



CHEMISTRY

BOOKS - SWAN PUBLICATION

CARBON AND ITS COMPOUNDS

Intext Questions

1. Calculate the formula mass of potassium carbonate (K_2CO_3)



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2. Fill in the blanks- _____ and _____ are the crops that can be grown on loamy soil.



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Textbook Questions

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



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2. Work out the formula of hydrogen chloride



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3. Calculate the formula mass of Li_2O



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4. Calculate the formula mass of sodium oxide

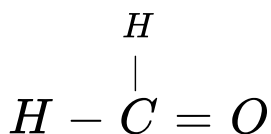
(Na_2O)

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5. Calculate the formula mass of propane (C_3H_8)

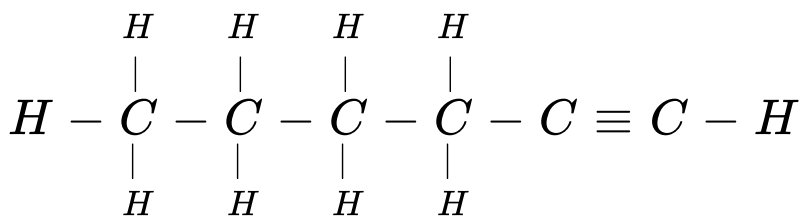
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6. How would you name the following compound ?



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7. How would you name the following compound ?



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8. The valency of carbon is 4 and that of chlorine is 1. What will be the formula of carbon tetrachloride.



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9. The valency of an element X is 1 and that of oxygen is 2. What will be the formula of the compound formed by the combination of element X with oxygen .



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10. An element E has a valency of 4. What will be the formula of its chloride.



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11. What are oxidising agents?



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



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



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Textbook Exercises

1. Ethane, with the molecular formula $C_2 H_6$ has:

A. 6 covalent bonds

B. 7 covalent bonds

C. 8 covalent bonds

D. 9 covalent bonds

Answer: B



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2. Butanone is a four- carbon compound with the functional group:

A. carboxylic acid

B. aldehyde

C. ketone

D. alcohol

Answer: C



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3. 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 not burning completely
- C. the fuel is wet
- D. the fuel is burning completely

Answer: B



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



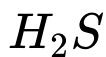
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5. Draw the electron dot structures for: ethanoic acid.



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6. Draw the electron dot structure for :



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7. Draw the electron dot structures for:

propanone



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8. Draw the electron dot structures for: F_2



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9. What is an homologous series: explain with an example.



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



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



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12. Why are carbon and its compounds used as fuels for most application?



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



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14. What change will you observe if you test soap with litmus paper?



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15. What is hydrogenation? what is its industrial application?



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16. Which of the following hydrocarbons undergo addition reaction : C_2H_6 , C_3H_8 , C_3H_6 , C_2H_2 and CH_4 .



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17. Give a test that can be used to differentiate between butter and cooking oil.



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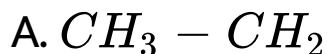
18. Explain the mechanism of the cleansing action of soaps

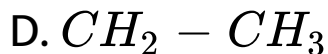
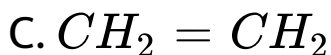
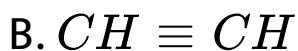


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Additional Important Questions Multiple Choice Questions

1. Structural formula of ethene is





Answer: C



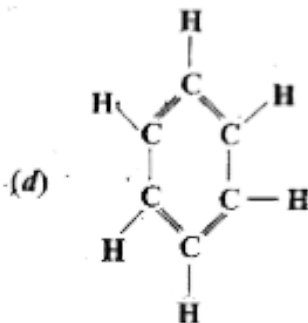
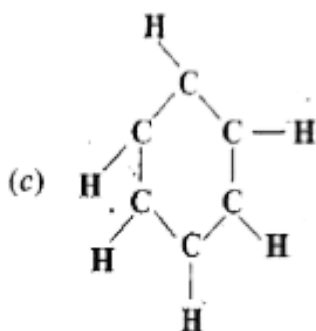
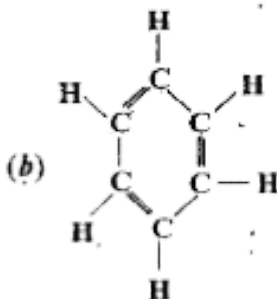
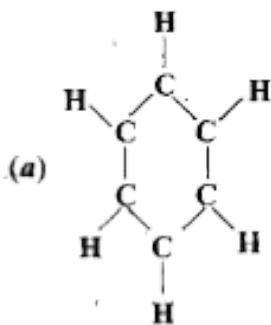
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2. The symbols of some of the ions are given below : K^+ , Al^{3+} , Br^- , O^{2-} using this information , write down the formulae of :
aluminium bromide



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3. Structural formula of benzene is



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4. The symbols of some of the ions are given below : K^+ , Al^{3+} , Br^- , O^{2-} using this information , write down the formulae of : potassium oxide



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5. _____ is the green coloured pigment present in the leaves of plants that help in photosynthesis.



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6. Fill in the blanks- exchange of gases in plants occurs through _____.



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7. Fill in the blanks- During the process of photosynthesis, _____ comes in and _____ goes out of the plants.



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8. Amarbel is an example of _____ plant.



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9. Fill in the blanks- _____ is a plant which has both autotrophic and heterotrophic mode of nutrition.



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10. Fill in the blanks- Pitcher plant is an example of _____ plant.

A. Saturated hydrocarbons

B.

C.

D.

Answer: A



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11. Fill in the blanks- The small pores through which exchange of gases occur in the leaves are called _____.



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12. _____ is an essential component of chlorophyll.

A. calcium

B. phosphorus

C. iodine

D. nitrogen

Answer: B



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13. What is the importance of phosphorus in growth of plants?



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14. _____ form protein and enzymes for the plants.



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15. Fill in the blanks- The process of keeping, feeding, breeding and medical care of useful animals is called _____



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16. Which allotrope of carbon is the good conductor of electricity ?

A. Diamond

B. Graphite

C. both (a) and (b)

D. None of the above.

Answer: B



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Additional Important Questions Very Short Answer Type Questions

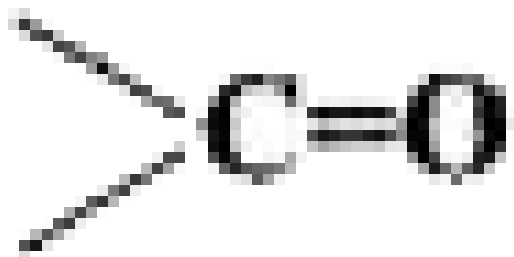
1. Give the name of the functional group:

-CHO



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2. Give the name of the functional group:





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3. Fill in the blanks- The process of removing fleece of the sheep along with thin layer of the skin is called as _____.



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4. Name the functional group present in the following organic compound:



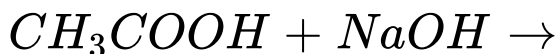
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5. Name the main product formed when ethanol is oxidised by an alkaline solution of $KMnO_4$.



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6. Complete the following Reactions.



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7. What is common name of CH_3COOH ?



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8. Give the name of the following functional group :

- OH



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9. Give the name of the following functional group :

-COOH



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10. An element X have valancy 3. work out the formulae of the oxide of element.



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11. An element E has a valency of 4. What will be the formula of its sulphide.



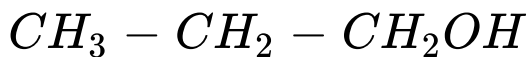
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12. A major component of gobar gas is:



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13. Write name of the following carbon compound



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14. Write name of the following carbon compound



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15. Name the second member of homologous series with general formula $C_n H_{2n+2}$.



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16. Name the fourth member of homologous series with general formula C_nH_{2n-2} .



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17. Write the name and formula of alkane and alkyne with 12 hydrogen atoms.



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18. Name the second member of homologous series with general formula $C_n H_{2n}$



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19. An element Z forms an oxide ZO_3 . What is the valency of element Z ?



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20. What are the products of combustion of ethane?



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21. An element Z have a valancy 6. What is the formula of the flouride of Z ?



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22. Work out the formula of sodium carbonate.



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Additional Important Questions Short Answer Type Questions

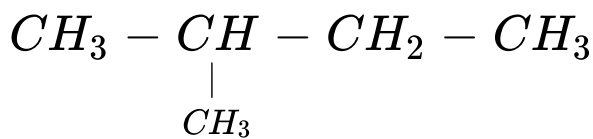
1. Work out the formula of potassium sulphate.



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2. Write the name for the following compound

:



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3. Write the name for the following compound

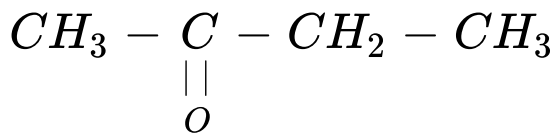
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4. Write the name for the following compound

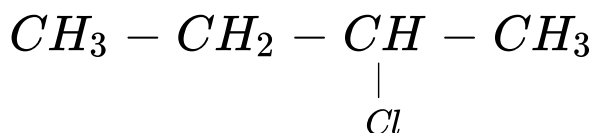
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5. Write the name for the following compound

:



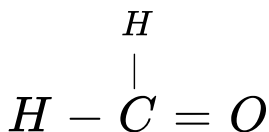
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6. How would you name the following compounds?



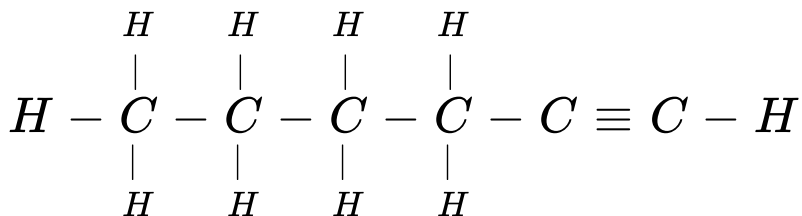
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7. How would you name the following compound ?



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8. How would you name the following compound ?



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9. Differentiate between alkanes and alkenes.

Name and draw the structure of one member of each.



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10. Give the formulae of compound formed from the following sets of elements :
magnesium and fluorine



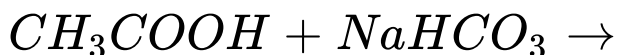
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11. The symbols of some of the ions are given below : K^+ , Al^{3+} , Br^- , O^{2-} using this information , write down the formulae of :
aluminium oxide



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12. Complete the following equation :



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13. What do we call those particles which are formed : by the loss of electrons ?



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14. An element A have a valency +1. what is the formula of sulphate of A?



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15. An element B have a valency +2. what is the formula of nitrate of B?



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16. The formula of the chloride of metal is MCl_2 . What will be the formula of its sulphate.



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17. (a) Mention the experimental conditions involved in obtaining ethene from ethanol.

(b) Write the chemical equation for the above reaction.



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18. What do we call those particles which are formed : by the gain of electrons ?



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19. What is a dehydration reaction ? Explain this reaction with the help of an example.



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20. Write six uses of ethyl alcohol.





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21. An element P has a valency of 4. what is the formula of oxide of P ?



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22. Name the particle which have 18 electrons , 18 neutrons and 17 protons in it .



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23. Name the particle which have 10 electrons ,
11 protons and 12 neutrons in it .



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24. What is meant by the term "functional group".



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25. Why have detergents replaced soap as a washing agent ?



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Additional Important Questions Long Answer Type Questions

1. Explain why carbon forms mostly covalent compounds ?



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2. If the valency of hydrogen is 1 and that of nitrogen is 3 , work out the formula of ammonia.



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3. If the valency of carbon is 4 and that of sulphur is 2 , work out the formula of of the compound formed by the combination of carbon with sulphur. what is the name of the compound?





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4. An element X of valency 3 combines with another element Y of valency of 2. what will be the formula of the compound formed.



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5. Differences between Soap and Detergent.



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6. An element B show valancy of 6. write the formula of its oxide.



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