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COURSE; CHEM102

MATRIC NUMBER; 17/MHS01/052

DEPARTMENT; MEDICINE AND SURGERY

SECTION A

1. a.

 The rule of thirteen.

e.g step 1 ; Z= 105/13= 8

 step 2 ; M=Z +remainder

therefore Z = 8+1=9

formular =$C\_{8}H\_{10}$

b. 1. **Medicine**: Medicine is the prime store of organic compounds. Though not all but many medicines are made of organic substances. Like [antibiotics](https://www.studyread.com/antibiotics-definition-function-mechanism/), anticancer drugs, painkillers, anti-depressant, anesthetics etc.

 2. **Food**: Food materials are solely made of carbon compounds viz. [carbohydrates](https://www.studyread.com/examples-carbohydrates-daily-life/) (CHO), proteins (NH2-CH-COOH), and fats (CH-COO-CH). Even vitamins are organic in nature. Study of the requirement of body for various purposes like pregnancy, disease condition, body fitness etc. experts advice use of vitamins (FOLIC acid in pregnancy), fat (minimize in heart diseases) and (protein rich diet for body building).

**3.Cleansing agents:** In industries and labs, organic [solvents](https://www.studyread.com/examples-of-solvents/) are widely used to clear of impurities. For example in drug extraction from plants, the fatty matter from the pulp is removed using petroleum ether. Thus organic chemistry through its knowledge of polarity, solubility, partition factors uses solvents to separate components for better use.

4. **Sterilizing agents**: Most of the sterilizing agents and disinfectants like phenol, formaldehyde etc are carbon compounds. Due to their properties like solubility, pH they can kill microbes and even [human body cells](https://www.studyread.com/types-cells-human-body/).

c.

|  |  |  |
| --- | --- | --- |
| S/N | HOMOCYCLIC COMPOUNDS  | HETEROCYCLIC COMPOUNDS |
| 1.2. | They are compounds having atoms of same elements as ring members. Homocyclic compounds can be further classified into alicyclic compounds and arenas or aromatic compounds. | They have atoms of different elements as ring members.Heterocyclic compounds can be either aromatic or aliphatic. |

SECTION B

1.Retardation factor for A = 2.4/12.2

 = 0.195

Retardation factor for B = 5.6/12.2

 = 0.459

Retardation factor for C = 8.9/12.2

 = 0.730

2. Organic compound A is a aldehyde because tollens test is used to test for aldehydes while organic cpmpound B is acid halides.

3. It is used to test for **Aldehyde or Ketone** .

4. i. Ethers. eg methyl propanoate

ii. carboxylic acid. eg propanoic acid

iii. ketone. eg propanone

iv. Amine. eg propylamine

v. Alcohol. eg propanol

vi. Amide. eg propanamide

vii. Alkenes. eg propene