



SILVER HILLS PUBLIC SCHOOL

Affiliated to CBSE, Delhi, Affiliation No. 930433, Code No. 75439
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CYCLIC TEST 3 – 2024-25

Name			Subject: Chemistry	Maximum Marks: 25
Class: XI	Section:	Roll No.	Duration: 1 Hr.	Date:

General Instructions:

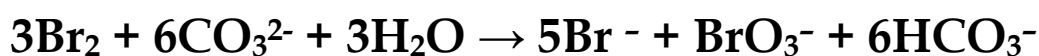
- All questions are compulsory. There are 15 questions in total.
- Section A consists of 8 multiple choice questions carrying 1 mark each.
- Section B consists of 4 very short answer questions carrying 2marks each.
- Section C consists of 3 short answer questions carrying 3 marks each.

Following questions (Nos. 1- 8) are multiple choice questions carrying 1 mark each:

1. The oxidation number of Cr in $\text{Cr}(\text{CO})_6$ is — — — — —

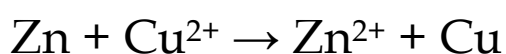
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|----------|--------|
| (a) zero | (b) +2 |
| (c) -2 | (d) +6 |

2. In the reaction



- Bromine is oxidised and carbonate is reduced.
- Bromine is reduced and water is oxidised
- Bromine is neither reduced nor oxidised.
- Bromine is both reduced and oxidised.

3. Consider the following reaction:



With reference to the above, which one of the following

is the correct statement?

- (a) Zn is reduced to Zn^{2+} ions.
- (b) Zn is oxidised to Zn^{2+} ions.
- (c) Zn^{2+} ions are oxidised to Zn.
- (d) Cu^{2+} ions are oxidized to Cu.

4. Oxidation number of P in PO_4^{3-} , of S in SO_4^{2-} and that of Cr in $\text{Cr}_2\text{O}_7^{2-}$ are respectively:

- (a) +3, +6 and +5
- (b) +5, +3 and +6
- (c) +3, +6 and +6
- (d) +5, +6 and +6

5. The IUPAC name of CH_3CHO is:

- (a) Acetaldehyde
- (b) Methylaldehyde
- (c) Formyl chloride
- (d) Ethanal

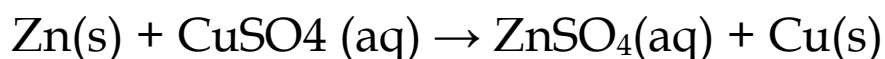
6. The structure of 4-Methylpent-2-en-1-ol is:

- (a) $\text{CH}_3\text{CH}_2\text{CH}=\text{CHCH}_2\text{OH}$
- (b) $(\text{CH}_3)_2\text{C}=\text{CHCH}_2\text{CH}_2\text{OH}$
- (c) $(\text{CH}_3)_2\text{CHCH}=\text{CHCH}_2\text{OH}$
- (d) $\text{CH}_3\text{CH}(\text{OH})\text{CH}-\text{CH}=\text{C}(\text{CH}_3)_2$

In these questions, a statement of assertion followed by a statement of reason is given. Choose the correct answer out of the following choices.

- a) Assertion and reason both are correct statements and reason is correct explanation for assertion.
- b) Assertion and reason both are correct statements but reason is not correct explanation for assertion.
- c) Assertion is correct statement but reason is wrong statement.
- d) Assertion is wrong statement but reason is correct statement.

7. Assertion : In a reaction



Zn is a reductant but itself get oxidized.

Reason: In a redox reaction, oxidant is reduced by accepting electrons and reductant is oxidized by losing electrons.

8. Assertion: Chain isomerism is observed in compounds containing four or more than four carbon atoms

Reason: Only alkanes show chain isomerism

SECTION - B

The following questions (Q. Nos. 9- 12) are short answer type and carry 2 marks each.

9. What are hybridisation states of each carbon atom in the following compounds?

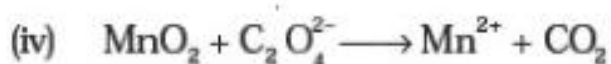
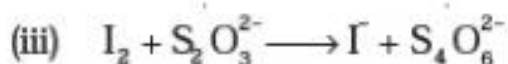
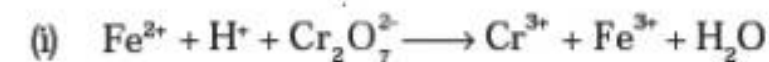


10. Write bond-line formulas for: 2,3-Dimethylbutanal, Heptan-4-one.
11. Calculate the oxidation number of each sulphur atom in the following compounds:
- (a) $\text{Na}_2\text{S}_2\text{O}_3$
 - (b) $\text{Na}_2\text{S}_4\text{O}_6$
 - (c) Na_2SO_3
 - (d) Na_2SO_4
12. Justify that the following reactions are redox reactions:
- (a) $\text{CuO(s)} + \text{H}_2\text{(g)} \longrightarrow \text{Cu(s)} + \text{H}_2\text{O(g)}$
 - (b) $\text{Fe}_2\text{O}_3\text{(s)} + 3\text{CO(g)} \longrightarrow 2\text{Fe(s)} + 3\text{CO}_2\text{(g)}$
 - (c) $4\text{BCl}_3\text{(g)} + 3\text{LiAlH}_4\text{(s)} \longrightarrow 2\text{B}_2\text{H}_6\text{(g)} + 3\text{LiCl(s)} + 3\text{AlCl}_3\text{(s)}$

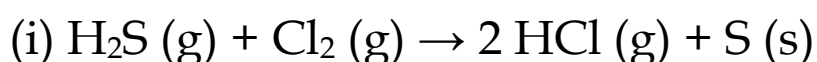
SECTION - C

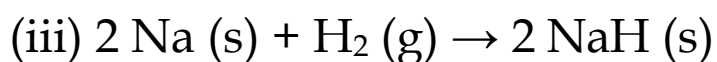
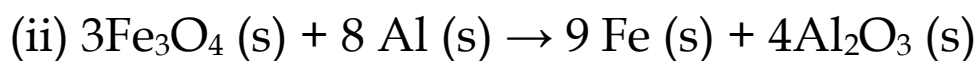
Questions 13- 15 are short answer type II carrying 3 marks each

13. Balance the following equations by the oxidation number method.



14. In the reactions given below, identify the species undergoing oxidation and reduction:





15. Permanganate(VII) ion, MnO_4^- in basic solution oxidises iodide ion, I^- to produce molecular iodine (I_2) and manganese (IV) oxide (MnO_2). Write a balanced ionic equation to represent this redox reaction.