

CBSE Class 10 Science
Important Questions
Chapter 4
Carbon and its Compounds

1 Marks Questions

1. Soaps are formed by the saponification of

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

Ans. (d) glycerides

2. The functional group of butanone is

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

Ans. (b) ketonic

3. Enzyme which converts starch into glucose is

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

Ans. (a) Zymase

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

- (a) Methane**
- (b) Ethyl alcohol**
- (c) acetic acid**



(d) Urea.

Ans. (d) Urea.

5. The IUPAC name of CH_3CHO is

(a) Acetaldehyde

(b) Formaldehyde

(c) Methyl formaldehyde

(d) Ethanal.

Ans. (d) Ethanal.

6. Rectified spirit is

(a) 50% ethanol

(b) 80% ethanol

(c) 95% ethanol

(d) 40 to 50% ethanol

Ans. (c) 95% ethanol

7. Dilute alkaline $KMnO_4$ solution is

(a) an oxidising agent

(b) a reducing agent

(c) a bleaching agent

(d) none of these

Ans. (a) an oxidising agent

8. The by product in soap industry is

(a) Isoprene

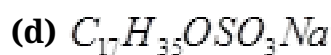
(b) Ethylene glycol

(c) glycerol

(d) butane

Ans. (c) glycerol

9. An example of soap is



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

(a) 4

(b) 6

(c) 8

(d) 10

Ans. (b) 6

11. The odour of acetic acid resembles that of

(a) Rose

(b) Burning Plastic

(c) Vinegar

(d) Kerosene

Ans. (c) Vinegar

12. Diamond is not a good conductor of electricity because

(a) It 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.

Ans. (d) It has no free electrons to conduct electric current.

13. Alcohols can be produced by the hydration of

(a) Alkenes

(b) alkynes

(c) alkanes

(d) acids



Ans. (a) Alkenes

14. The IUPAC name of CH_3CHO is

- (a)** Acetaldehyde
- (b)** formaldehyde
- (c)** methyl formaldehyde
- (d)** ethanol

Ans. (d) ethanol

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

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

Ans. (c) Propanone

16. An unknown compound has the smell of vinegar. Identify it.

Ans. Acetic acid

17. Out of butter and groundnut oil which is unsaturated in nature?

Ans. Groundnut oil

18. Which has triple bond, C_2H_4 , C_3H_4 , C_3H_6

Ans. C_3H_4

19. Which substance is added for the denaturation of ethyl alcohol

Ans. Methyl Alcohol

20. Which ions are responsible for making water hard?



Ans. Ca^{2+} and Mg^{2+}

21. Ethane, with the molecular formula C_2H_6 has

- (a) 6 covalent bonds**
- (b) 7 covalent bonds**
- (c) 8 covalent bonds**
- (d) 9 covalent bonds**

Ana. (b) 7 covalent bonds

22. Butanone is a four carbon compound with the functional group

- (a) carboxylic acid**
- (b) aldehyde**
- (c) ketone**
- (d) alcohol**

Ans. (c) Ketone

23. While cooking, if the bottom of the vessels is getting blackened on the outside, it means that

- (a) the fuel is not cooked completely.**
- (b) the fuel is not burning completely.**
- (c) the fuel is wet.**
- (d) the is burning completely.**

Ans. (b) the fuel is not burning completely.

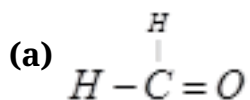
24. Which of the following hydrocarbons undergo addition reactions?

C_2H_6 , C_3H_8 , C_3H_6 , C_2H_2 and CH_4

Ans. C_3H_6 and C_2H_2 will undergo addition reactions.

2 Marks Questions

1. Name the following compounds.



Ans. (a) Methanol

(b) Chloroethane

2. Define soaps?

Ans. Soaps are the sodium or potassium salts of long chain fatty acids. These are represented by RCOONa or RCOOR .

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

Ans. The second member of the alkyne family is propyne. Its structural formula is $\text{CH}_3 - \text{C} \equiv \text{CH}$

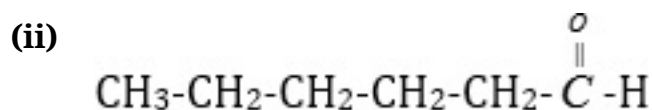
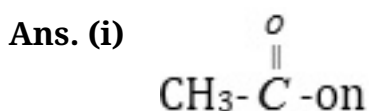
4. Give a chemical test to distinguish between Ethane and ethene.

Ans. Ethene decolorizes the yellow colour of bromine water while ethane does not.

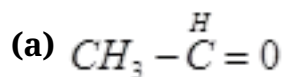
5. Write the structures of

(i) Ethanoic acid

(ii) Hex anal



6. Name the following compounds



Ans. (a) Ethanal

(b) Ethanol

7. Which organic compound is added to make ethanol unfit for drinking purposes? What is the name of the mixture formed?

Ans. Methanol which is highly poisonous is added to make ethanol unfit for drinking purpose. The mixture is called methylated spirit or denatured alcohol.

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

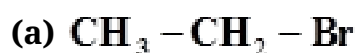
Ans. Dip a strip of blue litmus paper in the solution of ethanoic acid. Its colour will change to red.

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

Ans. (i) Self linking property called catenation

(ii) Carbon is tetravalent and can readily unite with atoms like hydrogen, oxygen etc by electron sharing

10. Name the following compound



Ans. (i) Bromoethane

(ii) Hex-1- yne



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

Ans. Ethanoic acid has one O_2 , atom more and two hydrogen atoms less than ethanol. And loss of hydrogen is known as oxidation and gain of oxygen is known as oxidation. Therefore it is an oxidation reaction.

12. A mixture of ethyne and oxygen is used for welding. Can you justify why a mixture of ethyne and air is not-used?

Ans. When ethyne is burnt in oxygen, large quantity of heat and light is produced. The heat evolved can be used for gas welding which is used for welding broken pieces of articles. As air contains mixture of nitrogen and oxygen and nitrogen which is more in amount does not support combustion. Therefore it is always better to use oxygen for the combustion of ethyne.

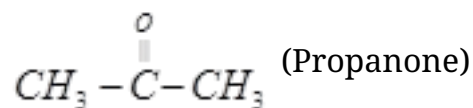
13. Why carbon and its compounds are used as fuels in most cases?

Ans. Carbon burns in oxygen or air to form CO_2 gas. This reaction is highly exothermic that is why different form of coals are used as fuels

14. A compound X has the molecular formula C_3H_6O with structural formula CH_3CH_2CHO . Give its IUPAC name. Can another compound have the same molecular formula? Give the structure and IUPAC name of that compound also.

Ans. The IUPAC name of X is propanal.

Another similar compound is Y is.



X and Y are related to each other as functional isomers.

15. Why CHO group cannot be present in the middle of the carbon atom chain?

Ans. The CHO group is a terminal functional group since three valencies of the C-atom are already satisfied, so this group cannot be present in the middle of the chain.

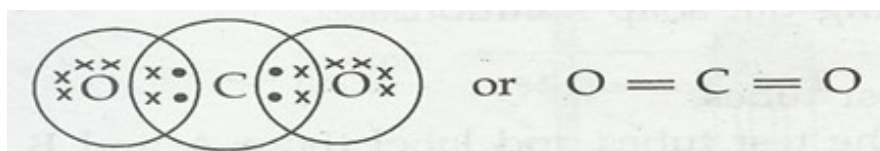


16. Two carbon atoms cannot be linked to each other by more than three covalent bonds. Why?

Ans. When two carbon atoms are to be linked by four covalent bonds their nuclei come so close to one another that the force of repulsion between them will push these apart. As a result, a stable molecule will not be formed.

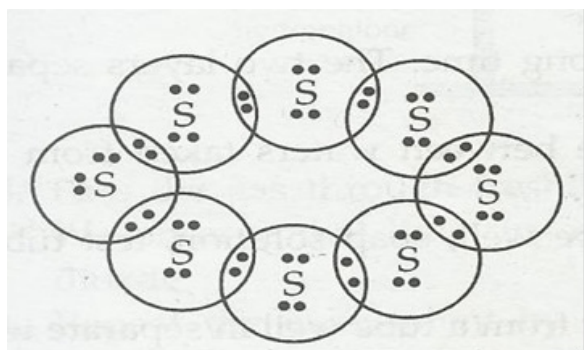
17. What would be the electron dot structure of carbon dioxide which has the formula of CO_2 ?

Ans.

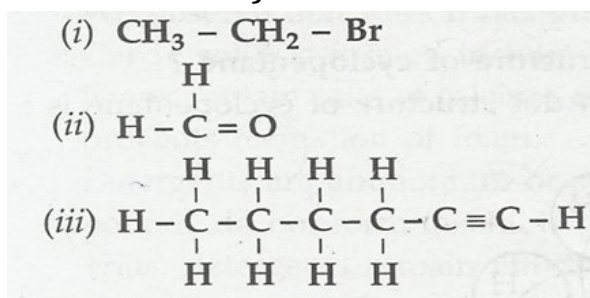


18. What would be the electron dot structure of a molecule of sulphur which is made up of eight atoms of sulphur?

Ans.



19. How would you name the following compounds?



Ans.(i) Bromomethane

(ii) Hexyne

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

Ans. The two properties are:

(a) catenation- the ability to form bonds with other atoms of carbon.

(b) Tetravalency of carbon.

21. Would you be able to check if water is hard by using a detergent?

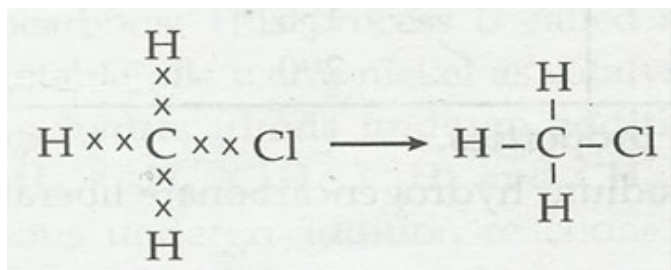
Ans. No, we would be able to check if water is hard by using a detergent

22. People use a variety of methods to wash clothes. Usually after adding the soap, they beat the clothes on stone, or beat it with a paddle, scrub with a brush or the mixture is agitated in a washing machine. Why is agitation necessary to get clean clothes?

Ans. Agitation is necessary to obtain complete micelle formation and the emulsion of oil in water so that the whole of dirt is removed on rinsing with water.

23. Explain the nature of the covalent bond using the bond formation in CH_3Cl .

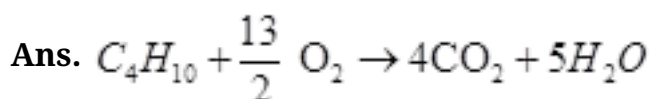
Ans. Covalent bond is formed by sharing of electrons between two atoms. It is non-ionic in nature.



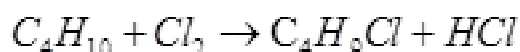
24. Give a test that can be used to differentiate chemically between butter and cooking oil?

Ans. Butter and cooking oil can be differentiated with the help of bromine water test. Cooking oil will decolorize the red colour of bromine water on shaking while butter will not.

25. A compound 'X' has molecular formula C_4H_{10} . It undergoes substitution reaction readily than addition reaction. It burns with blue flame and is present in LPG. Identify 'X' and give the balanced equation for its combustion and substitution reaction with Cl_2 in presence of sunlight.



'X' (Butane)



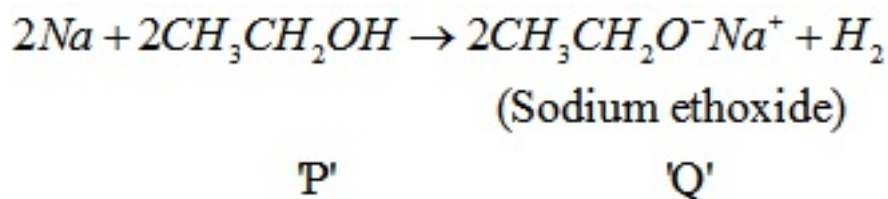
26. 'A' compound works well with hard water. It is used for making shampoos & products for cleaning clothes. A is not 100% biodegradable and causes water pollution. 'B' does not work well with hard water. It is 100% biodegradable and does not create water pollution. Identify A & B.

Ans. A is detergent & B is soap.

27. An organic compound P with molecular formula C_2H_6O is an active ingredient of all alcoholic drinks. It is also used in medicines such as tincture iodine, cough syrups. Identify 'P'. Drop a small piece of sodium into the test tube containing 'P'. A new

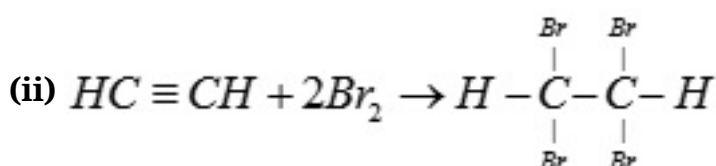
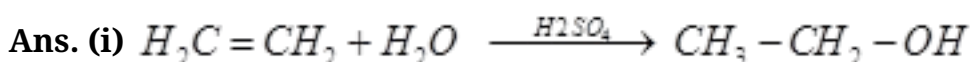
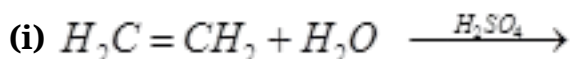
compound 'Q' is formed with the evolution of colorless and odorless gas. Name the gas evolved and compound 'Q' write the chemical reaction.

Ans.



3 Marks Questions

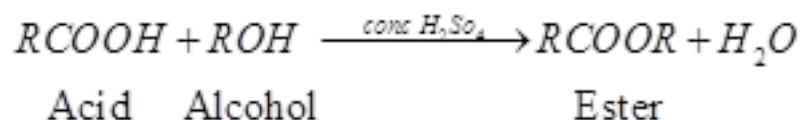
1. Complete the following reaction



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

Ans. In esterification reaction a carboxylic acid reacts with alcohol to form ester and water in the presence of concentrated sulphuric acid. This reaction is reversible and this reverse reaction is called ester hydrolysis.

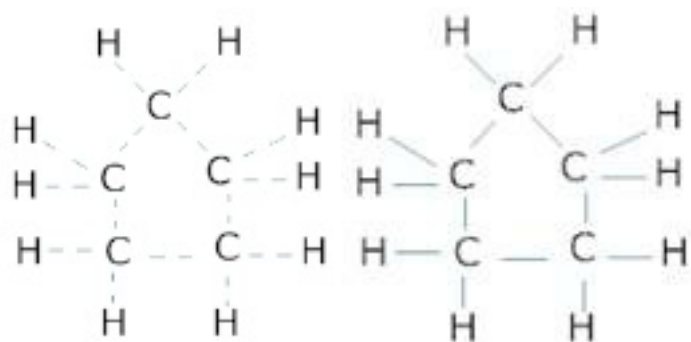
Concentrated sulphuric acid being a strong dehydrating agent removes water from the reaction mixture. As a result, the reaction proceeds only in the forward direction to form ester.



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

Ans. It is a cyclic compound with formula C_5H_{12} . The structure of the compound is represented as





4. Draw the structures of the following compounds

(a) Ethanoic acid

(b) Bromopentane

(c) Butanone

Ans. (a) $\text{H}-\underset{\text{H}}{\overset{\text{H}}{\text{C}}}-\overset{\text{O}}{\parallel}{\text{C}}-\text{OH}$ Ethanoic acid

(b) $\text{CH}_3-\text{CH}_2-\text{CH}_2-\text{CH}_2-\text{CH}_2-\text{Br}$ Bromopentane

(c) $\text{H}_3\text{C}-\overset{\text{O}}{\parallel}{\text{C}}-\text{CH}_2-\text{CH}_3$ Butanone

5. 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

Ans. (a) Ethanal (CH_3CHO)

(b) Butanone ($\text{CH}_3\text{COCH}_2\text{CH}_3$)

(c) Ethanal (CH_3CHO)

6. What is meant by denatured alcohol?

What is the need to denature alcohol?

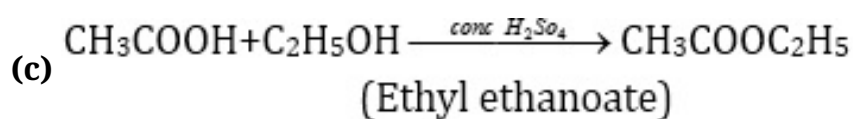
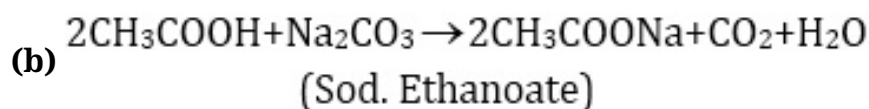
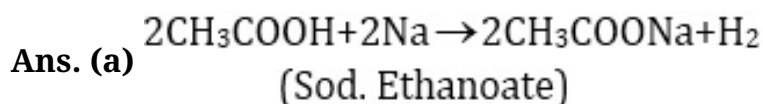
Ans. Ethyl alcohol which contains small amount of methyl alcohol or copper sulphate is called denatured alcohol. The purpose of denaturing of alcohol is to make it unfit for drinking purposes.

7. Write chemical equations of the reactions of ethanoic acid with

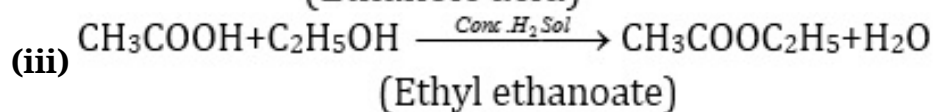
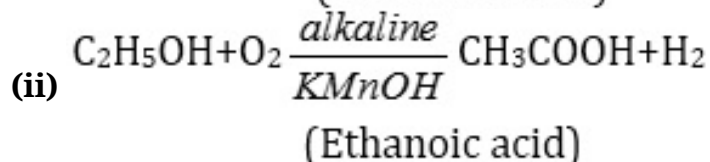
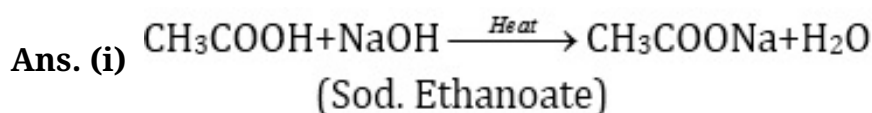
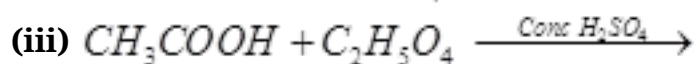
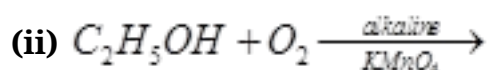
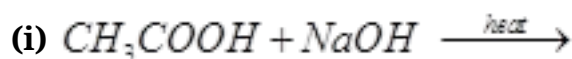
(a) Sodium

(b) Sodium carbonate

(c) Ethanol in the presence of conc. H_2SO_4



8. Complete the reaction and names of the products formed



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

Ans. A series of similarly constituted compounds in which the members present have the same functional group, same chemical properties and any two successive members is a particular series differ in their molecular formula by CH_2 group.

(i) Same functional group

(ii) Same chemical properties.

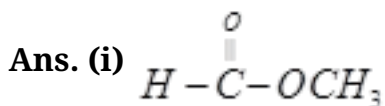


10. Give the structural formulas for

(i) Methyl Ethanoate

(ii) Ethyl ethanoate

Write two uses of Ester?



Uses of esters:

(1) Esters have pleasant smell. These are used as flavouring agents and also in perfumes.

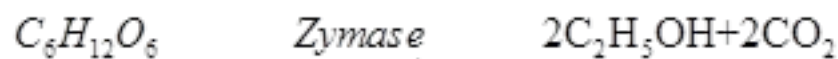
(2) Esters of glycerol known as triglycerides are used in the manufacture of soaps. This reaction is called saponification reaction.

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

Ans. Enzymes are the biocatalysts which catalyse the reactions in the living beings. In the process of fermentation of sugar into ethanol, two enzymes are used.



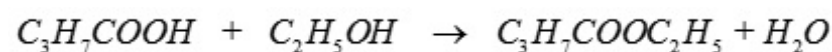
Sugar glucose fructose



Glucose and Fructose

12. The formula of an ester is $\text{C}_3\text{H}_7\text{COOC}_2\text{H}_5$. Write the formulae of the acid and alcohol from which the ester is prepared.

Ans. The molecular formula for acid is $\text{C}_3\text{H}_7\text{COOH}$ (Butanoic acid) and for alcohol is $\text{C}_2\text{H}_5\text{OH}$ (Ethyl alcohol)



Butanoic acid Ethyl alcohol Butanoate (Ester)

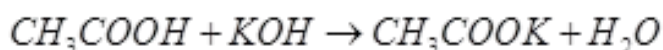
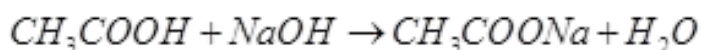
13. Write three difference between ethanol and ethanoic acid on the basis of chemical properties?

Ans. (i) On adding a small amount of NaHCO_3 to ethanoic acid CO_2 gas is evolved with brisk effervescence and no such reaction takes place in case of ethanol



(ii) Ethanol is neutral so does not bring any change in the colour of litmus paper but ethanoic acid is acidic and changes the colour of a blue litmus strip to red when dipped in it.

(iii) Ethanoic acid reacts with NaOH and KOH to form salt and water whereas ethanol fails to react.



14. Given a chemical test to distinguish between

(i) Ethane and ethane

(ii) Ethanol and ethanoic acid

(iii) Soaps and Detergents

Ans. (i) Ethane decolorizes the yellow colour of bromine while ethane does not.

(ii) Ethanoic acid gives a brisk effervescence with sodium hydrogen carbonate while ethanol does not.

(iii) Soaps form curdy white precipitate or scum with hard water while detergents do not form any precipitate.

15. Name the functional groups present in the following compounds?

(i) $\text{CH}_3 - \text{CH}_2 - \text{CH}_2 - \text{OH}$

(ii) $\text{CH}_3 - \text{CH}_2 - \text{CH}_2 - \text{COOH}$

(iii) $\text{CH}_3 - \text{CH}_2 - \text{CHO}$

Ans. (i) $-\text{OH}$ (*ol*)

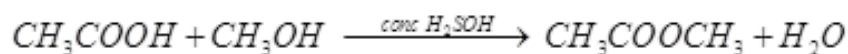
(ii) $-\text{COOH}$ (*oic acid*)

(iii) $-\text{CHO}$ (*al*)

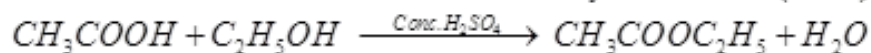
16. What are esters? Write an equation to show the formation of ester?

Ans. Esters are pleasant smelling compounds and are commonly used as flavoring agents.

Monocarboxylic acids react with alcohol to form esters and water. This reaction is called as esterification



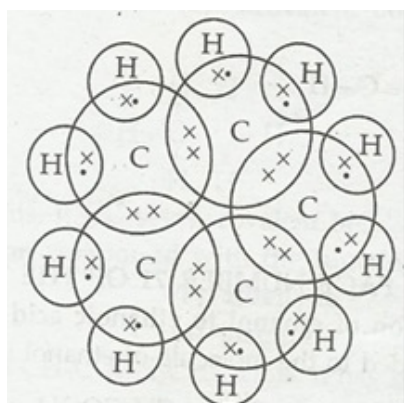
Methyl Ethanoate (Ester)



Ethyl Ethanoate (Ester)

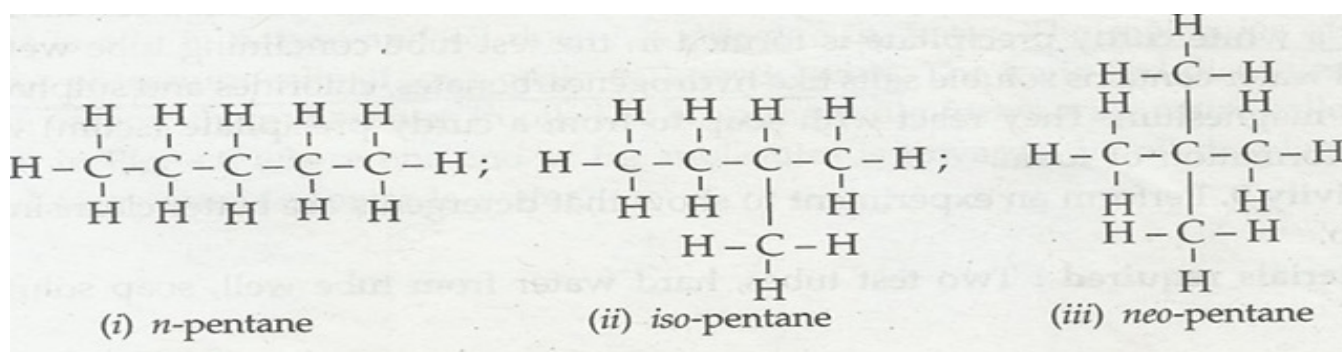
17. What will be the formula and electron dot structure for cyclopentane?

Ans. Formula of cyclopentane is C_5H_{10} . The electron dot structure cyclopentane is:



18. How many structural isomers can you draw for pentane?

Ans. The isomers are as under:



19. What is a homologous series? Explain with an example.

Ans. Series of compounds in which the same functional group substitutes for hydrogen in a carbon chain is called homologues series. The difference between the formulae of any two successive members is $-CH_2$ and difference between the molecular formula is 14 u.

20. How can ethanol and Ethanoic acid be differentiated on the basis of their physical and chemical properties?

Ans. On the basis of physical properties: Melting and boiling points of ethanol is 156 K and 351 K but melting and boiling point of Ethanoic acid is 290 K and 391 K respectively.

On the chemical properties: Ethanoic acid reacts with sodium hydrogen carbonate liberating carbon dioxide while ethanol does not.

21. Why are carbon and its compounds used as fuels for most applications?

Ans. Carbon on combustion gives carbon dioxide and water. This reaction is accompanied by evolution of heat and light. The same is true for compounds of carbon. That is why carbon and its compounds are used as fuel for most applications.

22. Explain the formation of scum when hard water is treated with soap.

Ans. Hard water contains hydrogen carbonates, chlorides and sulphates of calcium and magnesium which reacts with soap to form scum. For example, calcium chloride reacts with soap to form scum.

Sodium stearate + Calcium chloride \rightarrow sodium chloride + Calcium stearate(scum)

23. What change will you observe if you test soap with litmus paper (red and blue)?

Ans. Soap is sodium or potassium salt of fatty acid. It is obtained by treating of oil with caustic soda. Sodium stearate is thus a salt of weak acid and strong base. Its water solution will be slightly alkaline and will turn red litmus red.

24. What is hydrogenation? What is its industrial application?

Ans. Unsaturated hydrocarbons add hydrogen in presence of catalysts such as palladium or nickel to give saturated hydrocarbons. This process is called hydrogenation.

It is commercially used for converting vegetable oils to 'vanaspati' ghee in presence of nickel as catalyst.

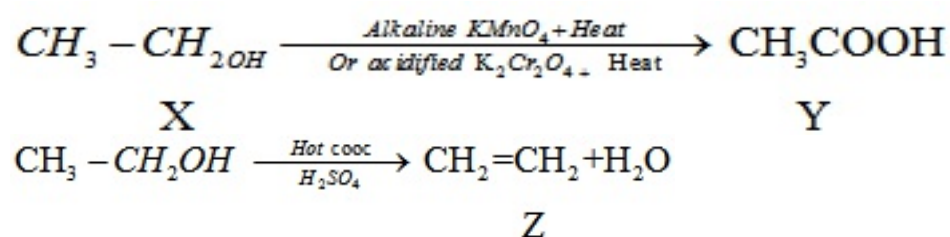


25. Explain in mechanism of the cleaning action of soap.

Ans. Soap are sodium or potassium salt of fatty acids. Two ends of molecules of soap behave differently. This ionic end is hydrophilic and it is oriented towards water. The other hydrocarbon end is hydrophobic and it is oriented towards dirt which is oily in nature. A micelle formation around the oily dirt takes place. When flushed with excess of water, the micelle containing the dirt is removed, thus cleaning the clothes, etc.

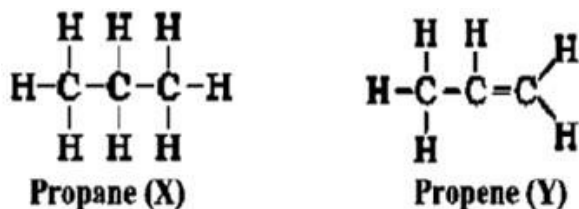
26. An organic compound X with a molecular formula C₃H₈O undergoes oxidation with in presence of alkaline $KMnO_4$ to form a compound Y. X on heating in presence of $Conc. H_2SO_4$ at 443 K gives Z. which on reaction with 112 cm³ of H_2 gives back 'X'. 'Z' reacts with $Br_2(aq)$ and decolorizes it. Identify X, Y, & Z and write the reactions involved.

Ans.



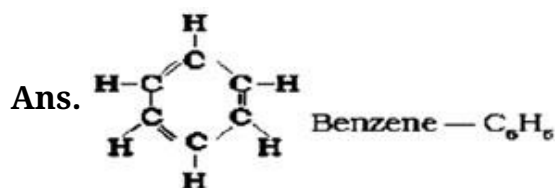
27. 'A' compound works well with hard water. It is used for making shampoos & products for cleaning clothes. A is not 100% biodegradable and causes water pollution. 'B' does not work well with hard water. It is 100% biodegradable and does not create water pollution. Identify A & B.

Ans. 'Y' will burn with a sooty flame. So it is an unsaturated hydrocarbon.



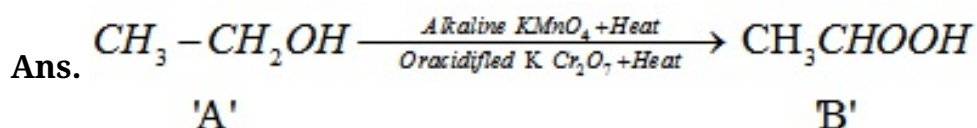
28. A cyclic compound 'X' has molecular formula C_6H_6 . It is unsaturated and burns with sooty flame. Identify 'X' and write its structural formula. Will it decolorize bromine water or not and why?





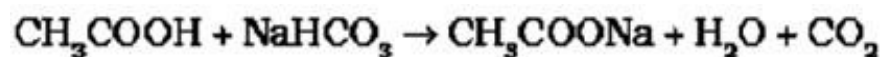
It does not decolorize bromine water because it does not undergo addition reaction.

29. An organic compound 'A' is a constituent of antifreeze and has the molecular formula C_2H_6O . Upon reaction with alkaline $KMnO_4$ the compound 'A' is oxidized to another 'B' with formula C. Identify the compound 'A' and 'B'. Write the chemical equation for the reaction which leads to the formulation of 'B'.



30. Two compounds 'X' and 'Y' have the same formula C. One of them reacts with sodium metal to liberate H_2 and CO with $NaHCO_3$. Second one does not react with Na metal and $NaHCO_3$ but undergoes hydrolysis with $NaOH$ to form salt of carboxylic acid and compound 'Z' which is called wood spirit. Identify 'X', 'Y', and 'Z' and write chemical equation for the reaction involved.

Ans.



31. A compound 'X' with molecular formula C burns with a sooty flame. It decolorises bromine water. Identify 'X'. Will it dissolve in water or not? Will it conduct electricity in aq. solution? Will it have high melting point or low melting point?

Ans. 'X' is ethene. It will neither dissolve in water nor conduct electricity because it is a covalent compound. It has low melting point.

5 Marks Questions

1. Define fermentation. Name the enzyme which converts

- (a) milk into curd (yogurt)
- (b) Cane sugar into glucose and fructose
- (c) glucose into ethanol

Ans. The preparation of ethyl alcohol from sugar ($C_{12}H_{22}O_{11}$) is known as fermentation.

- (a) Lactase converts milk into curd
- (b) Invertase converts cane sugar into glucose and fructose
- (c) Zymase converts glucose into ethanol.

2. (a) Name the gas evolved during fermentation process?

(b) What role is played by yeast in the conversion of cane sugar to ethanol?

(c) How may the following be obtained from pure ethanol? Express ($C_{12}H_{22}O_{11}$) s chemical reactions by the chemical equations.

- (i) Sodium ethoxide
- (ii) Ethyl ethanoate
- (iii) Ethanal

Ans. (a) CO_2 gas is evolved accompanied by brisk effervescence.

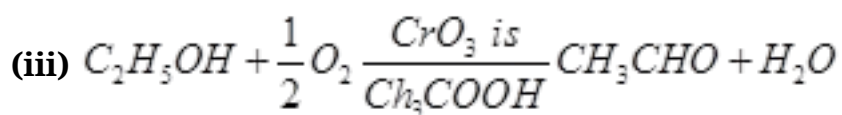
(b) Yeast is the source of enzymes invertase and zymase needed for fermentation.

(c) (i) $2C_2H_5OH + 2Na \rightarrow 2C_2H_5ONa + H_2$

(ii) $C_2H_5OH + CH_3COOH \xrightarrow{H_2SO_4} CH_3COOC_2H_5 + H_2O$

(Ethyl ethanoate)





3. An organic compound A is widely used as a preservative in pickles and has a molecular formula $C_2H_4O_2$. This compound reacts with ethanol to form a sweet smelling compound B.

(a) Identify the compound A.

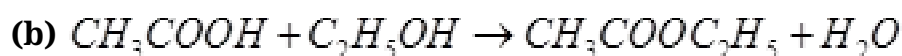
(b) Write the chemical equation for its reaction with ethanol to form compound B.

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

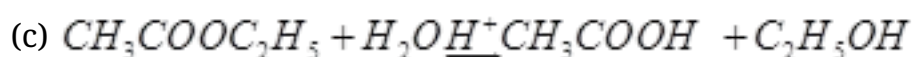
(d) Name the process and write the corresponding chemical equation.

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

Ans. (a) Compound A is ethanoic acid (CH_3COOH)



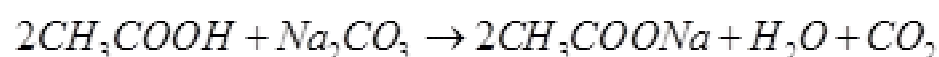
Ethanoic acid Ethyl Ethanoate (Ester)



Ethanoic acid

(d) The process is known as ester hydrolysis.

(e) CO_2 is produced with effervescence when compound A reacts with washing soda which is chemically Na_2CO_3

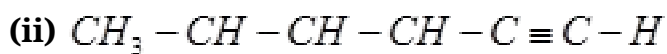
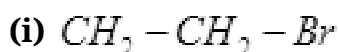


4. (a) Why does carbon form largest number of compounds?

(b) Why are some of these called saturated and other unsaturated compounds?

(c) Which of these two is more reactive?

(d) Write the names of the following compounds



Ans. (a) Carbon forms large number of compounds called organic compounds due to the self linking property called catenation.

(b) Compounds which has only C-C (single bond) present are saturated compounds whose as those compounds which has C=C (double bond) or $C \equiv C$ (triple) bond is present are called unsaturated compounds.

(c) Unsaturated compounds are more reactive than saturated compounds

(d) (i) Bromoethane

(ii) Hex-1-yne

5. Draw the structure for the following compounds:

(i) Ethanoic acid

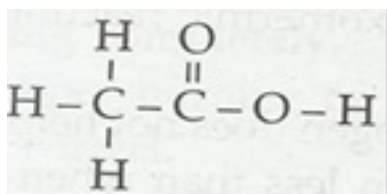
(ii) Bromopentane

(iii) Butane

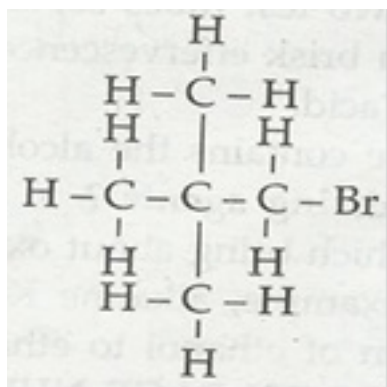
(iv) Hexanal

Ans. Structure of compounds are given as under:

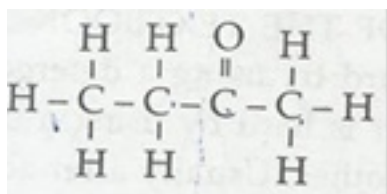
(i) Ethanoic acid



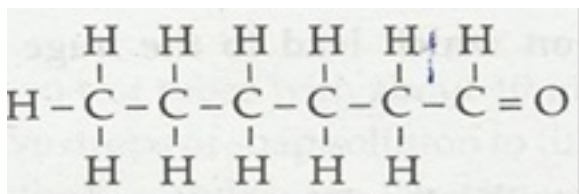
(ii) Bromopentane



(iii) Butanone



(iv) Hexanal



6. Draw the electron dot structure for

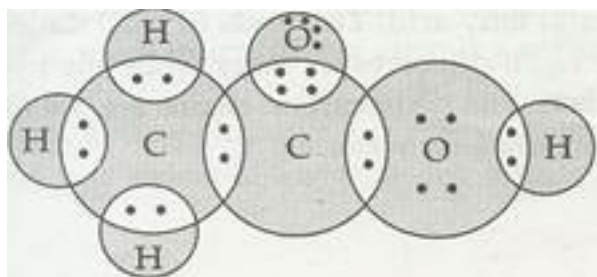
(a) Ethanoic acid

(b) H_2S

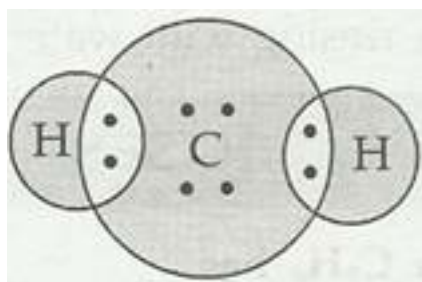
(c) Propanone

(d) F_2

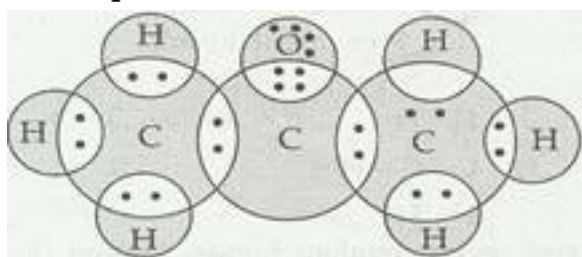
Ans. (a) Ethanoic acid



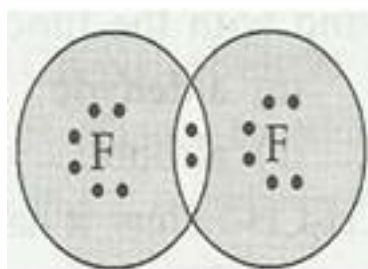
(b) H_2S



(c) Propanone

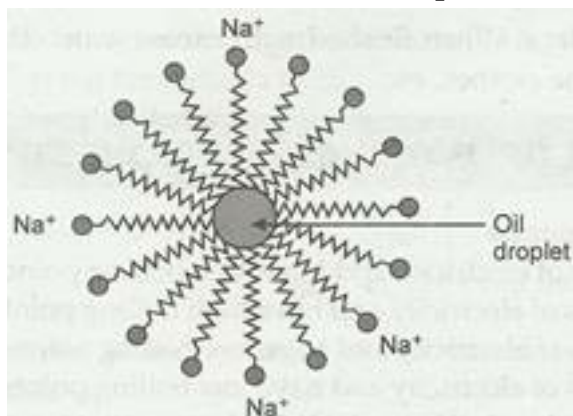


(d) F_2



7. Why does micelle formation take place when soap is added to water? Will a micelle be formed in other solvents such as ethanol also?

Ans. Soap is sodium or potassium salt of long chain fatty acid. Two ends of soap molecules have different properties. The ionic end is hydrophilic. It dissolve in water while the hydrogen chain is hydrophobic, it dissolve in hydrocarbon. The hydrocarbon chains are oriented towards the oil droplet while the ionic ends are oriented towards water.



Micelles formation will not take place in ethanol.

8. An organic compound 'A' is widely used as a preservative in pickles and has a molecular formula C This compound reacts with ethanol to form a sweet smelling compound 'B'.

(i) Identify the compound 'A'

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

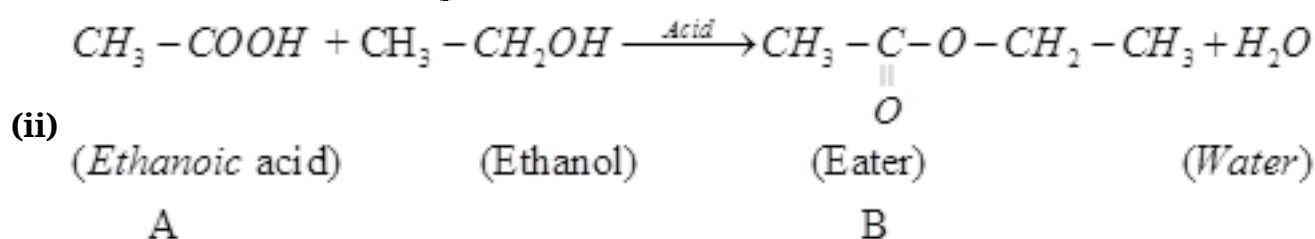
(iii) How can we get compound 'A' back from 'B'?

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

(v) Which gas is produced when compound 'A' reacts with washing soda?

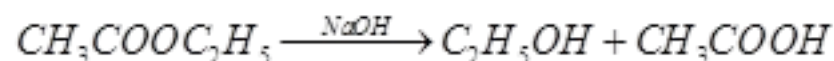
Write the chemical equation.

Ans. (i) Ethanoic acid, CH_3COOH



(iii) Esters react in the presence of an acid or a base to give back the alcohol and carboxylic acid.

(iv) Saponification



(v) CO_2 gas evolved

