

SAINIK SCHOOL GOPALGANJ

ASSIGNMENTS

CHAPTER-REDOX

1. One mole of ferrous oxalate requires _____ moles of MnO_4^- to get oxidised completely in an acidic medium

- (a) 0.6 moles
- (b) 0.4 moles
- (c) 0.2 moles
- (d) 7.5 moles

2. H_2SO_4 acts as a strong oxidising agent. In which of the reaction, is it not acting as an oxidising agent?

- (a) $\text{C} + 2\text{H}_2\text{SO}_4 \rightarrow \text{CO}_2 + 2\text{SO}_2 + 2\text{H}_2\text{O}$
- (b) $\text{CaF}_2 + 2\text{H}_2\text{SO}_4 \rightarrow \text{CaSO}_4 + 2\text{HF}$
- (c) $\text{S} + 2\text{H}_2\text{SO}_4 \rightarrow 3\text{SO}_2 + \text{H}_2\text{O}$
- (d) $\text{Cu} + 2\text{H}_2\text{SO}_4 \rightarrow \text{CuSO}_4 + \text{SO}_2 + 2\text{H}_2\text{O}$

3. Find the oxidation state of I in H_4IO_6^-

- (a) +7
- (b) +5
- (c) +1
- (d) -1

4. In which of the following complex, the oxidation number of Fe is +1?

- (a) $\text{Fe}_4[\text{Fe}(\text{CN})_6]_3$
- (b) $[\text{Fe}(\text{H}_2\text{O})_5\text{NO}]\text{SO}_4$
- (c) $[\text{FeBr}_4]^-$
- (d) $[\text{Fe}(\text{H}_2\text{O})_6]^{2-}$

5. Which among the following compounds is the most reducing compound?

- (a) H_2S
- (b) HNO_2
- (c) SnCl_2
- (d) H_2SO_3

6. Which of the following represents a redox reaction?

- (a) $\text{NaOH} + \text{HCl} \rightarrow \text{NaCl} + \text{H}_2\text{O}$
- (b) $\text{BaCl}_2 + \text{H}_2\text{SO}_4 \rightarrow \text{BaSO}_4 + 2\text{HCl}$
- (c) $\text{CuSO}_4 + 2\text{H}_2\text{O} \rightarrow \text{Cu}(\text{OH})_2 + \text{H}_2\text{SO}_3$
- (d) $\text{Zn} + 2\text{HCl} \rightarrow \text{ZnCl}_2 + \text{H}_2$

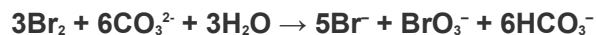
7. Which reaction involves neither oxidation nor reduction?

- a) $\text{CrO}_4^{2-} \rightarrow \text{Cr}_2\text{O}_7^{2-}$
- b) $\text{Cr} \rightarrow \text{CrCl}_3$
- c) $\text{Na} \rightarrow \text{Na}^+$
- d) $2\text{S}_2\text{O}_3^{2-} \rightarrow \text{S}_4\text{O}_6^{2-}$

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

- a. -4
- b. 0
- c. +4
- d. +6

9. In the reaction



- a. bromine is oxidised and carbonate is reduced
- b. bromine is reduced and water is oxidised
- c. bromine is neither reduced nor oxidized
- d. bromine is both reduced and oxidized

10. Which of the following cannot function as an oxidising agent?

- a. I^-
- b. $\text{Si}(\text{s})$
- c. $\text{NO}_3^-(\text{aq})$
- d. $\text{Cr}_2\text{O}_7^{2-}$
- e.
- f. -

g. VSA type

- h. 11. Define oxidation and reduction reaction in terms of oxidation number.
- i. 12. What is meant by disproportionation reaction? Give one example.
- j. 13. What is meant by EMF of a cell ?
- k. 14. Write Nernst reaction for the reaction,
l. $\text{Sn}^{4+}(\text{aq}) + 2\text{e}^- \rightarrow \text{Sn}^{2+}(\text{aq})$
- m. 15. A cell is set up by the two electrodes Cu/Cu^{2+} and Al/Al^{3+} . What is the net cell reaction?
- n. SA type**
- o. 16. Draw the electronic configuration of HNO_3 and justify the oxidation number of +5 of nitrogen.

- p. 17. Give the construction of NHE.. What is its standard reduction potential? How does it help to determine the the value of standard reduction potentials of other electrodes ?
- q. 18. Differentiate between the term EMF and potential difference.
- r. 19. What do you understand by electrochemical series? Give its utility.
- s. 20. Can we store the solution of aqueous copper Sulphate in an iron vessel? Justify your answer.