**CLASS : XI SUBJECT : CHEMISTRY CHAPTER: classification of elements and periodicity in properties.**

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| **Sr. No.** | **Knowledge Based** |  |
| 1. | Write the general electronic configuration of the following:   1. s block elements 2. p block elements 3. d block elements 4. f block elements |  |
| 2. | What is meant by effective nuclear charge? |  |
| 3 | Define the following:   1. ionization enthalpy 2. electron gain enthalpy 3. electronegativity |  |
| 4 | Which important property did Mendeleev use to classify the elements in his periodic table and did he stick to that? |  |
| **S. No.** | **Understanding Based** |  |
| 5. | Arrange the following in the order of increasing size:  Be2+ , Cl- , S2- , Na+ , Mg2+ , Br - |  |
| 6. | Why are f block elements not included in the main periodic table? |  |
| 7 | The electron gain enthalpy values of halogens become more negative in the order: F> Cl> Br >I Comment on this. |  |
| 8 | Calcium loses electrons successively to form Ca+ , Ca2+ , Ca3+ ions. Which step will have highest ionization enthalpy? |  |
| 9 | Arrange the following in the increasing ionisation enthalpy:  B, C, N, O |  |
| 10 | Arrange the following in the increasing order of size:  F-, Li+, Na+ , Cl- |  |
| **S. No.** | **Application** |  |
| 11 | Consider the elements N, P, O, and S and arrange them in the order of:   1. increasing first ionisation energy 2. increasing negative electron gain enthalpy 3. increasing non-metallic character |  |
| 12. | Identify the best choice in the list:   1. large ionic size: Mg2+ , Ca2+ , Ba2+ 2. smallest size: I+, I-, I 3. highest negative electron gain enthalpy: F, Cl, Br |  |
| 13 | Among the elements B, Al, C and Si   1. which has highest first ionization enthalpy? 2. Which has the most negative electron gain enthalpy? 3. Which has the largest atomic radius? 4. Which has the most metallic character? |  |
| **S.No.** | **HOTS** |  |
| 14 | Eka-aluminium and eka-silicon were named by Mendeleev for the unknown elements gallium and germanium respectively. A recent discovered element was first named as eka-mercury. What is its atomic number? Write its grp number, electronic configuration, IUPAC name, official name and symbol. |  |
| 15 | Which of the elements Na, Mg, Si, P would have greater difference between the first and second ionisation enthalpies? Why? |  |
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