Model Question Paper
Periodic Classification - II - Part III
12th Standard

Chemistry

Reg.No. :

I.Answer all the questions.
II.Use Blue pen only.
III.Question No 13 is compulsory.

Time : 01:00:00 Hrs

Total Marks : 40

Section-A

5 x 1 = 5

1) Among the following which has the maximum ionisation energy

   (a) Alkali elements   (b) Alkaline elements   (c) Halogens   (d) Noble gases

2) The electron affinity of an atom

   (a) directly proportional to its size   (b) inversely proportional to its size   (c) is independent of its size   (d) none of these

3) Among the following which has higher electron affinity value

   (a) Fluorine   (b) Chlorine   (c) Bromine   (d) Iodine

4) The scale which is based on an empirical relation between the energy of a bond and the electronegativities of bonded atoms is

   (a) Pauling scale   (b) Mulliken's scale   (c) Sanderson's scale   (d) Alfred and Rochow's scale

5) Electron affinity is expressed in

   (a) K J   (b) J   (c) KJ mol   (d) KJ mol^{-1}

Section-B

4 x 3 = 12

6) Which element of the following groups of elements has smallest ionisation energy? Justify your answer.a) Ca or Be b) Ca or K c) Cl or I d) Be, B, C

7) Answer the following questions a) Which element has the most positive value of electron affinity?b) Which element has low electronegativity?

8) Mention the disadvantage of Pauling's and Mullikan's electronegatively scale

9) Why EA of fluorine is less than that of chlorine?

Section-C

4 x 5 = 20

10) Calculate the effective nuclear charge of the last electron of oxygen

11) Calculate the ionic radii of Na^+ and F^- ion in NaF crystal. The inter nuclear distance between Na^+ and F^- ions is found to be 2.31 $\dot{A}$.

12) Calculate the electronegatively of carbon from the data given as $E_{H-H} = 104.2$ $kcalmol^{-1}$, $E_{C-C} = 83.1$ $kcalmol^{-1}$, $E_{C-H} = 98.8$ $kcalmol^{-1}$ and $X_H = 2.1$.

13) a)   The experimental value of d(Si - C) is 1.93 $\dot{A}$. If the radius of carbon is 0.77 $\dot{A}$, calculate the radius of silicon.

   (OR)

   b)   Calculate the effective nuclear charge experienced by the 4s electron in potassium atom.

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