



CHEMISTRY

NCERT - FULL MARKS

CHEMISTRY(TAMIL)

PERIODIC CLASSIFICATION-I

Example

1. The elements $Z=117$ and 120 have not yet been discovered. In which family / group

would you place these elements and also give the electronic configuration in each case.



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2. Arrange the following elements in the increasing order of non - metallic character.

B,C,Si,N,F



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3. Which of the following species will have the largest and the smallest size Mg , Mg^{2+} , Al , Al^{3+} ?



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4. Which of the following will have the most negative electron gain enthalpy and which has the least negative?

P, S, Cl, F.

Explain your answer.



Questions Choose The Best Answer

1. The elements with atomic numbers 31 belongs to :

A. d-block

B. f-block

C. p-block

D. s-block

Answer:



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2. Representative elements are those which belong to :

- A. s and d-block
- B. s and p-blocks
- C. p and d-blocks
- D. d and f-blocks

Answer:



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3. The most electronegative element of the periodic table is _____

A. Iodine

B. Flourine

C. Chlorine

D. Oxygen

Answer:



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4. Which of the following forms stable gaseous negative ion

- A. F
- B. Cl
- C. Br
- D. I

Answer:



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5. The elements having highest ionization energies within their periods are called :

A. Halogens

B. Noble gases

C. Alkali metals

D. Transition elements

Answer:



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6. All the elements in a group in the periodic table have the same

- A. Ionization enthalpy
- B. Electronegativity
- C. Electron gain enthalpy
- D. Strength as a reducing agent.

Answer:



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7. Elements whose atoms have their s and p-sub-levels complete are the:

- A. Normal elements
- B. Transition elements
- C. Halogens
- D. Inert gases.

Answer:



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8. The law of triad is applicable to :

A. Chlorine, bromine and iodine

B. Hydrogen, oxygen and nitrogen

C. Sodium, neon and calcium

D. All of the above

Answer:



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9. The law of octaves was stated by :

A. Dobereiner

B. Mendeleev

C. Moseley

D. Newland

Answer:



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10. Which of the following property decreases down a group :

A. Ionization enthalpy

B. Atomic radii

C. Valency

D. All the above properties

Answer:



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11. Which of the following has the lowest melting point ? CsCl RbCl KCl NaCl

A. CsCl

B. RbCl

C. KCl

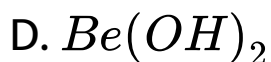
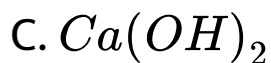
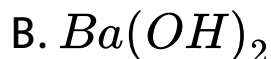
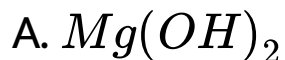
D. NaCl

Answer:



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12. Which of the following hydroxide is most basic ?



Answer:



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13. Excluding hydrogen and helium , the smallest element in the periodic table is _____

A. lithium

B. Oxygen

C. Fluorine

D. Chlorine

Answer:



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14. Which one among the following species has the largest atomic radius ?

A. Na

B. Mg

C. Al

D. Si

Answer:



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15. Which of the following is the lightest metal ?

A. Calcium

B. Lithium

C. Magnesium

D. Sodium

Answer:



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

Na, Cl, Si and Ar.

A. Sodium

B. Magnesium

C. Carbon

D. Fluorine

Answer:



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17. With respect to chlorine, hydrogen will be

- A. Electropositive
- B. Electronegative
- C. Neutral
- D. None of these.

Answer:



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18. Which element has the greatest tendency to lose electrons?

A. Chlorine

B. Sulphur

C. Francium

D. Beryllium

Answer:



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19. Halogens belong to the :

A. s-block

B. p-block

C. d-block

D. f- block

Answer:



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20. Compared to first ionization enthalpy of an atom, the second is :

A. Greater

B. Less

C. Same

D. Negligible

Answer:



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21. Which of the following combinations is in order of increasing resistance ?

A. Na, Mg, K, Rb

B. Na, K, Mg, Rb

C. Mg, Na, K, Rb

D. Na, Mg, Rb, K

Answer:



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22. The first attempt to classify the elements was made by :

A. Mendeleev

B. Newland

C. Lothar Meyer

D. Dobereiner

Answer:



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23. Characteristic of transition elements is incomplete

A. d-orbitals

B. f-orbitals

C. p-orbitals

D. s-orbitals

Answer:



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24. Which of the following will have lowest first ionization enthalpy ?

A. Na

B. Al

C. Mg

D. Si

Answer:



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25. Which of the following salt is more soluble?

A. Na

B. Mg

C. Al

D. Cl

Answer:



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26. Transition metals have the electronic configuration :

A. ns^2nd^{1-10}

B. $ns^2np(n-1)d^{1-10}$

C. $ns^2(n-1)d^{1-10}$

D. $ns^2np^6(n-1)d^{1-10}$

Answer:



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27. In the first transition series the incoming electron enters the

A. 4d-orbital

B. 3d-orbital

C. 5d-orbital

D. 6d-orbital

Answer:



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Questions Fill In The Blanks

1. Mendeleev's periodic law states that the properties of the elements are the periodic functions of the



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2. The Modern periodic law states that the physical and chemical properties of the elements are periodic functions of their



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3. The long form of the periodic table is constructed on the basis of repeating electronic of the atoms when they are arranged in the order of increasing atomic numbers.



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4. The first three periods containing 2, 8 and 8 elements respectively are called



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5. The valency of representative elements is given by the number of electrons in the outermost orbital and/or equal to
Minus the number of outermost electrons.



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Questions Write In One Or Two Sentence

1. Arrange F, Cl, Br and I in the order of increasing electronic gain enthalpy.



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2. Write electronic configurations for the elements of atomic numbers 6 and 14 and from this find out of which group in the periodic table each element belongs.



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3. Which of the following electronic configurations has the lowest ionization enthalpy ?

(a) $1s^2, 2s^2, 2p^6$, (b) $1s^2, 2s^2, sp^6$

(c) $1s^2, 2s^2, 2p^6, 3s^2$.



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4. State Modern Periodic Law.



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5. Why Noble gases have zero electron gain enthalpy?



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6. Which of the following pairs of elements would you expect to have lower first ionization enthalpy ? (a) Cl or F , (b) Cl or S , (c) K or Ar , (d) Kr or Xe.



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7. Why do elements in the same group have generally similar properties?



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8. Name any two transition elements and any two inner transition elements.



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9. Arrange the order of increasing atomic volumes in : (a) Li, Na and K, (b) C, N and O , (c) Ca, Sr and Ba.



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10. Name the different blocks of elements in periodic table. Give the general electronic configuration of each block.



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11. To which block does the element with configuration $3d^{10}4s^2$ belongs



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12. Why nitrogen has higher I.E. value than oxygen?



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13. Out of fluorine and chlorine, which has greater electron gain enthalpy?



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14. Why d- block elements are known as transition element ?



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15. What property did Mendeleev use to classify elements in his periodic table?



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16. Among the elements Li, K, Ca, S and Kr which one has the lowest first ionization enthalpy? Which has the highest first ionization enthalpy?



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Questions Explain Briefly The Following

1. Why does the first ionization enthalpy would have higher electron gain enthalpy?



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2. Which of the following pairs of elements would have more negative electron gain enthalpy? (i) O or F (ii) F or Cl.



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3. Lanthanides and actinides are placed in separate rows at the bottom of the periodic table. Explain the reason for this arrangement ?



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4. What do you mean by representative elements? Name the groups of the periodic table, which contain representative elements.



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5. Name any two transition elements and any two inner transition elements.



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6. Which of the following pairs of elements would you expect to have lower first ionization enthalpy ? (a) Cl or F , (b) Cl or S , (c) K or Ar , (d) Kr or Xe.



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7. Enlist the similarities between lithium and magnesium.



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8. What do you mean by the term electron gain enthalpy? How does electron gain enthalpy change along a period and in a group?



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9. Explain how the elements are arranged in the form of the periodic table.



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10. What are normal, transition and inner-transition elements?



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11. What are the differences between normal and transition elements?



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12. Anionic radius is higher than the corresponding neutral atom. Give reason.



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13. Explain the size of group $Cl^{-1} > Na^{+}$.



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14. What is meant by electronegativity? On what factors does it depend?



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15. Justify the position of lanthanides and actinides in the periodic table .



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16. Define the term Ionic Radii.



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17. What do you mean by ionization enthalpy?

How does it vary across a period and down a group?



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18. What is meant by dielectric ?





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19. What are the demerits of long form periodic table.



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