

I. Choose the best answer.

11 x 1=11

1. The molecular formula of an open chain organic compound is C_3H_6 . The class of the compound is

- a. alkane
- b. alkene
- c. alkyne
- d. alcohol

2. Which of the following pairs can be the successive members of a homologous series?

- a. C_3H_8 and C_4H_{10}
- b. C_2H_2 and C_2H_4
- c. CH_4 and C_3H_6
- d. C_2H_5OH and C_4H_8OH

3. Rectified spirit is an aqueous solution which contains about _____ of ethanol

- a. 95.5 %
- b. 75.5 %
- c. 55.5 %
- d. 45.5 %

4. TFM in soaps represents _____ content in soap

- a. mineral
- b. vitamin
- c. fatty acid
- d. carbohydrate

5. The IUPAC name of an organic compound is 3- Methyl butane 1- ol. What type compound it is?

- a) Aldehyde
- b) Carbolic acid
- c) Ketone
- d) alcohol

6. The secondary suffix used in IUPAC nomenclature of an aldehyde is

- a) – ol
- b) - oic acid
- c) – al
- d) - one

7. $C_2H_5OH + 3O_2 \rightarrow 2CO_2 + 3H_2O$ is a

- a) reduction of ethanol
- b) combustion of ethanol
- c) oxidation of ethanoic acid
- d) oxidation of ethanol

8. Rectified spirit is an aqueous solution which contains about of ethanol.

- a) 95.5 %
- b) 75.5 %

- c) 55.5 % d) 45.5 %

9. Which of the following are used as anaesthetics?

- a) Carboxylic acids b) Ethers
c) Esters d) Aldehydes

10. Which of the following statements is wrong about detergents:

- a) It is a sodium salt of long chain fatty acids
b) It is sodium salts of sulphonic acids
c) The ionic part in a detergent is $\text{-SO}_3^- \text{Na}^+$
d) It is effective even in hard water

11. 100 % pure ethanol is called

- a) rectified spirit b) methylated spirit
c) absolute alcohol d) power alcohol

II. Fill in the blanks

4x1=4

1. The alkaline hydrolysis of fatty acids is termed as _____
2. Biodegradable detergents are made of _____ (branched / straight) chain hydrocarbons
3. In IUPAC name, the carbon skeleton of a compound is represented by _____ (root word / prefix / suffix)
4. Dehydration of ethanol by conc. Sulphuric acid forms _____ (ethene/ ethane)

III. Match the following

(4)

- | | |
|----------------------|----------------------|
| Functional group -OH | - Benzene |
| Heterocyclic | - Potassium stearate |
| Unsaturated | - Alcohol |
| Soap | - Furan |
| Carbocyclic | - Ethene |

IV. Short answer questions (answer any Five)

8 x 2 = 16

1. Name the simplest ketone and give its structural formula.
2. Classify the following compounds based on the pattern of carbon chain and give their structural formula: (i) Propane (ii) Benzene (iii) Cyclobutane (iv) Furan
3. The molecular formula of an alcohol is $C_4H_{10}O$. The locant number of its -OH group is 2.
 - (i) Draw its structural formula.
 - (i) Give its IUPAC name.
4. Name the simplest Ketone and give its structural formula.
5. How is ethanoic acid prepared from ethanol? Give the chemical equation.
6. How do detergents cause water pollution? Suggest remedial measures to prevent this pollution?
7. Differentiate soaps and detergents.
8. Give the balanced chemical equation of the following reactions.
 - i) Neutralization of NaOH with ethanoic acid
 - ii) Combustion of ethanol

V Answer the following

3 x 5 = 15

1. How is ethanol manufactured from sugarcane?
2. Arrive at, systematically, the IUPAC name of the compound: $CH_3-CH_2-CH_2-OH$
3. Explain the mechanism of cleansing action of soap.