn <sub>2</sub> O <sub>7</sub> and 1/3 mole of MnO <sub>2</sub> (d) 2/3 mole of Mn <sub>2</sub> O <sub>7</sub> and 1/3 mole of MnO <sub>2</sub> (e) In the standardization of Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub> using K <sub>2</sub> Cr <sub>2</sub> O <sub>7</sub> by iodometry, the equivalent weight of K <sub>2</sub> Cr <sub>2</sub> O <sub>7</sub> is (a) (nolecular weight)/2 (b) (molecular weight)/3 (d) same as molecular weight (c) (molecular weight)/3 (d) asme as molecular weight (a) C <sub>2</sub> (b) MnO <sub>2</sub> <sup>4−</sup> (c) NO <sub>2</sub> (d) All of these  (a) C <sub>2</sub> (b) MnO <sub>4</sub> <sup>2−</sup> (b) MnO <sub>4</sub> <sup>2−</sup> (c) NO <sub>2</sub> (d) All of these  (a) C <sub>2</sub> (b) MnO <sub>4</sub> <sup>2−</sup> (b) MnO <sub>4</sub> <sup>2−</sup> (c) NO <sub>2</sub> (d) All of these  (a) C <sub>2</sub> (b) MnO <sub>4</sub> <sup>2−</sup> (b) Harting All Marting All Mart	9.			(c) $H_2PO_4$ (d) $H_2SO_4$
dichromate, then chromium sulphate is formed. The can and reducing agent respectively—  (a) D²+/D and B²+/B (b) B₂+/B and D²+/D (c) D²+/D and C²+/C (d) C²+/C and D²+/D (e) D²+/D and C²+/C (d) C²+/C and D²+/D (e) D²+/D and C²+/C (d) C²+/C and D²+/D (e) D²+			27.	When SO, is passed through acidified solution of potassium
and reducing agent respectively— (a) D <sup>2+</sup> /D and B <sup>2+</sup> /B (b) B <sub>2+</sub> /B and D <sup>2+</sup> /D (c) D <sup>2+</sup> /P and C <sup>2+</sup> /C (d) C <sup>2+</sup> /C and D <sup>2+</sup> /D  0. MnO <sub>4</sub> <sup>2-</sup> (1 mole) in neutral aqueous medium disproportionates to (a) 2/3 mole of MnO <sub>4</sub> and 1/3 mole of MnO <sub>2</sub> (b) 1/3 mole of MnO <sub>4</sub> and 2/3 mole of MnO <sub>2</sub> (c) 1/3 mole of Mn <sub>2</sub> O <sub>7</sub> and 1/3 mole of MnO <sub>2</sub> (d) 2/3 mole of Mn <sub>2</sub> O <sub>7</sub> and 1/3 mole of MnO <sub>2</sub> (d) 2/3 mole of Mn <sub>2</sub> O <sub>7</sub> and 1/3 mole of MnO <sub>2</sub> (d) 2/3 mole of Mn <sub>2</sub> O <sub>7</sub> and 1/3 mole of MnO <sub>2</sub> (e) (molecular weight)/2 (b) (molecular weight)/6 (c) (molecular weight)/3 (d) same as molecular weight (e) (molecular weight)/3 (d) same as molecular weight (e) No <sub>2</sub> (d) All of these 3. One mole of N <sub>2</sub> H <sub>4</sub> loses 10 moles of electrons to form a new compound, what is the oxidation state of hydrogen) (a) -1 (b) -3 (c) +3 (d) +5 4. Phosphorus, sulphur and chlorine undergo disproportion in theA. medium. Here, A refers to (a) acidic (b) alkaline (c) neutral (d) Both (a) and (b) 5. In which of the following compounds oxygen has highest oxidation state and in which it has lowest oxidation state?  18. (a) D <sup>2</sup> /C (a) D <sup>2</sup> /C (a) D <sup>2</sup> /C (b) +5to+3 (d) +7to+2  29. Standard reduction potentials of the half-reactions are below: F <sub>2</sub> (g) +2e <sup>-</sup> →2E <sup>-</sup> (aq); E <sup>o</sup> = +2.85 V Cl <sub>2</sub> (g) +2e <sup>-</sup> →2CF (aq); E <sup>o</sup> = +1.36 V Br <sub>2</sub> (1)+2 Br <sub>2</sub> (1)+2 Br <sub>2</sub> (1)+2 Br <sub>2</sub> (1)+2 -2e <sup>-</sup> →2CF (aq); E <sup>o</sup> = +1.36 V Br <sub>2</sub> (1)+2				
(a) D²²/Dand B²²+B (b) B₂+B and D²+/D (c) D²+/Dand C²+/C (d) C²+/C and D²+/D (d) C²+/C and D²+/D (e) D²+/D and C²+/C (d) C²+/C and D²+/D (e) D²+/				
(c) D <sup>2+</sup> /D and C <sup>2+</sup> /C (d) C <sup>2+</sup> /C and D <sup>2+</sup> /D 0. MnO <sub>4</sub> <sup>2-</sup> (1 mole) in neutral aqueous medium disproportionates to (a) 2/3 mole of MnO <sub>4</sub> and 1/3 mole of MnO <sub>2</sub> (b) 1/3 mole of Mn <sub>2</sub> O <sub>7</sub> and 1/3 mole of MnO <sub>2</sub> (c) 1/3 mole of Mn <sub>2</sub> O <sub>7</sub> and 1/3 mole of MnO <sub>2</sub> (d) 2/3 mole of Mn <sub>2</sub> O <sub>7</sub> and 1/3 mole of MnO <sub>2</sub> 1. In the standardization of Na <sub>2</sub> S <sub>2</sub> O <sub>2</sub> using K <sub>2</sub> Cr <sub>2</sub> O <sub>7</sub> by iodometry, the equivalent weight of K <sub>2</sub> Cr <sub>2</sub> O <sub>7</sub> is (a) (molecular weight)/3 (b) (molecular weight)/6 (c) (molecular weight)/3 (d) same as molecular weight) 2. The species that undergoes disproportionation in an alkaline medium are (a) Cl <sub>2</sub> (b) MnO <sub>4</sub> <sup>2-</sup> (c) NO <sub>2</sub> (d) All of these 3. One mole of N <sub>2</sub> H <sub>4</sub> loses 10 moles of electrons to form a new compoundy. Assuming that all nitrogen appear in the new compound, what is the oxidation state of hydrogen) (a) −1 (b) −3 (c) +3 (d) +5 4. Phosphorus, sulphur and chlorine undergo disproportion in theA medium. Here, A refers to (a) acidic (b) alkaline (c) neutral (d) Both (a) and (b) (a) acidic (b) alkaline (c) neutral (d) Both (a) and (b) (a) acidic (b) alkaline (c) neutral (d) Both (a) and (b) (a) acidic (b) alkaline (c) neutral (d) Both (a) and (b) (a) acidic (b) alkaline (c) neutral (d) Both (a) and (b) (a) acidic (b) alkaline (c) neutral (d) Both (a) and (b) (a) acidic (b) alkaline (c) neutral (d) Both (a) and (b) (a) acidic (b) alkaline (c) neutral (d) Both (a) and (b) (a) acidic (b) alkaline (c) neutral (d) Both (a) and (b) (a) acidic (b) alkaline (c) neutral (d) Both (a) and (b) (d) Both (		(a) $D^{2+}/D$ and $B^{2+}/B$ (b) $B_2^{+}/B$ and $D^{2+}/D$		· ·
<ul> <li>MnO<sub>4</sub><sup>2-</sup> (1 mole) in neutral aqueous medium disproportionates to <ul> <li>(a) 2/3 mole of MnO<sub>4</sub> and 1/3 mole of MnO<sub>2</sub></li> <li>(b) 1/3 mole of MnO<sub>4</sub> and 2/3 mole of MnO<sub>2</sub></li> <li>(c) 1/3 mole of Mn<sub>2</sub>O<sub>7</sub> and 1/3 mole of MnO<sub>2</sub></li> <li>(d) 2/3 mole of Mn<sub>2</sub>O<sub>7</sub> and 1/3 mole of MnO<sub>2</sub></li> <li>(d) 2/3 mole of Mn<sub>2</sub>O<sub>7</sub> and 1/3 mole of MnO<sub>2</sub></li> <li>1. In the standardization of Na<sub>2</sub>S<sub>2</sub>O<sub>2</sub> using K<sub>2</sub>Cr<sub>2</sub>O<sub>7</sub> by iodometry, the equivalent weight of K<sub>2</sub>Cr<sub>2</sub>O<sub>7</sub> by iodometry, the equivalent weight of K<sub>2</sub>Cr<sub>2</sub>O<sub>7</sub> by iodometry, the equivalent weight of (2) (molecular weight)/3 (d) same as molecular weight (e) (o) (molecular weight)/3 (d) same as molecular weight (e) (o) NO<sub>2</sub> (d) All of these</li> <li>(a) Cl<sub>2</sub> (b) MnO<sub>4</sub><sup>2-1</sup> (c) NO<sub>2</sub> (d) All of these</li> <li>(b) MnO<sub>4</sub><sup>2-1</sup> (c) NO<sub>2</sub> (d) All of these</li> <li>(c) NO<sub>2</sub> (d) All of these</li> <li>(d) Y will oxidise X and not X (e) Y will oxidise X and not X (f) Y will oxidise X and D X (h) X (h) Y will oxidise X and D X (h) X (h) Y will oxidise X and D X (h</li></ul></li></ul>		(c) $D^{2+}/D$ and $C^{2+}/C$ (d) $C^{2+}/C$ and $D^{2+}/D$		
disproportionates to (a) 2/3 mole of MnO₄ and 1/3 mole of MnO₂ (b) 1/3 mole of MnO₄ and 2/3 mole of MnO₂ (c) 1/3 mole of Mn₂O₂ and 1/3 mole of MnO₂ (d) 2/3 mole of Mn₂O₂ and 1/3 mole of MnO₂ (d) 2/3 mole of Mn₂O₂ and 1/3 mole of MnO₂ (d) 2/3 mole of Mn₂O₂ and 1/3 mole of MnO₂ (e) 1/3 mole of Mn₂O₂ and 1/3 mole of MnO₂ (f) 2/3 mole of Mn₂O₂ and 1/3 mole of MnO₂ (g) 2/3 mole of Mn₂O₂ and 1/3 mole of MnO₂ (h) 1/3 mole of Mn₂O₂ and 1/3 mole of MnO₂ (d) 2/3 mole of Mn₂O₂ and 1/3 mole of MnO₂ (e) 1/3 mole of Mn₂O₂ and 1/3 mole of MnO₂ (f) 2/3 mole of Mn₂O₂ and 1/3 mole of MnO₂ (g) 2/3 mole of Mn₂O₂ and 1/3 mole of MnO₂ (h) 2/3 mole of Mn₂O₂ and 1/3 mole of MnO₂ (d) 2/3 mole of Mn₂O₂ and 1/3 mole of MnO₂ (e) 1/3 mole of Mn₂O₂ and 1/3 mole of MnO₂ (d) 2/3 mole of Mn₂O₂ and 1/3 mole of MnO₂ (d) 2/3 mole of Mn₂O₂ and 1/3 mole of MnO₂ (e) 1/3 mole of Mn₂O₂ and 1/3 mole of MnO₂ (d) 2/3 mole of Mn₂O₂ and 1/3 mole of MnO₂ (e) 1/3 mole of Mn₂O₂ and 1/3 mole of MnO₂ (f) 2/3 mole of Mn₂O₂ and 1/3 mole of MnO₂ (h) 2/3 mole of Mn₂O₂ and 1/3 mole of MnO₂ (f) 2/3 mole of Mn₂O₂ and 1/3 mole of MnO₂ (h) 2/3 mole of Mn₂O₂ and 1/3 mole of MnO₂ (h) 2/2 mole of Mn₂O₂ and 1/3 mole of MnO₂ (h) 2/2 mole of Mn₂O₂ and 1/3 mole of MnO₂ (c) 1/3 mole of Mn₂O₂ and 1/3 mole of MnO₂ (d) 2/3 mole of Mn₂O₂ and 1/3 mole of MnO₂ (e) 2/3 mole of Mn₂O₂ and 1/3 mole of MnO₂ (f) 2/2 and Br (f) Cl₂(g) + 2e⁻ → 2Cf (aq); E⁻ e+ 1.36 V Br₂(1) + 2Br₂(2) + 2e⁻ → 2Cf (aq); E⁻ e+ 1.06 V I₂(s) + 2e⁻ → 2Cf (aq); E⁻ e+ 1.06 V I₂(s) + 2e⁻ → 2Cf (aq); E⁻ e+ 1.06 V I₂(s) + 2e⁻ → 2Cf (aq); E⁻ e+ 1.06 V I₂(s) + 2e⁻ → 2Cf (aq); E⁻ e+ 1.06 V I₂(s) + 2e⁻ → 2Cf (aq); E⁻ e+ 1.06 V I₂(s) + 2e⁻ → 2Cf (aq); E⁻ e+ 1.06 V I₂(s) + 2e⁻ → 2Cf (aq); E⁻ e+ 1.06 V I₂(s) + 2e⁻ → 2Cf (aq); E⁻ e+ 1.06 V I₂(s) + 2e⁻ → 2Cf (aq); E⁻ e+ 1.06 V I₂(s) + 2e⁻ → 2Cf (aq); E⁻ ebr. 4 and 1/3 mole of mole and reducing agents respectate: (a) F₂ and I⁻ (b) Br₂ and I⁻ (c) Cl₂ and Br⁻ (d) Cl₂ and F₂ v X; then (a) F₂ and I⁻ (c) Cl₂ and Br⁻ (d) Cl₂ ebr. 4 are: (a) F₂ and I⁻ (b) Br₂ and I⁻ (c) Cl₂ and Br⁻ (d)	0.	MnO <sub>4</sub> <sup>2-</sup> (1 mole) in neutral aqueous medium	28.	· ·
(a) 2/3 mole of MnO <sub>4</sub> and 1/3 mole of MnO <sub>2</sub> (b) 1/3 mole of MnO <sub>4</sub> and 2/3 mole of MnO <sub>2</sub> (c) 1/3 mole of Mn <sub>2</sub> O <sub>7</sub> and 1/3 mole of MnO <sub>2</sub> (d) 2/3 mole of Mn <sub>2</sub> O <sub>7</sub> and 1/3 mole of MnO <sub>2</sub> 1. In the standardization of Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub> using K <sub>2</sub> Cr <sub>2</sub> O <sub>7</sub> by iodometry, the equivalent weight of K <sub>2</sub> Cr <sub>2</sub> O <sub>7</sub> is (a) (molecular weight)/2 (b) (molecular weight)/6 (c) (molecular weight)/3 (d) same as molecular weight 2. The species that undergoes disproportionation in an alkaline medium are (a) Cl <sub>2</sub> (b) MnO <sub>2</sub> <sup>2</sup> (c) NO <sub>2</sub> (d) All of these 3. One mole of N <sub>2</sub> H <sub>4</sub> loses 10 moles of electrons to form a new compound y. Assuming that all nitrogen appear in the new compound, what is the oxidation state of hydrogen) (a) -1 (b) -3 (c) +3 (d) +5 4. Phosphorus, sulphur and chlorine undergo disproportion in theA medium.  Here, A refers to (a) acidic (b) alkaline (c) neutral (d) Both (a) and (b) In which of the following compounds oxygen has highest oxidation state and in which it has lowest oxidation state?  OF <sub>2</sub> , H <sub>2</sub> O <sub>2</sub> , XO <sub>2</sub> , O <sub>2</sub> F <sub>2</sub> 18. (a) (b) (d) 19. (a) (c) (d) (c) (d) (c) (d) (d) (d) (d) (d) (d) (d) (d) (d) (d				
(b) 1/3 molc of MnO <sub>4</sub> − and 2/3 molc of MnO <sub>2</sub> (c) 1/3 molc of Mn <sub>2</sub> O <sub>7</sub> and 1/3 molc of MnO <sub>2</sub> (d) 2/3 molc of Mn <sub>2</sub> O <sub>7</sub> and 1/3 molc of MnO <sub>2</sub> (d) 2/3 molc of Mn <sub>2</sub> O <sub>7</sub> and 1/3 molc of MnO <sub>2</sub> (e) 2/3 molc of Mn <sub>2</sub> O <sub>7</sub> and 1/3 molc of MnO <sub>2</sub> (f) 2/3 molc of Mn <sub>2</sub> O <sub>7</sub> and 1/3 molc of MnO <sub>2</sub> (g) 2/3 molc of Mn <sub>2</sub> O <sub>7</sub> and 1/3 molc of MnO <sub>2</sub> (h) 2/3 molc of Mn <sub>2</sub> O <sub>7</sub> and 1/3 molc of MnO <sub>2</sub> (a) (molecular weight)/2 (b) (molecular weight)/6 (c) (molecular weight)/3 (d) same as molecular weight of K <sub>2</sub> Cr <sub>2</sub> O <sub>7</sub> by iodometry, the equivalent weight of K <sub>2</sub> Cr <sub>2</sub> O <sub>7</sub> is (a) (molecular weight)/3 (d) same as molecular weight of Mol2− (c) (molecular weight)/3 (d) same as molecular weight of Mol2− (c) NO <sub>2</sub> (d) All of these 3. One mole of N <sub>2</sub> H <sub>4</sub> loses 10 moles of electrons to form a new compoundy. Assuming that all nitrogen appear in the new compoundy with the excitation state of hydrogen) (a) −1 (b) −3 (c) +3 (d) +5 4. Phosphorus, sulphur and chlorine undergo disproportion in theA medium. Here, A refers to (a) acidic (b) alkaline (c) neutral (d) Both (a) and (b) 5. In which of the following compounds oxygen has highest oxidation state and in which it has lowest oxidation state? OF <sub>2</sub> , H <sub>2</sub> O <sub>2</sub> , KO <sub>2</sub> , O <sub>2</sub> F <sub>2</sub> 18. (a) (F <sub>2</sub> (C <sub>2</sub> O <sub>7</sub> O <sub>7</sub> by (a) (C <sub>1</sub> (q); E°=+1.06 V I <sub>2</sub> (s) + 2e <sup>-</sup> →2Cl <sup>+</sup> (aq); E' 2Br <sup>-</sup> (aq); E°=+1.06 V I <sub>2</sub> (s) + 2e <sup>-</sup> →2Cl <sup>+</sup> (aq); E' 2Br <sup>-</sup> (aq); E°=+1.06 V I <sub>2</sub> (s) + 2e <sup>-</sup> →2Cl <sup>+</sup> (aq); E' 3. The strongest oxidising and reducing agents respectare: (a) F <sub>2</sub> and I <sup>-</sup> (b) Br <sub>2</sub> and Cl <sup>-</sup> (c) Cl <sub>2</sub> and Br <sup>-</sup> (d) Cl <sub>2</sub> and I <sub>2</sub> 4 gas X at 1 atm is bubbled through a solution contain mixture of 1 M Y and 1 M Z at 25°C. If the red potential is Z>Y > X, then (a) Y will oxidise Z and not Z (d) Y will oxidise Z and not Z (d) Y will reduce both X and Z (d) Y will oxidise Doth X and Z (d) Y will oxidise both X and Z (d) Y will reduce both X and Z (d) Y will oxidise both X and Z (d) Y will oxidise both X and Z (d) Y will				
(c) 1/3 mole of Mn <sub>2</sub> O <sub>7</sub> and 1/3 mole of MnO <sub>2</sub> (d) 2/3 mole of Mn <sub>2</sub> O <sub>7</sub> and 1/3 mole of MnO <sub>2</sub> 1. In the standardization of Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub> using K <sub>2</sub> Cr <sub>2</sub> O <sub>7</sub> by iodometry, the equivalent weight of K <sub>2</sub> Cr <sub>2</sub> O <sub>7</sub> is (a) (molecular weight)/2 (b) (molecular weight)/6 (c) (molecular weight)/3 (d) same as molecular weight (e) (molecular weight)/3 (d) same as molecular weight (f) (h) MnO <sub>4</sub> <sup>2-1</sup> (g) NO <sub>2</sub> (d) All of these  3. One mole of N <sub>2</sub> H <sub>4</sub> loses 10 moles of electrons to form a new compound y. Assuming that all nitrogen appear in the new compound, what is the oxidation state of hydrogen) (a) -1 (b) -3 (b) +3 (d) +5  4. Phosphorus, sulphur and chlorine undergo disproportion in theA medium. Here, A refers to (a) acidic (b) alkaline (c) neutral (d) Both (a) and (b) (neutral (d) Both (a) and (b) (netral (d) Both (a) Both (a) Both (a) Both (a) Both (a) Bot				
(d) 2/3 mole of Mn <sub>2</sub> O <sub>7</sub> and 1/3 mole of MnO <sub>2</sub> 1. In the standardization of Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub> using K <sub>2</sub> Cr <sub>2</sub> O <sub>7</sub> by iodometry, the equivalent weight of K <sub>2</sub> Cr <sub>2</sub> O <sub>7</sub> is  (a) (molecularweight)/2 (b) (molecular weight)/6  (c) (molecularweight)/3 (d) same as molecular weight)  2. The species that undergoes disproportionation in an alkaline medium are  (a) Cl <sub>2</sub> (b) MnO <sub>4</sub> <sup>2-1</sup> (c) NO <sub>2</sub> (d) All of these  3. One mole of N <sub>2</sub> H <sub>4</sub> loses 10 moles of electrons to form a new compound, what is the oxidation state of hidrogen in y(There is no change in the oxidation state of hydrogen)  (a) -1 (b) -3  (c) +3 (d) +5  4. Phosphorus, sulphur and chlorine undergo disproportion in theA medium.  Here, A refers to  (a) acidic (b) alkaline  (c) neutral (d) Both (a) and (b)  5. In which of the following compounds oxygen has highest oxidation state and in which it has lowest oxidation state?  OF <sub>2</sub> , H <sub>2</sub> O <sub>2</sub> , KO <sub>2</sub> , O <sub>2</sub> F <sub>2</sub> 18.(a) © (d) 19.(a) © (d) 20.(a) © (d) 21.(a) © (d) 22. (a) © (d) 20.(a) © (d) 21.(a) © (d) 22. (a) © (d) 22. (a) © (d) 20.(a) © (d) 21.(a) © (d) 22. (a) © (d) 23.(a) © (d) 24.(a) © (d) 24.		,		
1. In the standardization of Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub> using K <sub>2</sub> Cr <sub>2</sub> O <sub>7</sub> by iodometry, the equivalent weight of K <sub>2</sub> Cr <sub>2</sub> O <sub>7</sub> is  (a) (molecular weight)/2 (b) (molecular weight)/6 (c) (molecular weight)/3 (d) same as molecular weight of K <sub>2</sub> Cr <sub>2</sub> O <sub>7</sub> is  (a) (molecular weight)/3 (d) same as molecular weight of K <sub>2</sub> Cr <sub>2</sub> O <sub>7</sub> is  (a) (molecular weight)/3 (d) same as molecular weight of K <sub>2</sub> Cr <sub>2</sub> O <sub>7</sub> is  (a) F <sub>2</sub> and I (b) Br <sub>2</sub> and Cl (c) Cl <sub>2</sub> and Br (d) Cl <sub>2</sub> and I <sub>2</sub> 29. A gas X at 1 atm is bubbled through a solution contain mixture of 1 M Y and 1 M Z at 25°C. If the red potential is Z>Y > X, then  (a) Y will oxidise X and not X  (b) Y will oxidise X and not X  (c) Y will oxidise Z and not X  (d) Y will oxidise Doth X and Z  (d) Y will reduce both X and Z  30. The violent reaction between sodium and water is an ex of  (a) Reduction (b) Oxidation  (c) neutral (d) Both (a) and (b)  5. In which of the following compounds oxygen has highest oxidation state and in which it has lowest oxidation state?  OF <sub>2</sub> , H <sub>2</sub> O <sub>2</sub> , KO <sub>2</sub> , O <sub>2</sub> F <sub>2</sub> 18. (a) © (d) 19. (a) © (d)  20. (a) © (d) 21. (a) © (d) Cl <sub>2</sub> and Br (d)		- · · · · · · · · · · · · · · · · · · ·		2.1
iodometry, the equivalent weight of K <sub>2</sub> Cr <sub>2</sub> O <sub>2</sub> is [a] (molecular weight)/2 (b) (molecular weight)/6 (c) (molecular weight)/3 (d) same as molecular weight of C <sub>2</sub> (molecular weight)/3 (d) same as molecular weight of C <sub>3</sub> (c) (molecular weight)/3 (d) same as molecular weight of C <sub>4</sub> (c) (molecular weight)/3 (d) same as molecular weight of C <sub>5</sub> (c) (molecular weight)/3 (d) same as molecular weight of C <sub>6</sub> (c) (molecular weight)/3 (d) same as molecular weight of C <sub>7</sub> (c) (molecular weight)/3 (d) same as molecular weight of C <sub>7</sub> (c) (d) C <sub>7</sub> (d) C <sub>8</sub> (d) C <sub>9</sub> (d) All of these (e) (e) (e) (f) (f) (f) (f) (f) (f) (f) (f) (f) (f	1	<b>2</b> ,		
(a) (molecular weight)/2 (b) (molecular weight)/6 (c) (molecular weight)/3 (d) same as molecular weight  The species that undergoes disproportionation in an alkaline medium are  (a) Cl <sub>2</sub> (b) MnO <sub>4</sub> <sup>2-</sup> (c) NO <sub>2</sub> (d) All of these  (3. One mole of N <sub>2</sub> H <sub>4</sub> loses 10 moles of electrons to form a new compound, what is the oxidation state of hitrogen in y(There is no change in the oxidation state of hydrogen)  (a) -1 (b) -3 (c) +3 (d) +5  4. Phosphorus, sulphur and chlorine undergo disproportion in theA medium.  Here, A refers to  (a) acidic (b) alkaline (c) neutral (d) Both (a) and (b)  (a) F <sub>2</sub> and I <sup>-</sup> (b) Br <sub>2</sub> and CI <sup>-</sup> (c) Cl <sub>2</sub> and Br <sup>-</sup> (d) Cl <sub>2</sub> and I <sub>2</sub> A gas X at 1 atm is bubbled through a solution contain mixture of 1 M Y <sup>-</sup> and 1 M Z at 25°C. If the red potential is Z> Y > X, then  (a) Y will oxidise X and not X (b) Y will oxidise Z and not X (c) Y will oxidise both X and Z  The violent reaction between sodium and water is an ex of  (a) Reduction (b) Oxidation (c) Redox reaction (d) Neutralization reac  31. The equivalent weight of Mohr's salt,  FeSO <sub>4</sub> (NH <sub>4</sub> ) <sub>2</sub> SO <sub>4</sub> .6H <sub>2</sub> O is equal to  (a) its molecular weight (b) its atomic weight (c) half-its molecular weight (d) one-third its molecular weight	1.			
29. A gas X at 1 atm is bubbled through a solution contain mixture of 1 M Y" and 1 M Z at 25°C. If the red potential is Z>Y > X, then  (a) Cl <sub>2</sub> (b) MnO <sub>4</sub> <sup>2-</sup> (c) NO <sub>2</sub> (d) All of these  3. One mole of N <sub>2</sub> H <sub>4</sub> loses 10 moles of electrons to form a new compoundy. Assuming that all nitrogen appear in the new compound, what is the oxidation state of hitrogen in y (There is no change in the oxidation state of hydrogen)  (a) -1 (b) -3 (d) +5  4. Phosphorus, sulphur and chlorine undergo disproportion in theA medium.  Here, A refers to  (a) acidic (b) alkaline (c) neutral (d) Both (a) and (b)  5. In which of the following compounds oxygen has highest oxidation state and in which it has lowest oxidation state? OF <sub>2</sub> , H <sub>2</sub> O <sub>2</sub> , KO <sub>2</sub> , O <sub>2</sub> F <sub>2</sub> 18. (a) (b) (d) 19. (a) (b) (d) 20. (a) (b) (d) 21. (a) (b) (d) 22. (a) (b) (c)				
29. A gas X at 1 atm is bubbled through a solution contain mixture of 1 M Y" and 1 M Z at 25°C. If the red potential is Z>Y > X, then  (a) Cl <sub>2</sub> (b) MnO <sub>4</sub> <sup>2-</sup> (c) NO <sub>2</sub> (d) All of these  3. One mole of N <sub>2</sub> H <sub>4</sub> loses 10 moles of electrons to form a new compound, what is the oxidation state of hitrogen in y (There is no change in the oxidation state of hydrogen)  (a) -1 (b) -3 (c) +3 (d) +5  4. Phosphorus, sulphur and chlorine undergo disproportion in theA medium.  Here, A refers to (a) acidic (b) alkaline (c) neutral (d) Both (a) and (b)  5. In which of the following compounds oxygen has highest oxidation state and in which it has lowest oxidation state?  OF <sub>2</sub> , H <sub>2</sub> O <sub>2</sub> , KO <sub>2</sub> , O <sub>2</sub> F <sub>2</sub> 18. (a) (b) (d) 19. (a) (b) (d) 20. (a) (b) (d) 21. (a) (b) (d) 22. (a) (b) (c)				(c) Cl <sub>2</sub> and Br <sup></sup> (d) Cl <sub>2</sub> and l <sub>2</sub>
mcdium are  (a) Cl <sub>2</sub> (b) MnO <sub>4</sub> <sup>2-</sup> (c) NO <sub>2</sub> (d) All of these  3. One mole of N <sub>2</sub> H <sub>4</sub> loses 10 moles of electrons to form a new compound, what is the oxidation state of nitrogen appear in the new compound, what is the oxidation state of hydrogen)  (a) -1 (b) -3 (c) +3 (d) +5  4. Phosphorus, sulphur and chlorine undergo disproportion in theA medium.  Here, A refers to (a) acidic (b) alkaline (c) neutral (d) Both (a) and (b)  5. In which of the following compounds oxygen has highest oxidation state and in which it has lowest oxidation state?  OF <sub>2</sub> , H <sub>2</sub> O <sub>2</sub> , KO <sub>2</sub> , O <sub>2</sub> F <sub>2</sub> 18. (a) b C d 19. (a) All of these  mixture of 1 M Y' and 1 M Z at 25°C. If the red potential is Z > Y > X, then (a) Y will oxidise X and not X (c) Y will oxidise Dath X and Z  (d) Y will reduce both X and Z  30. The violent reaction between sodium and water is an ex of (a) Reduction (b) Oxidation (c) Redox reaction (d) Neutralization reac  31. The equivalent weight of Mohr's salt,  FeSO <sub>4</sub> (NH <sub>4</sub> ) <sub>2</sub> SO <sub>4</sub> .6H <sub>2</sub> O is equal to (a) its molecular weight (b) its atomic weight (c) half-its molecular weight (d) one-third its molecular weight	2.		29.	A gas X at 1 atm is bubbled through a solution containing a
(a) $Cl_2$ (b) $MnO_4^{2-}$ (c) $NO_2$ (d) All of these  3. One mole of $N_2H_4$ loses 10 moles of electrons to form a new compoundy. Assuming that all nitrogen appear in the new compound, what is the oxidation state of hydrogen) (a) $-1$ (b) $-3$ (c) $+3$ (d) $+5$ 4. Phosphorus, sulphur and chlorine undergo disproportion in theA medium.  Here, A refers to (a) a cidic (b) alkaline (c) neutral (d) Both (a) and (b) 5. In which of the following compounds oxygen has highest oxidation state and in which it has lowest oxidation state?  OF <sub>2</sub> , H <sub>2</sub> O <sub>2</sub> , KO <sub>2</sub> , O <sub>2</sub> F <sub>2</sub> 18. (a) b C (d) 19. (a) b C (d) 20. (a) b C (d) 21. (a) b C (d) 22. (a) b C			-/-	= = = = = = = = = = = = = = = = = = = =
(c) NO <sub>2</sub> (d) All of these  3. One mole of N <sub>2</sub> H <sub>4</sub> loses 10 moles of electrons to form a new compound, what is the oxidation state of nitrogen in y(There is no change in the oxidation state of hydrogen) (a) -1 (b) -3 (c) +3 (d) +5  4. Phosphorus, sulphur and chlorine undergo disproportion in theA medium. Here, A refers to (a) acidic (b) alkaline (c) neutral (d) Both (a) and (b) 5. In which of the following compounds oxygen has highest oxidation state and in which it has lowest oxidation state? OF <sub>2</sub> , H <sub>2</sub> O <sub>2</sub> , KO <sub>2</sub> , O <sub>2</sub> F <sub>2</sub> 18. (a) b C d 19. (a) Y will oxidise X and not X (b) Y will oxidise Z and not X (c) Y will oxidise both X and Z  The violent reaction between sodium and water is an ex of (a) Reduction (b) Oxidation (c) Redox reaction (d) Neutralization reac  31. FeSO <sub>4</sub> (NH <sub>4</sub> ) <sub>2</sub> SO <sub>4</sub> .6H <sub>2</sub> O is equal to (a) its molecular weight (b) its atomic weight (c) half-its molecular weight (d) one-third its molecular weight				
3. One mole of N <sub>2</sub> H <sub>4</sub> loses 10 moles of electrons to form a new compound y. Assuming that all nitrogen appear in the new compound, what is the oxidation state of nitrogen in y(There is no change in the oxidation state of hydrogen) (a) -1 (b) -3 (c) +3 (d) +5  4. Phosphorus, sulphur and chlorine undergo disproportion in theA medium. Here, A refers to (a) acidic (b) alkaline (c) neutral (d) Both (a) and (b)  5. In which of the following compounds oxygen has highest oxidation state and in which it has lowest oxidation state? OF <sub>2</sub> , H <sub>2</sub> O <sub>2</sub> , KO <sub>2</sub> , O <sub>2</sub> F <sub>2</sub> 18. (a) b C d 19. (a) b C d  (b) Y will oxidise Z and not X (c) Y will oxidise Z and not X (d) Y will oxidise both X and Z  The violent reaction between sodium and water is an ex of (a) Reduction (b) Oxidation (c) Redox reaction (d) Neutralization reac  31. The equivalent weight of Mohr's salt, FeSO <sub>4</sub> (NH <sub>4</sub> ) <sub>2</sub> SO <sub>4</sub> .6H <sub>2</sub> O is equal to (a) its molecular weight (b) its atomic weight (c) half-its molecular weight (d) one-third its molecular weight  20. (a) B C d 21. (a) b C d 22. (a) b C		2		
compound y. Assuming that all nitrogen appear in the new compound, what is the exidation state of hydrogen in y(There is no change in the exidation state of hydrogen)  (a) -1 (b) -3 (c) +3 (d) +5  4. Phosphorus, sulphur and chlorine undergo disproportion in theA medium.  Here, A refers to (a) acidic (b) alkaline (c) neutral (d) Both (a) and (b)  5. In which of the following compounds expect has highest exidation state and in which it has lowest exidation state?  OF <sub>2</sub> , H <sub>2</sub> O <sub>2</sub> , KO <sub>2</sub> , O <sub>2</sub> F <sub>2</sub> 18. (a) (b) (c) (d) 19. (a) (b) (d) (c) (d) (c) Y will exidise both X and Z  (d) Y will exid to exid the x and				• •
compound y. Assuming that all nitrogen appear in the new compound, what is the exidation state of nitrogen in y(There is no change in the exidation state of hydrogen)  (a) -1 (b) -3 (c) +3 (d) +5  4. Phosphorus, sulphur and chlorine undergo disproportion in the A medium.  Here, A refers to (a) acidic (b) alkaline (c) neutral (d) Both (a) and (b)  5. In which of the following compounds oxygen has highest exidation state and in which it has lowest exidation state?  OF <sub>2</sub> , H <sub>2</sub> O <sub>2</sub> , KO <sub>2</sub> , O <sub>2</sub> F <sub>2</sub> 18. (a) (b) (c) (d) 19. (a) (b) (c) (d) 21. (a) (b) (d) 22. (a) (b) (c)	3.			
is no change in the oxidation state of hydrogen)  (a) -1 (b) -3 (c) +3 (d) +5  4. Phosphorus, sulphur and chlorine undergo disproportion in the A medium.  Here, A refers to (a) acidic (b) alkaline (c) neutral (c) neutral (d) Both (a) and (b)  5. In which of the following compounds oxygen has highest oxidation state and in which it has lowest oxidation state?  OF <sub>2</sub> , H <sub>2</sub> O <sub>2</sub> , KO <sub>2</sub> , O <sub>2</sub> F <sub>2</sub> 18. (a) (b) -3 (a) Reduction (b) Oxidation (c) Redox reaction (d) Neutralization reac  31. The eviolent reaction between sodium and water is an ex of (a) Reduction (b) Oxidation (c) Redox reaction (d) Neutralization reac  31. The violent reaction between sodium and water is an ex of (a) Reduction (b) Oxidation (c) Redox reaction (d) Neutralization reac  31. The violent reaction between sodium and water is an ex of (a) Reduction (b) In which of Mohr's salt, (c) half-its molecular weight (d) one-third its molecular weight (d) one-third its molecular weight (d) one-third its molecular weight				• •
of (a) -1 (b) -3 (b) +3 (d) +5  4. Phosphorus, sulphur and chlorine undergo disproportion in the A medium.  Here, A refers to (a) acidic (b) alkaline (c) neutral (d) Both (a) and (b)  5. In which of the following compounds oxygen has highest oxidation state and in which it has lowest oxidation state?  OF <sub>2</sub> , H <sub>2</sub> O <sub>2</sub> , KO <sub>2</sub> , O <sub>2</sub> F <sub>2</sub> 18. (a) Reduction (b) Oxidation (c) Redox reaction (d) Neutralization reac (d) Neutralization reac (a) its molecular weight (b) its atomic weight (c) half-its molecular weight (d) one-third its molecular weight (d) one-third its molecular weight			30	• •
(a) Reduction (b) Oxidation  4. Phosphorus, sulphur and chlorine undergo disproportion in the A medium.  Here, A refers to (a) acidic (b) alkaline (c) neutral (d) Both (a) and (b)  5. In which of the following compounds oxygen has highest oxidation state and in which it has lowest oxidation state?  OF <sub>2</sub> , H <sub>2</sub> O <sub>2</sub> , KO <sub>2</sub> , O <sub>2</sub> F <sub>2</sub> (a) Reduction (b) Oxidation (c) Redox reaction (d) Neutralization reac (d) Neutralization reac (a) Reduction (b) Oxidation (c) Redox reaction (d) Neutralization reac (a) its molecular weight (b) its atomic weight (c) half-its molecular weight (d) one-third its molecula			JU,	=
4. Phosphorus, sulphur and chlorine undergo disproportion in theA medium.  Here, A refers to  (a) acidic (b) alkaline (c) neutral (d) Both (a) and (b)  In which of the following compounds oxygen has highest oxidation state and in which it has lowest oxidation state?  OF <sub>2</sub> , H <sub>2</sub> O <sub>2</sub> , KO <sub>2</sub> , O <sub>2</sub> F <sub>2</sub> 18. (a) b c d 19. (a) b c d  (b) Redox reaction (d) Neutralization reac 31. The equivalent weight of Mohr's salt,  FeSO <sub>4</sub> (NH <sub>4</sub> ) <sub>2</sub> SO <sub>4</sub> .6H <sub>2</sub> O is equal to (a) its molecular weight (b) its atomic weight (c) half-its molecular weight (d) one-third its molecular weight  20. (a) b c d 21. (a) b c d 22. (a) b c				
in theA medium.  Here, A refers to  (a) acidic (b) alkaline (c) neutral (d) Both (a) and (b)  In which of the following compounds oxygen has highest oxidation state and in which it has lowest oxidation state?  OF <sub>2</sub> , H <sub>2</sub> O <sub>2</sub> , KO <sub>2</sub> , O <sub>2</sub> F <sub>2</sub> 18. (a) (b) (d) 19. (a) (b) (d) 21. (a) (c) (d) 22. (a) (c)		· ·		
Here, A refers to  (a) acidic (b) alkaline (c) neutral (d) Both (a) and (b)  5. In which of the following compounds oxygen has highest oxidation state and in which it has lowest oxidation state?  OF <sub>2</sub> , H <sub>2</sub> O <sub>2</sub> , KO <sub>2</sub> , O <sub>2</sub> F <sub>2</sub> 18. (a) (b) (d) 19. (a) (b) (d) (d) 21. (a) (c) (d) 22. (a) (b) (c)	4.		21	
(a) acidic (b) alkaline (c) neutral (d) Both (a) and (b)  5. In which of the following compounds oxygen has highest oxidation state and in which it has lowest oxidation state? OF <sub>2</sub> , H <sub>2</sub> O <sub>2</sub> , KO <sub>2</sub> , O <sub>2</sub> F <sub>2</sub> 18. a b c d 19. a b c d 20. a b c d 21. a b c d 22. a b c			31,	•
(c) neutral (d) Both (a) and (b)  5. In which of the following compounds oxygen has highest oxidation state and in which it has lowest oxidation state?  OF <sub>2</sub> , H <sub>2</sub> O <sub>2</sub> , KO <sub>2</sub> , O <sub>2</sub> F <sub>2</sub> 18. ⓐ ⓑ ⓒ ⓓ 19. ⓐ ⓑ ⓒ ⓓ 20. ⓐ ⓑ ⓒ ⓓ 21. ⓐ ⓑ ⓒ ⓓ 22. ⓐ ⓑ ⓒ ⓓ				$FeSO_4(NH_4)_2SO_4.6H_2O$ is equal to
(c) neutral (d) Both (a) and (b)  In which of the following compounds oxygen has highest oxidation state and in which it has lowest oxidation state?  OF <sub>2</sub> , H <sub>2</sub> O <sub>2</sub> , KO <sub>2</sub> , O <sub>2</sub> F <sub>2</sub> 18. (a) b C d)  19. (a) b C d)  20. (a) b C d)  21. (a) b C d)  22. (a) b C				(a) its molecular weight
oxidation state and in which it has lowest oxidation state?  OF <sub>2</sub> , H <sub>2</sub> O <sub>2</sub> , KO <sub>2</sub> , O <sub>2</sub> F <sub>2</sub> 18. (a) b c d 19. (a) b c d 20. (a) b c d 21. (a) b c d 22. (a) b c	_			
OF <sub>2</sub> , H <sub>2</sub> O <sub>2</sub> , KO <sub>2</sub> , O <sub>2</sub> F <sub>2</sub> 18. (a) b c d 19. (a) b c d 20. (a) b c d 21. (a) b c d 22. (a) b c	ð.			
18.abcd 19.abcd 20.abcd 21.abcd 22.abc				(d) one-third its molecular weight
		$Ur_2, H_2U_2, KU_2, U_2r_2$		
		18.(a)(b)(c)(d) 19.(a)(b)(c)(d)	20.	(a) b) c) d 21. (a) b) c) d 22. (a) b) c) d
		RESPONSE 23. (a) (b) (c) (d) 24. (a) (b) (c) (d)		
GRID 28.abcd 29.abcd 30.abcd 31.abcd				

32. 33.	The set of numerical coefficients that balances the equation $K_2CrO_4 + HCl \rightarrow K_2Cr_2O_7 + KCl + H_2O$ (a) $1,1,2,2,1$ (b) $2,2,1,1,1$ (c) $2,1,1,2,1$ (d) $2,2,1,2,1$ Thiosulphate reacts differently with iodine and bromine in	39.	Stronger is oxidising agent, more is:  (a) standard reduction potential of that species  (b) the tendency to get it self oxidised  (c) the tendency to lose electrons by that species  (d) standard oxidation potential of that species
55.	the reactions given below: $2S_2O_3^{2-} + I_2 \rightarrow S_4O_6^{2-} + 2I^-$ $S_2O_3^{2-} + Br_2 + 5H_2O \rightarrow 2SO_4^{2-} + 2Br^- + 10H^+$	40.	Which of the following statement(s) is/are correct for the given reaction?  2HgCl₂ (aq) + SnCl₂(aq) → Hg₂Cl₂(s) + SnCl₄(aq)  (i) Mercuric chloride is reduced to Hg₂Cl₂
	Which of the following statements justifies the above dual behaviour of thiosulphate?  (a) Bromine is a stronger oxidant than iodine.		<ul> <li>(ii) Stannous chloride is oxidised to stannic chloride</li> <li>(iii) HgCl<sub>2</sub> is oxidised to Hg<sub>2</sub>Cl<sub>2</sub></li> <li>(iv) It is an example of redox reaction</li> </ul>
	<ul><li>(b) Bromine is a weaker oxidant than iodine.</li><li>(c) Thiosulphate undergoes oxidation by bromine and reduction by iodine in these reactions.</li></ul>	44	(a) (i), (ii) and (iv) (b) (i) and (ii) (c) (iii) and (iv) (d) (iii) only
2.1	(d) Bromine undergoes oxidation and iodine undergoes reduction in these reactions.	41.	The standard reduction potentials for $Cu^{2+}/Cu$ ; $Zn^{2+}/Zn$ ; $Li^+/Li$ ; $Ag^+/Ag$ and $H^+/H_2$ are + 0.34 V, - 0.762 V, - 3.05 V, + 0.80 V and 0.00 V respectively. Choose the
34.	The chemical that undergoes self oxidation and self reduction in the same reaction is  (a) benzyl alcohol  (b) acetone		strongest reducing agent among the following  (a) Zn  (b) H <sub>2</sub> (c) Ag  (d) Li
35.	(c) formaldehyde (d) acetic acid  The oxidation number of an element in a compound is evaluated on the basis of certian rules. Which of the	42.	
	following rules is not correct in this respect?  (a) The oxidation number of hydrogen is always + 1.		of the oxidizing agent is (molar mass of $HClO_3 = 84.45$ ) (a) 16.89 (b) 32.22
	<ul><li>(b) The algebraic sum of all the oxidation numbers in a compound is zero.</li><li>(c) An element in the free or the uncombined state bears</li></ul>	43.	(c) 84.45 (d) 28.15 Which of the following behaves as both oxidising and reducing agents?
	oxidation number zero. (d) In all its compounds,		(a) H <sub>2</sub> SO <sub>4</sub> (b) SO <sub>2</sub> (c) H <sub>2</sub> O (d) HNO <sub>3</sub>
36.	the oxidation number of fluorine is $-1$ . Zn gives $H_2$ gas with $H_2SO_4$ and HCl but not with HNO <sub>3</sub> because	44.	Which of the following statement(s) is/arc correct? (i) Oxidation state of carbon in $C_3H_4$ is -(4/3).
	<ul> <li>(a) Zn acts as an oxidising agent when it reacts with HNO<sub>3</sub></li> <li>(b) IINO<sub>3</sub> is weaker acid than lH<sub>2</sub>SO<sub>4</sub> and HCl</li> <li>(c) In electrochemical series, Zn is above hydrogen</li> </ul>		(ii) Electrons are never shared in fraction. (a) (i)and(ii) (b) Only(i) (c) Only(ii) (d) Neither (i) nor (ii)
37.	Which of the following elements does not show disproportionation tendency?  (a) Cl (b) Br (c) F (d) l	₹.7.	In the reaction shown below, oxidation state of the carbon in reactant and product arc (i) and (ii) respectively? Is the given reaction a redox reaction?  Na <sub>2</sub> CO <sub>3</sub> (aq) + HCl (aq)
38.	The oxidation number of sulphur in S <sub>8</sub> , S <sub>2</sub> F <sub>2</sub> , H <sub>2</sub> S		$\longrightarrow Na^{\oplus}(aq) + Cl^{-}(aq) + H_2O(\ell) + CO_2(g)$
	respectively, are (a) 0,+1 and-2 (b) +2,+1 and-2 (c) 0,+1 and+2 (d) -2,+1 and-2		(a) (i) 6, (ii) 4, yes (b) (i) 6, (ii) 6, No (c) (i) 4, (ii) 4, No (d) (i) 4, (ii) 4, yes

