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| **ANSWER KEY** | | | | | |
| **PERIODIC TEST -3 (2022-23)** | | | | | |
| **Subject: CHEMISTRY**  **Grade: XI** | | Max. Marks:35Time:1Hr15mts | | | |
| **Name:** | | | **Section:** | **Roll No:** | |
| ***General Instructions:***   * GENERAL INSTRUCTIONS: Read the following instructions carefully.   1. There are 16 questions in this question paper.  2. SECTION A - Q. No. 1 to 5 are multiple choice questions carrying 1marks each.  3. SECTION B - Q. No. 6 to 10 are short answer questions carrying 2 marks each.  4. SECTION C- Q. No. 11 to 15 are short answer questions carrying 3 marks each.  5. SECTION C- Q. No. 16 is a long answer question carrying 5 mark.  6. All questions are compulsory.  7. Use of calculators is not allowed | | | | | |
|  | **SECTION A** | | | | |
| 1 | d | | | | 1 |
| 2 | b | | | | 1 |
| 3 | c | | | | 1 |
| 4 | b | | | | 1 |
| 5 | d | | | | 1 |
|  | **SECTION B** | | | |  |
| 6 | a)    b) EHYNE, BENZENE, n-HEXANE  As S-character increases, acidic nature increases. | | | | 2 |
| 7 | **3-Ethylhex-3-ene** | | | | 2 |
| 8 | 1. I)Planarity (ii) Complete delocalisation of the π electrons in the ring (iii) Presence of   (4n + 2) π electrons in the ring where n is an integer (n = 0, 1, 2, . . .).   1. Aromatic, contain 6∏ electrons. | | | | 2 |
| 9 | .  Derivation | | | | 2 |
| 10 | An extensive property is a property whose value depends on the quantity or size of matter present in the system. Example- mass, volume, (any example)  Those properties which do not depend on the quantity or size of matter present are known as intensive properties. example temperature, density (any example) | | | | 2 |
|  | **SECTION C** | | | |  |
| 11 | **b)**    **c)** | | | | 3 |
| 12 | .a)    b)    c) Benzene and polynuclear hydrocarbons containing more than two benzene rings fused together are toxic and said to possess cancer producing (carcinogenic) property. (Any example) | | | | 3 |
| 13 | 1. Hess law:It states that the total amount of heat evolved or absorbed in a reaction is the same whether the reaction takes place in one step or in several steps 2. . ∆rH for the reaction = (sum of enthalpies of product ) – (sum of enthalpies of reactants) =[ 81 + 3(- 393) ] – [ 9.7 + 3( - 110 ) = -777.7 kJ | | | | 3 |
| 14 | 1. The change in internal energy during a cyclic process is zero.   ΔU = 0  As the system returns to its initial state, no work is said to have been done.  ΔH = 0   1. ∆H = ∆U + ∆ngRT ( Derivation) | | | | 3 |
| 15 | 1. The standard enthalpy change for the formation of one mole of a compound from its elements in their most stable states of aggregation (also known as reference states) is called Standard Molar Enthalpy of Formation. 2. I) calcium carbonate has been formed from other compounds, and not from its constituent elements   ii) two moles, instead of one mole of the product is formed from the elements | | | | 3 |
|  | . **SECTION D** | | | |  |
| 16 | a)    b)      . | | | | 5 |