

CLASS X – SCIENCE – CHAPTER 04

CARBON AND ITS COMPOUND

Name:

Date:

CHOOSE THE CORRECT OPTION FROM QUES 1 TO 14

Q01. Soaps are formed by the saponification of

- (a) Alcohols (b) simple ester (c) carboxylic acids (d) glycerides

Q02. The functional group of butanone is

- (a) Carboxyl (b) ketonic (c) aldehydic (d) alcoholic

Q03. Enzyme which converts starch into alcohol is

- (a) Zymase (b) Maltase (c) Diastase (d) Invertase

Q04. The first compound to be prepared in the laboratory was

- (a) Methane (b) Ethyl alcohol (c) acetic acid (d) Urea.

Q05. The IUPAC name of CH_3CHO is

- (a) Acetaldehyde (b) Formaldehyde (c) Methyl formaldehyde (d) Ethanal.

Q06. Rectified spirit is

- (a) 50% ethanol (b) 80% ethanol (c) 95% ethanol (d) 40 to 50%

Q07. Dilute alkaline KMnO_4 solution is

- (a) an oxidising agent (b) a reducing agent (c) a bleaching agent (d) none of these

Q08. The by product in soap industry is

- (a) Isoprene (b) Ethylene glycol (c) glycerol (d) butane

Q09. An example of soap is

- (a) $\text{C}_{15}\text{H}_{31}\text{COONa}$ (b) CH_3COONa (c) $\text{C}_6\text{H}_5\text{COONa}$ (d) $\text{C}_{17}\text{H}_{35}\text{OSO}_3\text{Na}$

Q10. The number of C-H bonds in ethane C_2H_6 molecule are

- (a) 4 (b) 6 (c) 8 (d) 10

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Q11. The odour of acetic acid resembles that of

- (a) Rose (b) Burning Plastic (c) Vinegar (d) Kerosene

Q12. Alcohols can be produced by the hydration of

- (a) Alkenes (b) alkynes (c) alkenes (d) acids

Q13. IUPAC name of first member of homologous series of ketones is

- (a) Ethanone (b) methanone (c) Propanone (d) Butanone

Q14. Diamond is not a good conductor of electricity because

- (a) is very hard
(b) Its structure is very compact
(c) It is not soluble in water
(d) It has no free electrons to conduct electric current.

Q01. Define soaps?

Q02. Name the second member of alkynes family Give its structure?

Q03. Give a chemical test to distinguish between Ethane and ethane.

Q04. What is the role of concentrated H_2SO_4 in the esterification reaction?

Q05. What will be the formula and electron dot structure of cyclopentane ?

Q06. Write a test to identify the presence of ethanoic acid?

Q07. What is meant by denatured alcohol? What is the need to denature alcohol?

Q08. What is a homologous series? State any two characteristics of homologous series?

Q09. What are enzymes? Name the enzymes required for the fermentation of sugar cane to ethanol?

Q10. Why is conversion of ethanol into ethanoic acid an oxidation reaction?

Q11. What are the properties of carbon which lead to the huge number of carbon compounds we see around us?

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- Q12.** Which organic compound is added to make ethanol unfit for drinking purposes? What is the name of the mixture formed?
- Q13.** A mixture of ethyne and oxygen is used for welding. Can you justify why a mixture of ethyne and air is not-used?
- Q14.** Draw the structures of the following compounds
(a) Ethanoic acid (b) Bromopentane (c) Butanone
- Q15.** Define fermentation. Name the enzyme which converts
(a) milk into curd (yogurt)
(b) Cane sugar into glucose and fructose
(c) glucose into ethanol
- Q16.** Write the structures of
(a) Ethanoic acid (b) Hexanal
- Q17.** Give names of the following
(a) An aldehyde derived from ethane
(b) Ketone derived from butane
(c) Compound obtained by the oxidation of ethanol by chromic anhydride
- Q18.** Write chemical equations of the reactions of ethanoic acid with
(a) Sodium (b) Sodium carbonate
(c) Ethanol (d) The presence of conc H_2SO_4
- Q19.** (a) Name the gas evolved during fermentation process?
(b) What role is played by yeast in the conversion of cane sugar ($C_{12}H_{22}O_{11}$) to ethanol?
(c) How may the following be obtained from pure ethanol? Express chemical reactions by the chemical equations.
(i) Sodium ethoxide (ii) Ethyl ethanoate (iii) Ethanal
- Q20.** The formula of an ester is $C_3H_7COOC_2H_5$. Write the formulae of the acid and alcohol from which the ester is prepared.

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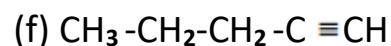
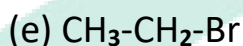
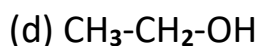
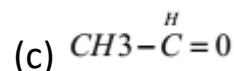
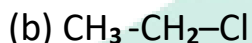
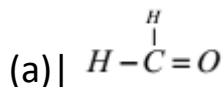
Q21. Give the structural formulas for

(a) Methyl Ethanoate

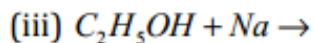
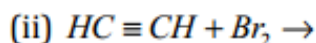
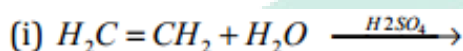
(b) Ethyl ethanoate

Write two uses of Ester?

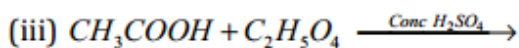
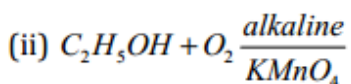
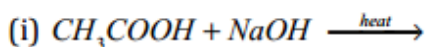
Q22. Name the following compounds.



Q23. Complete the reaction and names of the products formed



Q24. Complete the reaction and names of the products formed



Q25. An organic compound A is widely used as a preservative in pickles and has a molecular formula $\text{C}_2\text{H}_4\text{O}_2$. This compound reacts with ethanol to form a sweet-smelling compound B.

(a) Identify the compound A.

(b) Write the chemical equation for its reaction with ethanol to form compound B.

(c) How can we get compound A back from B.

(d) Name the process and write the corresponding chemical equation.

(e) Which gas is produced when compound A reacts with washing soda? Write the chemical equation?