



Name _____ Class _____ Roll no. _____ Date _____ Marks _____ / 36

1 Key words**[4]**

Fill in the blanks with words from the box. Two words in the box are not needed. Each blank carries 0.5 mark.

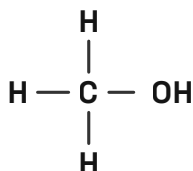
carbides functional group homologous series hydrocarbons hydrogenation isomers
organic compounds paraffins saturated unsaturated

Compounds in which carbon atoms are joined by covalent bonds to other carbon atoms or to hydrogen are called _____. Those made of only carbon and hydrogen are _____. A hydrocarbon with only single bonds between its carbon atoms is _____; these are also called _____. A hydrocarbon with a double or triple bond between carbon atoms is _____. A family of compounds with the same general formula, each member differing from the next by CH_2 , is a _____. An atom or group of atoms that decides the chemical properties of such a family is its _____. Adding hydrogen to an alkene, with a nickel catalyst, is called _____.

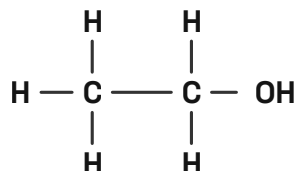
2 Label the diagram**[2]**

The drawing shows four alcohols, with their hydroxyl groups. Write the name of the alcohol numbered 1 to 4 and whether it is monohydric, dihydric or trihydric. Each carries 0.5 mark.

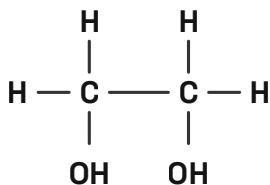
①



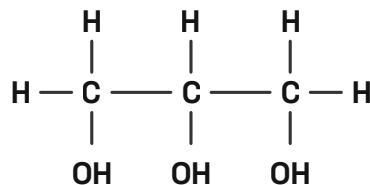
③



②



④



1. _____

2. _____

3. _____

4. _____



[5]

Choose the correct option for each of the following questions.

- Which hydrocarbon is included in the alkane group? [1]
 - methane
 - ethene
 - acetylene
 - propyne
- Which one is the correct formula of glycerol? [1]
 - $\text{C}_3\text{H}_6(\text{OH})_2$
 - $\text{C}_3\text{H}_5(\text{OH})_2$
 - $\text{C}_3\text{H}_4(\text{OH})_4$
 - $\text{C}_3\text{H}_5(\text{OH})_3$
- Which hydrocarbon is used to prepare glycerol? [1]
 - methane
 - ethane
 - propane
 - glucose
- Which of these is **not** an organic compound, though it contains carbon? [1]
 - methane, CH_4
 - urea, NH_2CONH_2
 - calcium carbonate, CaCO_3
 - ethanol, $\text{C}_2\text{H}_5\text{OH}$
- A hydrocarbon has the formula C_6H_{10} . Which family is it in? [1]
 - alkane
 - alkene
 - alkyne
 - it can't be a hydrocarbon

[3]

Write very short answers to the following questions.

- a. Write the general formula of the alkynes. [1]
-
-
- b. Which gas is the main part of biogas (gobar gas)? [1]
-
-
- c. Write the IUPAC name of $\text{CH}_2=\text{CH}-\text{CH}_3$. [1]

[8]

Write short answers to the following questions.

- a. Give a reason: ethane is called a saturated hydrocarbon. [2]



b. Give a reason: glycerol is called a trihydric alcohol. [2]

c. Write any two differences between a monohydric alcohol and a dihydric alcohol. [2]

d. Name the alcohol used for the following purposes: [2]

- i. to make formaldehyde
- ii. in thermometers
- iii. as an antiseptic
- iv. to prepare alcoholic beverages

6 Long answers [8]

Write long answers to the following questions.

a. What is alcohol? Write its types on the basis of the hydroxyl group, with examples, molecular formulas and structural formulas. [4]

b. Name the compound formed when three hydrogen atoms of propane (one on each carbon) are replaced by three hydroxyl groups. Write its IUPAC name, its structural formula and three uses. [4]



[4]

Solve the following problems. Show your working. (Atomic masses: C = 12, H = 1)

[2]

[illegible]

Answer:

[2]

[illegible]

Answer:

[2]

Think, then answer.

Mustard or soybean oil is a liquid, but vanaspati ghee made from such oil is a solid. What is done to the oil, and why does it become solid?

(not marked)

Make carbon atoms from big balls of clay or dough and hydrogen atoms from small ones, and join them with toothpicks: four toothpicks on every carbon, one on every hydrogen. For a double bond use two bent toothpicks, for a triple bond three. Build each molecule and fill in the table: for its shape, write 3-D, flat or straight.

Molecule	Carbon and hydrogen balls	C–C bond	Shape
methane, CH ₄			
ethane, C ₂ H ₆			
ethene, C ₂ H ₄			
ethyne, C ₂ H ₂			

