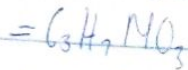


i) step 1 = $105 - (16 \times 3 + 14)$

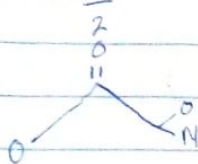
= $105 - 62$

= 43

$\frac{43}{12} = 3$ remains 7



$1HD = \frac{2 \times 3 + 2 - 7 + 1}{2} = \frac{2}{2} = 1$



ii) $105 - (16 \times 2 + 14)$

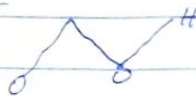
= $105 - 46$

= 59

$\frac{59}{12} = 4$ remains 11



$1HN = \frac{2 \times 4 + 2 - 11 + 1}{2} = 0$



- 1) they are use in manufacturing medicines e.g morphine
- 2) they are major ^{make up} constituents of Hydrocarbon
- 3) they are major constituent of food, protein, fat, enzymes
- 4) they are used in manufacturing insecticides, D.D.T, malathion
- 5) they are used in making explosive - T.N.T, Trinitrotoluene etc

Homocyclic Compound	Heterocyclic compound
i) Homocyclic compound are cyclic compound having atoms of the same ^{element} as ring members	Heterocyclic compounds are cyclic compound having atoms of the different element as ring members including carbon atom
ii) Ring contains atoms of the same element	Ring contain atoms of different element
iii) Contains atom of the same element bonded to each other forming a ring	Contain atoms of at least two different elements bonded to each other forming a ring
iv) Example include benzene, cyclohexane, toluene, cyclohexanol	Example include pyran, glucose, thiocane etc

2a R.F = Distance of the band

Distance moved by solvent front +

$$= \frac{2.4}{12.2}, \frac{5.6}{12.2}, \frac{8.9}{12.2}$$

$$= 0.20 \text{ cm} - 0.50 \text{ cm} - 0.73 \text{ cm}$$

(b) Aldehydes

↳ Alkenes

(c) 2,4-Dinitrophenylhydrazine can be used to qualitatively detect the Carbonyl functionality of a ketone or aldehyde functional group.

(d) Alkane (C-H)

methane and ethane

Alkyne ($\text{R-C}\equiv\text{C-R}$) Acetylene; Ethyne

haloalkane (R-X) chloroethane; ~~ethyl chloride~~ 2-chloropropane

Alcohol (R-OH) methanol ethanol

Amide (RCONR_2) Carbamide and sulfur amides

ester (RCOOR') ethyl butanoate

Ether (ROR') Diethyl ether; methyl ethyl ether