

CHEMISTRY

Time-2hrs

Question;1

SECTION-1(40 marks)

(a) Fill in the blanks.

1. The protons and neutrons present in the nucleus are collectively known as _____
2. _____ are the atoms of the same element with different mass numbers.
3. Mass of the atom is concentrated at the _____
4. The maximum electrons can accommodate in M shell are _____
5. The charged particles constituting cathode rays are called _____ (5)

(b) Name the following.

1. The subatomic particle which do not have any charge.
2. The scientist who proposed the solar system model of atom
3. The unit of atomic mass.
4. The smallest unit of an element which take part in a chemical reaction. (4)

(c) Differentiate between;(two differences)

1. Electron and proton
2. Valence shell and valence electrons
3. Reactants and products

(3)

(d) Give reason;

1. Atomic number is used to identify an element.
2. Atom is neutral.
3. Cathode rays are negatively charged

(e) Short answer questions;

1. How many protons, electrons and neutrons are present in ${}_{17}\text{Cl}^{35}$?
2. Why was the plum pudding model of J.J Thomson not acceptable?
3. How are sub-atomic particles placed in an atom ?
4. What is variable valency? Write the name and valencies of Iron.
5. Draw the atomic structure of ${}_{9}\text{F}^{19}$. write its valence electrons and valen

(f) With the help of a neat labelled diagram, explain Rutherford Alpha scattering experiment. (observations and conclusions)

(g) Write the formulae of the following;

1. Nitride
2. Ammonium
3. Carbonate
4. Manganese
5. Bicarbonate
6. Cuprous
7. Phosphate
8. Chromium
9. Oxide
10. Potassium

(h) Write the name of the following;

- | | | | | | |
|---------------------|-----------------------|------------------------------|----------------------|------------------|---------------------|
| 1. Ag^{+2} | 2. SO_4^{2-} | 3. CH_3COO^- | 4. Br^- | 5. OH^- | 6. MnO_4^- |
| 7. Na^+ | 8. Ca^{2+} | 9. NO_3^- | 10. Pb^{+4} | | |

SECTION-2(40 Marks)

Question-2

a) Write the molecular formulae of ;

- | | | |
|------------------------|------------------------|--------------------|
| 1. Hydrogen nitrate | 2. Magnesium phosphate | 3. Calcium oxide |
| 4. Ammonium sulphate | 5. Zinc Sulphide | 6. Barium chloride |
| 7. Aluminium hydroxide | 8. Stannic chloride | 9. Ferric sulphate |
| 10. Glucose | | (20) |

b) Write a balanced equation for the following chemical reactions;

- When ferrous sulphate solution is added to sodium hydroxide solution
a dirty green precipitate of ferrous hydroxide and sodium sulphate solution are formed
- Silver(I)bromide decomposes into silver and bromine in presence
Of sunlight

Question 3;

a) Balance the following equations;



b) State the effect of ; a) an endothermic reaction

b) an exothermic reaction on the surroundings

Question;4

1. Define the term catalyst. Name three biocatalysts found in human body.
2. What are positive catalysts and negative catalysts with one example for each of them

(5)

Question;5

1. What do you observe when.
 - a) a few pieces of iron are dropped in a blue solution of copper sulphate
2. solid lead nitrate is heated

(5)