



B.K. BIRLA CENTRE FOR EDUCATION

SARALA BIRLA GROUP OF SCHOOLS
A CBSE DAY-CUM-BOYS' RESIDENTIAL SCHOOL



PERIODIC TEST-II 2025-26 CHEMISTRY (043)

Class: XI
Date: 07.11.25

Time: 1 hour
Max Marks: 25

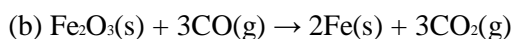
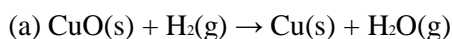
- This question paper consists of 13 questions. All questions are compulsory.
- There are three sections viz. A, B and C
- Section A – question numbers 1-5 are multiple choice questions, carry 1 mark each.
- Section B – question numbers 6-9 are short answer-type questions carrying 2 marks each.
- Section C – question numbers 10-13 are 3 marks each.
- There is no overall choice.

Section A

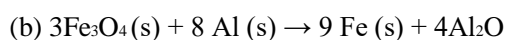
- From the given species such as K, Ca and Na, which of the following is the strongest reducing agent?
(a) Na (b) Li (c) Ca (d) K
- If a reaction is carried out in acidic medium then which is used to balance the equation?
(a) H^+ ions. (b) OH^- ions. (c) H^- ions. (d) O^{2-} ions.
- Which are of the following can act as oxidising as well reducing agent?
(a) H_2 (b) I_2 (c) H_2O_2 (d) All of these
- Entropy is maximum for
(a) solid (b) liquid (c) gas (d) all of the above
- Which of the following is an extensive property?
(a) Molar heat capacity (b) temperature (c) enthalpy (d) all of these

Section B

- Justify that the following reactions are redox reactions:



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



- Explain Oxidation number and find the oxidation number of the following underlined element. $K_2\underline{Cr}_2O_7$

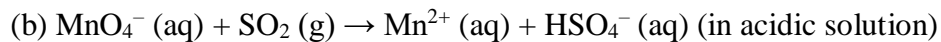
9. Prove that $C_p - C_v = R$.

Section C

10. Balance the following redox reactions by oxidation number method :



11. Balance the following redox reactions by oxidation number method :



12. The combustion of one mole of benzene takes place at 298 K and 1 atm. After combustion, $\text{CO}_2(\text{g})$ and $\text{H}_2\text{O} (\text{l})$ are produced and 3267.0 kJ of heat is liberated. Calculate the standard enthalpy of formation, $\Delta_f H$ of benzene. Standard enthalpies of formation of $\text{CO}_2(\text{g})$ and $\text{H}_2\text{O}(\text{l})$ are $-393.5 \text{ kJ mol}^{-1}$ and $-285.83 \text{ kJ mol}^{-1}$ respectively

13. Explain the following terms with suitable example:

(a) Open system (b) Closed system (c) Isolated system

*****ALL THE BEST*****