



VIDYANIKETAN COACHING CLASSES, GHANSAWANGI

Class:- 10th
Sub.:- Science & tech-1

Mark's:- 25
Time:- 1:30 Hr

Q.1) A] Choose the correct option and rewrite the statement. [4]

- Eka-boran was subsequently named as.....
(A) Gallium (B) Germanium (C) Scandium (D) Molybdenum
- Alkali metal belong to group.....in modern periodic table.
(A) 17 (B) 2 (C) 1 (D) 18
- Molecular formula of the chloride of an element X is XCl. This compound is a solid having high melting Points. Which of the following elements be present in the same group as X.
(A) Na (B) Mg (C) Al (D) Si
- The number of electron in the outermost shell of alkaline earth metal is.....
(A) 1 (B) 2 (C) 3 (D) 7

Q.1) B] Find the odd one out and give reason: [1]

Sodium, Aluminium, Chlorine, Carbon.

Q.1) C] By observing the correlation in the first pair, complete the second pair: [1]

Chlorine: 2,8,7 :: 2, 8, 3 :

Q.2) [A] Give scientific reason. [Any-1] [2]

- Atomic radius goes on decreasing while going from left to right in a period.
- Elements belonging to the same group have the same valency.

Q.2) [B] Answer the following question's. [Any-3] [6]

- Define law of Dobereiner's triads and explain it with example.
- State and explain the limitation of newland's law of octaves.
- Define: a) Atomic size b) Transition element's.
- How can the valency of an element be determined if its electronic configuration is known?
What will be the valency of an element of atomic number 9?
- An element 'X' has atomic number 19. (a) Write its electronic configuration.
(b) State the group to which 'X' belongs.

Q.3) Answer the following question's.[Any-2] [6]

- Na, Mg and Al are the elements having one, two and three valence electrons respectively.
Which of these elements (a) has the largest atomic radius, (b) is least reactive?
Justify your answer stating reason for each.
- An element has its electronic configuration as 2, 8, 2. Now answer the following questions:
 - What is the atomic number of this element? b. What is the group of this element?
 - To which period does this element belong?
- Write merits of Mendeleev's periodic table.

Q.4) Answer the following question. [Any one]**[5]**

i) Atoms of eight elements A, B, C, D, E, F, G and H have the same number of electronic shells but different number of electrons in their outermost shells. It was found that elements A and G combine to form an ionic compound which can also be extracted from sea water. Oxides of the elements A and B are basic in nature while those of E and F are acidic. The oxide of element D is almost neutral. Answer the following questions based on the information given here in:

- To which group or period of the periodic table do the listed elements belong?
- Which one of the eight elements is likely to be a noble gas?
- Which one of the eight elements would have the largest atomic radius?
- Which two elements amongst these are likely to be non-metals?
- Which one of these eight elements is likely to be a semi-metal or metalloid?

ii) Taking into consideration the period of the elements given below, answer the following questions:

Element's	Atomic Radius (pm)
O	66
B	88
C	77
N	74
Be	111
Li	152

- Arrange the above elements in a decreasing order of their atomic radii.
- State the period to which the above elements belong.
- Why this arrangement of elements is similar to the above period of modern periodic table?
- Which of the above elements have the biggest and the smallest atom?
- What is the periodic trend observed in the variation of atomic radius while going from left to right within a period?

Best of Luck.....

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