Chapter-3 (Test)

Classification of elements and Periodicity in Properties:

Time-40 minutes

aximum marks- 21

1. Moving down the alkali metal group which element is expected to be least ectropositive and why? (1)

2. Why sodium is a strong electropositive element? (1)

3. Among the following compounds CsI, CsF, LiF and NaF, which one has highest ation to anion size ratio? (1)

Q4. Ionization enthalpy of Be is greater than that of both Li and B. Explain (1)

Q5. The increasing order of reactivity among group 1 elements is Li<Na<K<Rb<Cs whereas that of group 17 is F>Cl>Br>I. Explain. (2)

Q6. The formation of Cl^- from Cl is exothermic but formation of O^{2-} from O^- is endothermic. Explain. (2)

Q7.

(i) Why Na cannot exhibit +2 oxidation state? (2)

(ii) Why do noble gases have the largest size in their respective periods?

Q8. Nitrogen has positive electron gain enthalpy whereas oxygen has negative. However oxygen has lower ionization enthalpy than nitrogen. Explain. (2)

Q9. The first and second ionization enthalpies (kJ/mol) of three elements I,II, and III are given below. (3)

Element	$\Delta_i H_1$	$\Delta_i H_2$
I	403	[illegible]
II	549	1060
III	1 42	2080

Identify the element which is likely to be

(i) A non metal

(ii) An alkali metal

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(iii) An alkali earth metal

Q10. Arrange the isoelectronic species O^{2-}, F^-, Na^+ and Mg^{2+} in the order of their

(a) Increasing effective nuclear charge
(b) Increasing ionic radius
(c) Increasing ionization enthalpy

Give reasons for their arrangement also.

Q11. For the following sets, select the element which has the property noted below

(i) Largest van der Waal radius: O, N, Cl, H
(ii) Most electropositive electron gain enthalpy: Mg, Ne, Ar, N
(iii) Largest Screening effect: Na, Cs, Mg, Al

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