

CHEMISTRY

NCERT - FULL MARKS

CHEMISTRY(TAMIL)

PERIODIC CLASSIFICATION - II

Example

1. Calculate the effective nuclear charge experienced by the 4s electron in potassium

atom.



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2. Calculate the ionic radii of K^+ and Cl^- ions in KCl crystal. The internuclear distance between K^+ and Cl^- ions are found to be 3.14Å.



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Self Evaluation A Choose The Correct Answer

1. The value of $d(\text{C-C})$ distance is experimentally found to be 1.54\AA . Find its covalent radius .

A. 1.34\AA

B. 1.36\AA

C. 1.54\AA

D. 1.56\AA

Answer:



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2. On moving down the group 13, density

A. Decreases

B. Increases

C. No change

D. None of these

Answer:



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3. % efficiency can be calculated using the formula

A. $Z^* = Z - S$

B. $Z^* = Z + S$

C. $Z^* = S - Z$

D. $Z = Z^* - S$

Answer:



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4. Find the correct statement:

A. Carbon having more nuclear charge than

boron

B. The size of carbon atoms is larger than

boron

C. Carbon forms electron deficient

compounds

D. Carbon forms ionic compounds

Answer:



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5. Comparing the ionisation energy of fluorine with carbon, fluorine has

A. higher ionisation energy

B. lower ionisation energy

C. same ionisation energy

D. none of these

Answer:



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6. Among the following which has the maximum ionisation energy

A. Alkali elements

B. Alkaline elements

C. Halogens

D. Noble gases

Answer:



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7. Define electron affinity .

- A. directly proportional to its size
- B. inversely proportional to its size
- C. is independent of its size
- D. none of these

Answer:



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8. Among the following elements, which has the least electron affinity?

A. Fluorine

B. Chlorine

C. Bromine

D. Iodine

Answer:



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9. What is the relation between the average kinetic energy and pressure?

- A. Pauling scale
- B. Mulliken's scale
- C. Sanderson's scale
- D. Alfred and Rochow's scale

Answer:



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10. Electron affinity is expressed in

A. kJ

B. J

C. kJ mol

D. kJ mol^{-1}

Answer:



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11. The bond length of Cl_2 molecule is

A. 0.74

B. 1.44

C. 1.98

D. 2.28

Answer:



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12. Across the period, electron affinity

A. decreases

B. increases

C. decrease and the increases

D. increase and then decreases

Answer:



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13. Noble gases have _____ electron affinity

A. High

B. Low

C. Zero

D. Very low

Answer:



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14. When $X_A > X_B$ A - B bond is

- A. polar covalent
- B. non-polar covalent
- C. Ionic
- D. metallic

Answer:



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Self Evaluation B Answer In One Or Two Sentences

1. 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



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2. Which element of the following has the highest ionisation potential?

Na, Cl, Si and Ar.



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3. Among all the elements which one has the highest value of electronegativity?



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4. Mention the disadvantage of Pauling and Mulliken scale.



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5. Why EA of fluorine is less than that of chlorine?



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Self Evaluation C Answer Not Exceeding 60 Words

1. How is atomic radii calculated from covalent bond length?



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2. Explain the Pauling method for the determination of ionic radius.



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3. State the trends in the variation of electronegativity in group and periods.



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4. Explain the various factors that affect electron affinity.



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5. How electronegativity values help to find out the nature of bonding between atoms?



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