# HIGHER SECONDARY SCHOOL, ARIMPUR

## FIRST MID TERM EXAMINATION 2017-18

Class: X

Marks : 40

## CHEMISTRY

1. Complete the second pair

   In M- shell : s,p,d sub shells

   In N-shell : ..... (1)

2. Complete the table given below (Symbols given are not real) (3)

| element | subshell electronic configuration | Highest shell numebr in the sub shell configuration | period |
|---|---|---|---|
| $_5X$ | $1s^2\ 2s^2\ 2p^1$ | 2 | 2 |
| $_{11}Y$ | $1s^2\ 2s^2\ 2p^6\ 3s^1$ | 3 | (a) |
| $_{19}Z$ | (b) | 4 | (c) |

3. The subshell electronic configuration of an element in given as $(Ar)3d^5\ 4s^1$

   a) How many shells of this element has electrons in it (1)

   b) Which is the sub shell to which the last electron is added (1)

   c) What is the atomic number of the element (1)

   d) What is the group number of the element (1)

4. Write notes

   a) Transition elements

   b) Gram atomic mass

   c) Unified mass 1x3=(3)

5. Explain the following

   a) Transition elements show similarities in properties not only in a group but also in a period. (1)

   b) Transition elements show variable oxidation states (2)

   c) In potassium, last electron fills 4s sub shell instead os 3d sub shell (2)

6. How many water molecules are present in 90 g water? (2)

7. Suppose 20 molecules of hydrogen are allowed to react with 20 molecules of oxigen to produce water.

   a) Which of the reactant molecules gets consumed first? (1)

   b) The molecules of which reactant will remain unreacted? How many? (1)

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