



CHEMISTRY

BOOKS - MBD NCERT SOLUTIONS

CARBON AND ITS COMPOUNDS

Multiple Choice Questions

1. The number of carbon compounds is so large because of its property of :

A. Isomerism

B. Tetravalency of Carbon

C. Catenation

D. All of these

Answer: D



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2. The simplest hydrocarbon is :

A. Methane

B. Ethane

C. Methanol

D. Butanol

Answer: A



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3. Glucose is converted into ethanol in the presence of :

A. Zymase

B. Inverstase

C. Amylase

D. Hydrolase

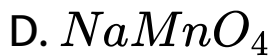
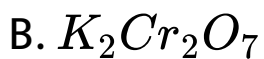
Answer: A



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4. On oxidation, ethanol gives ethanoic acid,
with alkaline :

A. $KMnO_4$

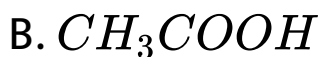
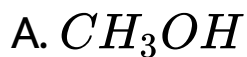


Answer: A



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5. Addition of water to ethane yields :



C. C_2H_5OH

D. CH_3CHO

Answer: C



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6. Vinegar on dilution with water gives :

A. Ethanoic acid

B. Methanol

C. Ethanol

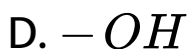
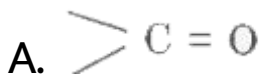
D. Methanoic acid

Answer: A



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7. The functional group present in alcohol is :



Answer: D



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8. Soaps are prepared by alkaline hydrolysis of

:

A. Inorganic acids

B. Fatty acids

C. Glycerides

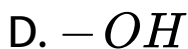
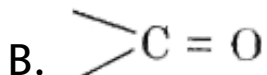
D. Alcohols

Answer: B



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9. The functional group present in carboxylic acids is :



Answer: B



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10. Alcohols produce H_2 gas on reaction with :

A. Zn

B. Al

C. Na

D. Cu

Answer: C



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11. Soaps can produce foam only in :

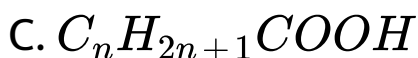
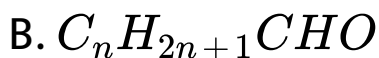
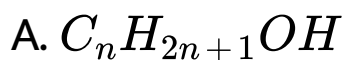
- A. hard water
- B. Soft water
- C. Soft and Hard water
- D. All of these

Answer: B



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12. The general formula of carboxylic acid is :



Answer: C



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13. Alkaline $KMnO_4$ and acidified $K_2Cr_2O_7$

are :

- A. Catalysts
- B. Reducing agents
- C. Oxidising agents
- D. None of these

Answer: C



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14. The ionic end of the Soap molecule is :

A. Hydrophobic

B. Hydrophilic

C. Hydrophobic or Hydrophilic

D. None of these

Answer: B



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15. Propanone has :

- A. 7 covalent bonds
- B. 8 covalent bonds
- C. 9 covalent bonds
- D. 10 covalent bonds

Answer: D



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16. The carbon atom has a covalency of :

- A. 2

B. 4

C. 6

D. 1

Answer: B



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17. Any two adjacent members of a homologous series differ by :

A. CH_3 unit

B. CH_2 unit

C. CH unit

D. C_2H_4 unit

Answer: B

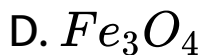
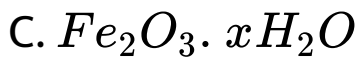


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18. Chemically rust is :

A. Fe_2O_3

B. FeO



Answer: C



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19. While cooking if the bottom of the vessel is getting blackened on the outside, it means that :

A. the food is not cooked completely

B. the fuel is wet

C. the fuel is not burning completely

D. the fuel is burning completely

Answer: C



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20. Carbon atoms has crystalline forms equal

to :

A. 2

B. 3

C. 4

D. 5

Answer: B



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21. Vinegar is :

A. 25% acetic acid

B. 6-8% acetic acid

C. Pure acetic acid

D. 50% acetic acid

Answer: B



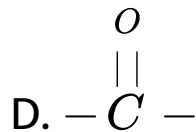
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22. Ethanol has the functional group :

A. $-OH$

B. $-CHO$

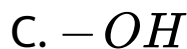
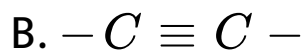
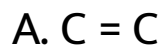
C. $-COOH$



Answer: A

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23. Ethene has the functional group :



Answer: A



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24. Ethene has :

A. 6 covalent bonds

B. 7 covalent bonds

C. 8 covalent bonds

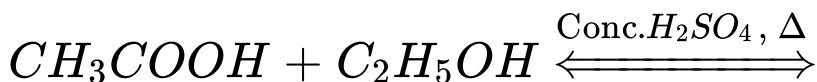
D. 5 covalent bonds

Answer: A



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25. The given reaction is



$CH_3COOC_2H_5 + H_2O$ is called :

- A. Esterification
- B. Saponification
- C. Hydrolysis
- D. Oxidation

Answer: A



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26. An atom has electronic configuration 2,8,7.

To which of the following elements would be chemically similar ? (Atomic numbers are given in Parentheses).

A. N(7)

B. F(9)

C. P(15)

D. Ar(18)

Answer: B



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Very Short Answer Type Questions

1. Name the organic acid present in red ants.



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2. What is rectified spirit ?





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3. What is the general formula of alcohols ?

Write its functional group.



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4. Which of the following compounds contain

a carboxyl group :

CH_3OH , CH_3CHO , CH_3COOH , CH_3COCH_3

.



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5. Write the two possible compounds of molecular formula C_3H_6O .



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6. Name the chemical reagent which oxidises ethanol to ethanoic acid.



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7. Which of the following will turn blue litmus solution red ?

CH_3OH , CH_3COOH , CH_3COOCH_3 .



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8. Write the chemical equation for combustion of ethanol.



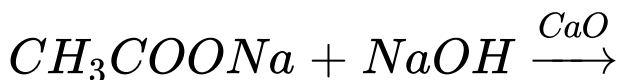
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9. How is methanol converted to methanoic acid ?



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10. Complete the reaction :



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11. State what happens when ethanoic acid reacts with sodium.



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12. Give the names of the following functional groups :

(i) $-OH$ (ii) $-COOH$.



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13. Which acid is present in vinegar.



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14. State the general formula of carboxylic acids.



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15. Write the chemical equation for the reaction which takes place during burning of

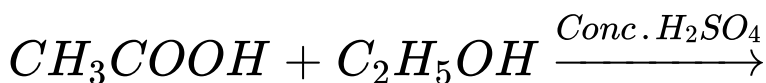
ethanol in air.



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16. Complete the following chemical equations

:



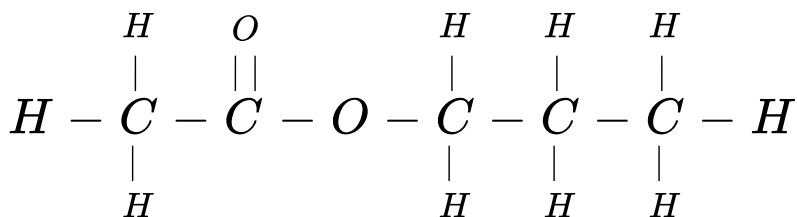
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17. Identify the functional group present in the following compound and name it according to

IUPAC system.

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18. Write the molecular formula of the acid from which the ester (whose formula is given below) has been derived :



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19. An organic compound is a constituent of beer, whisky and some cough syrup. It is produced by the fermentation of sugar. Identify the organic compound.



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20. Write the formulation for the functional groups of alcohols and carboxylic acids.



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Short Answer Type Questions

1. Give three characteristic properties of covalent compounds.



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2. What happens when ethanol is warmed with ethanoic acid in the presence of a few drops of concentrated sulphuric acid? Give the equation of the reaction and the name of the product formed.



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3. Where do compounds of carbons find applications ?



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4. (a) Define allotropy.

(b) Name three allotropic forms of carbon.



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5. Give the structure of diamond and explain one property based upon structure.

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6. Give the structure of graphite and explain its one property based upon structure.

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7. What is meant by functional group in an organic compound ? Give the structural formular of the functional groups in (i) Acetic acid (ii) Ethyl alcohol.



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8. Describe two tests to detect carboxylic acid group in an organic compound.



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9. Acetic acid reacts with ethyl alcohol in the presence of concentrated sulphuric acid producing a sweet smelling compound. For the reaction :

(i) name the main product (ii) write chemical equation.



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10. An organic compound A of molecular formula C_2H_6O on oxidation gives an acid B with the same number of carbon atoms in the

molecule as A. Compound A is often used for sterilization of skin by doctors. Name the compounds A and B. Write the chemical equation involved in the formation of B from A.

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11. What are ill effects of drinking excess of alcohol ?

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12. How will you bring about the following conversions :

(i) Ethanoic acid to ethanol

(ii) Ethanol to ethanal ?



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13. Give any four uses of ethyl alcohol in daily life.



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14. what is saponification ? Give an example.



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15. Explain the cleansing action of soap.



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16. What are the advantage of synthetic detergents over soaps ?



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17. Why excessive use of synthetic detergents is discouraged ? Give reasons.



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18. What is the common name of ethanoic acid ? How ethanoic acid is different from vinegar ? Give the use of vinegar in our daily life.



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19. Give any three uses of ethanoic acid.

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20. How ethanoic acid reacts with following ?

Give chemical equation : (a) Na_2CO_3 (b)

NaOH (c) CH_3CH_2OH in presence of acid.

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21. What is homologous series ? Explain with example.



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22. Draw all the structural isomers of pentane (C_5H_{12}).



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Long Answer Type Questions

1. Discuss the important physical and chemical properties of alcohols. Give the tests of alcohols.

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2. How ethanol reacts with the following ? Give chemical reactions.

(a) Acidified Potassium dichromate (b) Hot conc. H_2SO_4 (c) Sodium (Na).

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3. Give important properties of ethanoic acid (Acetic acid).



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4. Explain the mechanism of the cleansing action of soaps and detergents.



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5. Differentiate between soaps and synthetic detergents.



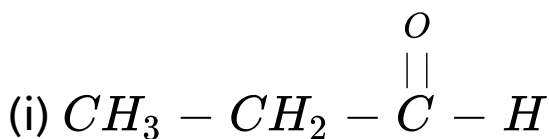
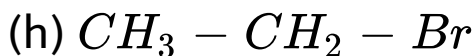
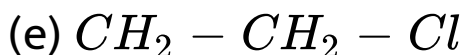
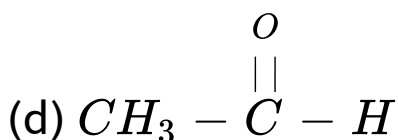
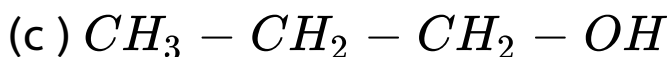
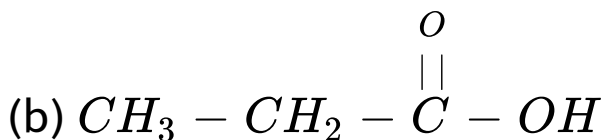
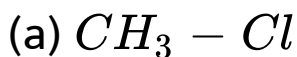
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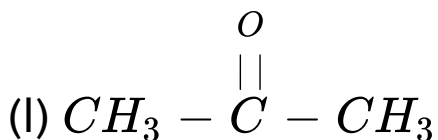
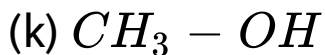
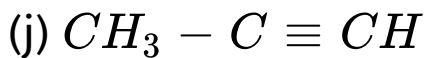
6. Explain in detail the Nomenclature of Carbon compounds.



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7. Write the name of the following compounds.





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8. Explain the following properties of carbon compounds with example :

(a) Oxidation reaction (b) Addition reaction

(c) Substitution.

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9. Explain the following processes with the help of chemical reactions :

(a) Esterification (b) Saponification (c)

Hydrogenation.



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