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COURSE: CHEM102

DEPARTMMENT: MECHATRONICS ENGINEERING

MATRIC NUMBER: 17/ENGO5/027

LEVEL: 100

1a. (i) C5H13O2

1b. Importance of chemical compounds

* Food ; carbohydrates, protein, fats ,etc
* Clothes; cottons, silk, wool, nylon
* Explosives; nitrocellulose, etc
* Insecticides; gammaline, etc
* Medicine; streptomycin, chloromycetin, etc

1c.

|  |  |  |  |
| --- | --- | --- | --- |
| Homocyclic compounds   |  | | --- | | These are compounds which consist of atoms belonging to the same element present within the ring of a cyclic compound | | Heterocyclic compounds   |  | | --- | | These are compounds which consists of both carbon and any other elements present within the ring of a cyclic compound | |

|  |
| --- |
| distance moved by band  distance moved by solvent fraction |

2a. Retardation Factor (RF) =

|  |
| --- |
|  |

1. Band (2.40cm) RF = 2.4cm/12.2cm =0.19672
2. Band (5.6cm) RF = 5.6cm/12.2cm =0.45902
3. Band (8.9cm) RF = 8.9cm/12.2cm =0.72951

2b. Organic compounds A belongs to = Aldehyde Family

Organic compounds B belongs to = Ketone Family

2c. 2,4 Dimitrophenylhydrozine fast is employed for the identification of both Aldehydes and ketone

2d.

1. Alkyl halides = -F, -Cl, -Br
2. Esters = -OH||-O
3. Alkanones = -C|=O
4. Alkanols = OH
5. Alkanals = -COH
6. Alkanoic Acid = -COOH
7. Ethers = -OR

2dii

1. Alkyl bromide , cyclo hexyl bromide
2. Methyl ethanoate, ethyl propanoate
3. Propane, pentan-3-one
4. Butanol, cyclopentanol
5. Ethanol, butanol
6. Methanoate acid
7. 2-methoxy-2-methyl propane , diphenyl-ether