



BK BIRLA CENTRE FOR EDUCATION
SARALA BIRLA GROUP OF SCHOOLS
SENIOR SECONDARY|CO-ED DAY CUM BOYS' RESIDENTIAL SCHOOL



PERIODIC TEST-2 2024-25

CHEMISTRY (043)

Class: XI

Date: 03/12/2024

Name:

General Instructions:

Duration: 1 Hr

Max. Marks: 25

Exam RNo.

- All questions would be compulsory.
- Section A would have 5 MCQs carrying 1 mark each.
- Section B would have 4 Short Answer (SA) type questions carrying 02 marks each.
- Section C would have 4 Short Answer (SA) type questions carrying 03 marks each.

Section A

- The work done in case of isothermal free expansion is 1
(a) maximum (b) minimum (c) zero (d) positive
- The enthalpies of all elements in their standard states are: 1
(a) unity (b) zero (c) < 0 (d) different for each element
- Which of the following is an extensive property 1
(a) Molar heat capacity (b) Temperature (c) Enthalpy (d) All of these.
- Homolytic fission leads to the formation of 1
(a) nucleophile (b) carboanion (c) free radical (d) carbocation
- Which one is the correct order of acidity? 1
(a) $\text{CH}_2=\text{CH}_2 > \text{CH}_3-\text{CH}=\text{CH}_2 > \text{CH}_3\text{C}\equiv\text{CH} > \text{CH}\equiv\text{CH}$
(b) $\text{CH}\equiv\text{CH} > \text{CH}_3-\text{C}\equiv\text{CH} > \text{CH}_2=\text{CH}_2 > \text{CH}_3\text{CH}_3$
(c) $\text{CH}\equiv\text{CH} > \text{CH}_2=\text{CH}_2 > \text{CH}_3-\text{C}\equiv\text{CH} > \text{CH}_3-\text{CH}_3$
(d) $\text{CH}_3-\text{CH}_3 > \text{CH}_2=\text{CH}_2 > \text{CH}_3-\text{C}\equiv\text{CH} > \text{CH}\equiv\text{CH}$

Section B

- Predict the entropy change in- 2
A liquid crystallizes into solid (ii) Temperature of a crystallize solid raised from OK to 115K
- Given: $\text{N}_2(\text{g}) + 3\text{H}_2(\text{g}) \longrightarrow 2\text{NH}_3(\text{g}), \Delta H^0 = -92.4\text{KJ.mol}^{-1}$ 2
What is the standard enthalpy of the formation of $\text{NH}_3(\text{g})$.
- Draw the structure of the following compounds 2
(a) Hex-3enoic acid (b) 2-chloro-2-methyl butan-1-ol
- Give the number of sigma and pi bonds in the following molecules 2
(a) CH_3-NO_2 (b) HCONHCH_3

Section C

- Explain the following term 3
(a) Inductive effect (b) Resonance effect
- Write the IUPAC name of the following compounds: 3
(a) $\text{CH}_3\text{CH}_2\text{CH}(\text{OH})\text{CH}_3$ (b) CH_3CHO (c) $\text{CH}_3\text{CH}_2\text{CH}_2\text{COOH}$
- For the reaction at 298 K, $2\text{A} + \text{B} \longrightarrow \text{C}$ $\Delta H = 400\text{ kJ mol}^{-1}$ and $\Delta S = 0.2\text{ kJ K}^{-1}\text{ mol}^{-1}$ At what temperature will the reaction become spontaneous considering ΔH and ΔS to be constant over the temperature range. 3
- Explain the following terms with examples 3
(a) Extensive property (b) Intensive properties (c) Entropy

----- ALL THE BEST -----