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MATRIC NO: 17/MHS05/019

DEPARTMENT: PHYSIOLOGY

COURSE CODE: CHM 102

LEVEL: 100 COLLEGE: M.H.S

ANSWERS

1a.) Step 1: define the max number of carbons

105÷12 = 8.75

C8H 9 = (12**×**8)+(9×1)

C7H 5O = (12×7) +(5×1) +(16×1)

bi.) They are used for generation of energy e.g coal, petrol, wood , natural gas,etc.

ii.) Used in the production of drugs e.g penicillin.

iii.) They are used in producing explosives e.g nitroglycerin, nitrocellulose, T.N.T ,etc.

iv.) They are used in the production of synthentic fibres e.g terylene and nylon as substitutes for natural fibres.

c.)

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| No. | Homocyclic Compounds | Heterocyclic Compounds |
| 1. | Homocyclic compounds rings are made up of carbon atoms only. | Heterocyclic compounds are made up of more than one kind of atom. |
| 2. | Examples are: toluene, phenol , naphthalene and anthracene. | Examples are: tetrahydrofuran, piperidine, pyridine ,furan and pyrrole. |

2a.) Rf  =distance moved by band / distance moved by solvent

Rf of band one =

2.4cm ÷ 12.2cm = 0.197

Rf of band two =

5.6cm ÷ 12.2cm = 0.459

Rf of band three =

8.9cm ÷12.2 cm = 0.730

b.) The organic compound ‘A’ belongs to the ALDEHYDES family while the organic compound ‘B’ belongs to the ALKENE family.

c.) 2,4- dinitrophenylhydrazine test is employed for ALDEHYDES and KETONES.

d.)

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| No | Functional group | Examples |
| i. | Alkyl halide | C2HI  C3H 7Cl |
| ii. | Alkanols | C2H5 OH  CH3OH |
| iii. | Carboxylic acid | CH3COOH  C2H5COOH |
| iv. | Alkanes | CH4  C3H8 |
| v. | Alkenes | C2H4  C3H6 |
| vi. | Alkynes | C2H2  C3H4 |
| vii. | Esters | CH3COOCH3  CH 3COOC2H5 |