**IMOUKHUEDE LOVE EHIMWENMA**

**MBBS**

**17/MHS01/158**

**CHE 102**

(A)

Suggest possible formula for a molecular ion (m/2) of 105

N=14amu

105-14=91

Determine maximum number of C

C=12 91/12=7.5 = C

C7= 12x7=84

91-84=7

Therefore number of hydrogen= 7 =H7

Formula therefore is **C7H7N**

**W**hen adding O(16) we remove a CH4

C6NOH3 = 12x6+14+16+1x3=105

Formula therefore is C6NOH3

(B)

**- In nucleic acids**

Nucleic acids are essential biopolymers for all life forms (DNA is included in this category).

They are composed of many elements but mainly coal and hydrogen, although there are also oxygen atoms in their sugars.

**2- In carbohydrates**

Carbohydrates play an important role in living organisms. Polysaccharides serve to store energy and as structural components in plants and arthropods, for example. A type of saccharide is important in the molecules that make up the DNA

**3- As the basis of food**

Food materials are created from carbon compounds via carbohydrates, proteins and fats. All the food we consume is reconstituted material and extracts of plants or animals. Organic molecules make up a large portion of the human diet and are found in all food consumed by an individual. It requires a large number of organic molecules needed to keep cells and tissues healthy.

**4- In lipids**

It consists of a group of molecules that occur in nature like fats, waxes, sterols, monoglycerides and triglycerides, among others. The main functions of lipids include storing energy, signaling lipid and acting as a structural component of cell membranes.

Lipids have applications in the cosmetics industry and in the food industry, as well as nanotechnology.

**5- In metabolism**

The three main purposes of metabolism are energy / fuel conversion as energy for cellular processes, energy / fuel conversion to build blocks for proteins, lipids, nucleic acids, and some carbohydrates, as well as the elimination of nitrogenous

( C) Homocyclic compounds are molecules that contain ring structure consisting only of carbon atoms within the ring while heterocyclic compounds are rings containing at least one non-carbon atom in the ring.

* 1. Retardation factor= distance moved by substance/distance moved by solvent front

Let band A=2.4cm, B=5.6cm, C=8.9cm solvent front=12.2cm

RfA = 2.4/12.2

=0.197

RfB = 5.6/12.2

=0.459

Rfc =8.9/12.2

=0.729

* 1. A- +ve to tollen test

B - +ve to bromine test

A is an alkanal

B is an alkene

* 1. 2,4-Dinitrophenylhydrazine test is employed for identifying alkanone and alkanal compounds

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| FUNCTIONAL GROUP | EXAMPLES |
| Hydroxyl | Hexan-3-ol, butanol |
| Carboxyl | Ethanoic acid, methanoic acid |
| Amide | Ethanamide, methanamide |
| Double bond | Methane, propene |
| Triple bond | Butyne, pent-2-yne |
| kentonic | Hexanone, pentan-2-one |
| halogen | Chloromethane, bromoethane |