

Model Question Paper
Periodic Classification - II - Part IV

12th Standard

Chemistry

Reg.No. :

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I. Answer all the questions.

II. Use Blue pen only.

Time : 01:15:00 Hrs

Total Marks : 60

5 x 1 = 5

Section-A

- 1) which of the following is having negative electron affinity?
(a) F (b) O (c) Cl (d) Zn
- 2) F^- , Ne , Na^+ and Mg^{2+} are isoelectronic. Then the increasing order of atomic /ionic radii is
(a) $F^- < Ne < Na^+ < Mg^{2+}$ (b) $Mg^{2+} < Na^+ < Ne < F^-$ (c) $Ne < Na^+ < Mg^{2+} < F^-$ (d) $F^- < Mg^{2+} < Na^+ < Ne$
- 3) electronegativity values are used to predict the
(a) nature of the bond (b) ionic radius of an ion (c) ionization energy (d) atomic radii
- 4) which group of elements high electron affinity values?
(a) 1 (b) 2 (c) 17 (d) 18
- 5) the C-Cl bond length in CCl_4 is 1.76 \AA . The C-C bond distance is 1.54 \AA . the atomic radius of carbon is
(a) 1.54 \AA (b) 0.77 \AA (c) 0.88 \AA (d) 0.99 \AA

Section-B

7 x 3 = 21

- 6) Neon has more ionisation energy than fluorine. Why ?
- 7) Compare the ionisation energies of Carbon and Boron
- 8) Arrange the following elements in the increasing order of their first ionisation potentials, give proper explanation for your answer.
(a) Li, Be, B
(b) N, O, F
(c) C, N, O, F
- 9) Describe with reasons which atom in each of the following pairs has higher ionisation energy?
(a) Mg and Al
(b) B and Al
(c) Al and Si
- 10) Which element of the following pairs of elements has higher ionisation energy? Justify your answer.
(a) K or Ca
(b) Be or B
(c) I or Ba
(d) F or Cl
(e) N or O
- 11) 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
- 12) Answer the following questions
(a) Which element has the most positive value of electron affinity?
(b) Which element has low electronegativity?

Section-C

2 x 5 = 10

- 13) How is atomic radii calculated from covalent bond length?
- 14) Explain the variation of IE along the group and period.

Section-D

2 x 10 = 20

- 15) a) Explain the various factors that affect electron affinity.
b) How electronegativity values help to find out the nature of bonding between atoms?
- 16) a) Explain the Pauling scale for the determination of electronegativity. Give the disadvantage of Pauling scale.
b) Explain the following periodic properties (i) Atomic radii, (ii) Ionic radii, (iii) ionisation energy, (iv) Electron affinity, (v) Electronegativity.
