NAME: OFOKANSI ANTOINETTE. C

MATRIC NOS : 17/MHS02/060

DEPARTMENT: NURSING

COLLEGE: MHS

 SECTION 1

a.)Since the mass 105 is add, it contains at least are nitrogen

 N=14 a.m.u

105-14=17

Number of carbon atoms $=\frac{91}{12}$ =7.5

 $C\_{7}$N$H\_{X}$

105- [(7×12) +(14×1) + (1×X)]=0

 X=7

 $C\_{7}H\_{7}$N

$$\frac{[\left(2×7.5\right)+2.7]}{2}=5$$

Adding an oxygen atom

$C\_{6}H\_{3}$NO

bi.) Most of the sterilizing agents & disinfections like phenol are organic compounds.

ii.) In industries and labs, organic solvent are used as cleaning agents to clear off impurities.

Iii.) Organic compounds are the main components of valuables found in the world like diamond, graphite,petroleum,e.t.c

iv.) Organic compounds are used in making medicines and are main components of medicines e.g pecilin,Aprin, cocaine , e.t.c

v.) Organic compound are the main components of valuable found in the world like diamond , grapite, petroleum, e.t.c

C.)

 **Difference Between Homocyclic and Heterocyclic Compound**

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| Homocyclic Compound | HeterocyclicCompound |
| 1. they have 100% carbon atoms in their rings | They have mainly carbon and in addition heteroatoms such as nitrogen, oxygen and sulphur in their rings. |
| 2. Their rings contain only one type of atom. | Their rings contain at least two different types of atoms including carbon.  |
| 3. They are divided into alicyclic and aromatic homocyclic compound. | They are divided into alicyclic and aromatic heterocyclic compound. |

QUESTION 2

2a.) $R\_{f}$ =$\frac{distance moved by substance }{distance moed by solvent front}$

Distance of solvent front =12.2cm

$R\_{f= \frac{2.4}{12.2}}$ = 0.197

$R\_{f=\frac{5.6}{12.2} }$ = 0.459

$R\_{f=\frac{8.9}{12.2}}$= 0.730

2b.) A is an aldehyde

 B is an alkene

2c.) 2c. 2,4-Dinitrophenylhydrazine test is employed for Ketones and Aldehydes

2d.

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| Functional group  | Examples |
| Alkanoic Acids (RCOOH) | Ethanoic acid(C$H\_{3}$COOH), butanoic acid $(H\_{7}OOH)$ |
| Esters (RCOOR) | Methyl ethanoate($CH\_{3}COOCH\_{3}$), Methyl methanoate ($HCOOCH\_{3}$), |
| Alkanal (RCHO) | Methanal(HCHO) , Pentanal ($C\_{4}H\_{9 }CHO$) |
| Alkanol(ROH) | Propanol ($C\_{3}H\_{7 }OH$), Butanol($C\_{4}H\_{9 }OH$) |
| Amides (RCON$H\_{2}$) | Ethanamide ($CH\_{3}CONH\_{2}$), Butanamide ($C\_{2}H\_{5}CH\_{2}CONH\_{2}$) |

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| Amides (RCON$H\_{2}$) | Ethanamide ($CH\_{3}CONH\_{2}$), Butanamide ($C\_{2}H\_{5}CH\_{2}CONH\_{2}$) |
| Amines (RN$H\_{2}$) | Methylamine ($CH\_{3}NH\_{2}$), Ethlyamine ($C\_{2}H\_{5}NH\_{2}$) |
| Alkanone | Propan-2-one ($CH\_{3}COCH\_{3}$), Butan-2-one ($CH\_{3}COC\_{2}H\_{2}$)  |