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 MATRIC NUMBER; 17/ENG07/014

 DEPARTMENT; PETROLEUM ENGINEERING

 COLLEGE; ENGINEERING

COURSE; CHM102

1a. Compounds having m/z of 105

* C7H5O
* C7H7N
* C5H3N3

1b.i]All living things contain carbon

 Ii]They have a versatile bonding patterns and are part of all organisms

 Iii]It is present in nucleic acid

 Iv]It can be used in the production of clothes, foods, medicine, fuels, dyes, explosives, insecticides.

1c.

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| HOMOCYCLIC COMPOUNDS | HETEROCYCLIC COMPOUNDS |
| Homocyclic compounds ring is made up of carbon atoms only | Heterocyclic compounds ring is made up of more than one kind of atom |

2a. 2.4/12.2 = 0.20

 5.6/12.2 = 0.46

 8.9/12.2 = 0.73

2b. A is from aldehyde B is an alkene

2c. 2,4-DNPH test is employed for aldehydes and ketones

2d.

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| FUNCTIONAL GROUP | EXAMPLES |
| Alkanes | Propane, hexane |
| Alkenes | Ethene, propene |
| alkanol | Heptanol, decanol |
| Alkanoic acid | Pentanoic acid, propanoic acid |
| alkanal | Butanal, pentanal |
| halides | Fluorine, bromine |