**NAME: ALIH PRISCILLA**

**MATRIC NO: 17/MHS01/053**

**DEPARTMENT: MBBS**

1. **a)** molecular ion= 105

according to the rule of 13 which states that the formula of a compound is a multiple n of

13 (molar mass of CH) + the reminder r

105 ÷ 13= 8 r 1

= C7H5O

1. **b) i.** Our daily needs: Soaps, detergents, toothbrush, plastic containers, kerosene, candlesticks, insecticides, perfumes, etc.

**ii.** Household materials: plastic containers, tables, cups, spoons, carpets, rugs, mattresses, pillows, etc.

**iii.** Clothing materials: Man-made textiles, fibres, such as polyesters and nylons, dyes, buttons, etc.

**iv.** Drugs: Panadol, Aspirin**,** Alabukun powder, etc.

**v.** In metabolism.

**1. c)**

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| **Homocyclic compounds** | **Heterocyclic compounds** |
| * it describes a cyclic system in which all the atoms of the rings are of the same element. | It is a cyclic compound having one or more atoms other than carbon in at least one of its rings. |
| * They have 100% carbon atoms in their ring. | They have mainly carbon and in addition, hetero atoms such as nitrogen, oxygen and sulphur are found in their ring. |

**2 a)** Rf of first band = 2.4cm ÷ 12.2cm= 0.1967

Rf of second band= 5.6cm ÷ 12.2cm= 0.459

Rf of third band= 8.9cm ÷ 12.2cm = 0.729

**b)** Compound A belong to the aldehydes.

Compound B belong to the Alkene group.

**c**) 2,4-Dinitrophenylhydrazine test is employed to detect the carbonyl functionality of a ketone or aldehyde functional group.

**d**)

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| Functional group | Example |
| -C-H | (H3C-CH3) ethane, propane |
| >C=C | (H2C=CH2) ethene, butane. |
| -C=-C- (i.e triple bond) | Ethyne, butyl |
| -OH | (CH3OH) methanol, propanol |
| -COOH | (CH3COOH) ethanoic acid, propanoic acid |
| -CHO | (CH3CHO) ethanal, |
| >C=O | Propanone, |