**NAME :** Salisu Farouk

**MATRIC NO. :** 17/MHS01/293

**DEPARTMENT :** Medicine and Surgery

**COLLEGE :** MHS

**LEVEL :** 100

**CHM 102 ASSIGNMENT**

1. Question 1
2. Molecular formulas for an organic compound of mass 105 are:

C7H5O, C8H9, C5H13S, C6H19N, C3H7OSN, C6H5CO, C2HBr.

1. The importance of organic compounds are:
2. They provide important nutrients needed for body development e.g Carbohydrates, proteins.
3. They can be used for clothing e.g Cotton, wool, silk.
4. They can be used as fuels e.g petrol, Natural gas, wood.
5. They are used in the pharmaceutical industry to make drugs like penicillin.
6. They are used to make explosives like Nitrocellulose T.N.T.
7. They are used to make other important products like dyes, insecticides, soaps.
8. In homocyclic compounds, the ring of homocyclic compounds is made up carbon atoms only, whereas that of heterocyclic compounds is made up of more than one kind of atoms.
9. Question 2
10. Rf of 1st band = distance of 1st band / distance of solvent front = 2.4cm/12.2cm = 0.197

Rf of 2ND band = distance of 2nd band / distance of solvent front = 5.6cm/12.2cm = 0.459

Rf of 3rd band = distance of 3rd band / distance of solvent front = 8.9cm/12.2cm = 0.730

1. They are Aldehydes
2. Aldehydes and Acetones
3. 7 functional groups of organic compounds are :

|  |  |  |  |
| --- | --- | --- | --- |
| S/N | Chemical class  | Functional Group | Examples  |
| 1 | Alkanol | OH | CH3CH2OH (ethanol), CH3CH2CH2OH (propanol). |
| 2 | Alkane | RH | CH3CH2CH3 (propane), C2H6 (Ethane). |
| 3 | Alkene | R2 C=CR 2 | CH3CH=CH2 (propene), CH3CH2CH=CH 2 (butene). |
| 4 | Alkyne | RC≡CR' | CH3C≡CH (propyne), CH3CH2C≡CH (butyne) |
| 5 | Carboxylic acid | RCOOH | CH3COOH (Ethanoic acid), CH3CH2COOH (Propanoic acid). |
| 6 | Haloalkane | RX | CH3Br (Bromo Methane), CH3CH2Cl (Chloro Ethane). |
| 7 | Ester | RCOOR' | CH3COOC4H9(butyl Ethanoate) , CH3COOC3H7(propyl Ethanoate).  |