DELHI PUBLIC SCHOOL NEWTOWN
SESSION 2022-23
MONDAY TEST

CLASS: IX **FULL MARKS: 40**
SUBJECT: CHEMISTRY **DATE: 21.10.2022**

General Instructions:

- **The paper consists of <u>three</u> printed pages.**
- **Answers should be to the point.**
- **Question numbers should be copied carefully while answering the questions.**
- **Marks will be deducted for spelling errors.**

Question: 1
Select the correct option: **[5]**

i) The basic radical in ammonium bisulphate:
- **A) sulphate**
- **B) bisulphate**
- **C) ammonia**
- **D) ammonium**

ii) The number of carbon atoms on a hydrogen carbonate radical is:
- **A) 1**
- **B) 2**
- **C) 3**
- **D) 4**

iii) Which of the following is the correct electronic configuration of potassium?
- **A) 2, 8,9**
- **B) 8, 2, 9**
- **C) 2, 8, 8, 1**
- **D) 1, 2, 8, 8, 8**

iv) When a metal becomes an ion:
- **A) it loses electron and is reduced**
- **B) it loses electrons and is oxidised**
- **C) it gains electron and is reduced**
- **D) it gains electrons and is oxidised**

v) The atomic number of an element placed in period 3 and group 13 is:
- **A) 11**
- **B) 12**
- **C) 13**
- **D) 14**

Question: 2

Write balanced chemical equations for the following word reactions: [5]

a. **Ammonium hydroxide added to ferric sulphate solution gives ferric hydroxide and ammonium sulphate.**
b. **Heated aluminium is reacted with nitrogen gas to produce aluminium nitride.**
c. **Addition of sodium hydroxide to lead monoxide forms sodium plumbite and water.**
d. **Decomposition of potassium nitrate on heating gives potassium nitrite and oxygen.**
e. **Passage of ammonia into an atmosphere of oxygen in presence of platinum catalyst gives nitric oxide and water.**

Question: 3

Name the following: [5]

a. **A metalloid in period 3.**
b. **A non polar covalent molecule with four single covalent bonds**
c. **A molecule which contains a double covalent bond.**
d. **The type of bonding present in magnesium fluoride**
e. **The name assigned to group 18 elements.**

Question: 4

Elements P, Q, R, S and T have atomic numbers 8, 9, 11, 12 and 18 respectively.
State which one is: [5]

a. **A divalent non-metal**
b. **An inert gas**
c. **A member of the halogen family**
d. **Belongs to Period 3 and Group 1**
e. **A member of alkaline earth metal family**

Question: 5

a. **Calculate the following:[N=14, C=12, H=1, Na=23, O=16] [5]**
    i. **Percentage of nitrogen in NH_2CONH_2**
    ii. **Relative molecular mass of sodium acetate.**
b. **Give reasons for the following statements:**
    i. **Dobereiner's method of classification of elements did not hold much weightage for future classification.**
    ii. **Group 1[IA] elements are called alkali metals.**

Question: 6

An element P has 2 electrons in its M shell, it forms bond with an element Q which has 7 electrons in its third orbit. [5]

a. **Write the formula of the compound formed.**
b. **Which nearest electronic configuration will element P and Q acquire?**
c. **Show by electron dot and cross diagram the formation of compound between P and Q.**
d. **Name the type of compound formed above.**

Question: 7

An element X with atomic number 7 combines with hydrogen to form a molecule XH_3. [5]

a. **Draw the orbit diagram to show the formation of the above compound.**
b. **Name the type of compound formed above and define it.**
c. **Write the formula of the compound formed between magnesium and X.**
d. **Locate the position (both group and period) of X in the periodic table.**

Question: 8

Answer the following questions: **[5]**

a. **The formula of magnesium oxide is MgO. State the formula of barium chromate and barium sulphate, if barium belongs to the same group as magnesium.**
b. **Give the name of the elements which occupy the following positions in the Periodic Table.**
    i. **Period 4, group II A**
    ii. **Period 2, group III A**
    iii. **Period 3, group zero**