



DELHI PUBLIC SCHOOL NEWTOWN
SESSION: 2021-22
MONDAY TEST

CLASS: IX
SUBJECT: CHEMISTRY

FULL MARKS: 40
DATE: 09.11.2021

General Instructions:

- The paper consists of two printed pages.
- All questions are compulsory.
- Answers should be to the point.
- Question numbers should be copied carefully while answering the questions.

Question: 1

a. Name the following:

- i) A metalloid in period 3.
- ii) An element whose properties were predicted on the basis of its position in Mendeleev's periodic table.
- iii) A molecule which contains a triple covalent bond.
- iv) The type of bonding present in CaS.
- v) The name assigned to group 18 elements.

b. Select the correct option:

- i) The inert gas with a complete duplet only is

- I. Argon
- II. Helium
- III. Krypton
- IV. Neon

- ii) The old periodic law states that the properties of the elements are the periodic functions of their____:

- I. Physical properties
- II. Chemical properties
- III. Atomic mass
- IV. Atomic number

- iii) If both the K and L shells are full, what would be the atomic number of that element?

- I. 20
- II. 14
- III. 10
- IV. 16

- iv) An atom differs from its own ion with respect to which of the following?

- I. Number of protons.
- II. Nuclear charge.
- III. Number of electrons.
- IV. Mass number.

v) The period that contains only the gaseous elements is ____

- I. First
- II. Second
- III. Third
- IV. Fifth

[5+5=10]

Question: 2

- a. Elements P, Q, R, S and T have atomic numbers 8, 9, 11, 12 and 18 respectively. State which of the above is:
- i) A divalent non-metal
 - ii) An inert gas
 - iii) A member of the Halogen family
 - iv) Belongs to Period 3 and Group 1
 - v) A member of Alkaline earth metal family
- b. Calculate the percentage by mass of oxygen in calcium phosphate. [Ca=40, P=31, O=16]
- c. 0.424g sample of a compound contains 20% potassium. What is the mass of potassium in the sample? [5+3+2=10]

Question: 3

- a. Give reasons for the following statements:
- i) Isotopes have different atomic masses.
 - ii) The electronic configuration of calcium is 2,8,8,2 and not 2,8,10.
 - iii) Noble gases do not form compounds readily.
 - iv) Dobereiners ' Law of Triads' was discarded.
 - v) Chlorine is a covalent molecule.
- b. What type of linkage is present in ammonia molecule? Draw a neat electron dot diagram for this molecule.
- c. The formula of Beryllium oxide is BeO. Write the formula of barium sulphate and barium nitrate if barium and beryllium are in the same group. [5+3+2=10]

Question: 4

- a. From the part of the periodic table given, answer the following questions.

Group	1	2	13	14	15	16	17	18
Lithium			Carbon		Oxygen	L	Neon	
X			S		P	Q		
Y						R		
Z						T		

- i) Name the family of L, Q, R and T.
 - ii) Give the name of the element S placed below carbon in group 14.
 - iii) Name one element of group 2 just after X (horizontally).
 - iv) In which period is P located.
 - v) Give the number of valence electrons in Z.
- b. An element X (atomic number 17) reacts with an element Y (atomic number 12) to form a compound.
- i) Where in the periodic table are elements X and Y placed?
 - ii) What will be the nature of bonding in the compound formed by Y with oxygen?
 - iii) Draw the electron dot structure of the compound formed between X and Y.[5+5=10]