CHEMISTRY

BOOKS - NAVNEET PUBLICATION

CARBON COMPOUNDS

Solved

1. Answer the following questions in one word

:

What are the types of compounds?

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2. Objects in everyday use such as foodstuff, fibres,paper , medicines, wood, fuels are made of various compounds . Which consituent elements are common in these compounds ?

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3. Answer the following questions in one word :

To which group in the periodic table does the element carbon belong? Write down the electronic configuration of carbon and deduce the valency of carbon.

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4. Answer the following questions in one word :

What is meant by a chemical bond?

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5. Answer the following questions in one word :

What is the number of chemical bonds that an atom of an element forms called?

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6. Answer the following questions in one word :

What are the two important types of chemical bond?

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7. Answer the following questions in one word

:

Which is the component of biogas that makes it useful as fuel.

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8. Answer the following questions in one word

:

Which product is formed by the combustion of elemental carbon?

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9. Answer the following questions in one word :

Is the biogas comustion reaction endothermic or exothermic.

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Exercise

1. The organic compound having double or triple bond in them is termed as..... .

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2. The general formula fo alkanes is _____

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3. Fill in the blanks and rewrite the complete statements :

The compounds of homologous series have the same ..... Group.

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4. Fill in the blanks and rewrite the complete statements :

A double bond is formed between carbon atoms by ..... Pairs of electrons.

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5. Fill in the blanks and rewrite the complete statements :

The compounds having different structural formulae having the same molecular formula is called.....

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6. Fill in the blanks and rewrite the complete statements :

The functional group of ether is.....

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7. Fill in the blanks and rewrite the competed statements:

.....= 1 joule/ 1 second.

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8. Fill in the blanks and rewrite the complete statements :

The bond between two atoms of nitrogen is a ..... bond.

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9. Fill in the blanks and rewrite the complete statements :

Benzene ring is made up of..... Carbon atoms.

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10. Fill in the blanks and rewrite the complete statements :

Due to.....vegetable oil is converted into vanaspati ghee.

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11. Fill in the blanks and rewrite the complete statements :

..... Control the heredity at molecular level.

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12. Fill in the blanks and rewrite the complete statements :

The regular repetition of a small unit is called .....

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13. Fill in the blanks and rewrite the complete statements :

The structural formula of polypropylene is .....

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14. Fill in the blanks and rewrite the complete statements :

The monomers of proteins are.....

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15. Fill in the blanks and rewrite the complete statements :

The monomer of cellulose is.....

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16. Fill in the blanks and rewrite the complete statements :

..... have sweet odour.

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17. Choose the correct alternative and write it along with its alloted alphabet :

The property of direct bonding between

atoms of the same element to form a chain is called.....

A. catenation

B. isomerism

C. dehydration

D. polymerization

Answer: A::C

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18. Choose the correct alternative and write it along with its alloted alphabet :

The molecular weight of two adjacent members in homologous series of an alkane differ by ..... Units.

A. 16

B. 20

C. 14

D. 12

Answer: A::D

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19. Choose the correct alternative and write it along with its alloted alphabet :

Consecutive members of a homologous series differ by ..... Group.

A. CH

B. CH_2

C. CH_3

D. CH_4

Answer: B::C

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20. Choose the correct alternative and write it along with its alloted alphabet :

..... is used to prepare carbon black.

A. Methane

B. Ethane

C. Propane

D. Butane

Answer: A

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21. Choose the correct alternative and write it along with its allotted alphabet :

..... is a metal.

A. C_nH_{2n}

B. C_nH_{2n+2}

C. C_nH_{2n-2}

D. C_nH_{n-2}

Answer: B::C

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22. Choose the correct alternative and write it along with its alloted alphabet :

The reaction of methane with chlorine in the presence of sunlight is called.....

A. pyrolysis

B. an elemination reaction

C. a substitution reaction

D. an addition reaction

Answer: A::B::C

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23. Choose the correct alternative and write it along with its alloted alphabet :

The general formula for alkynes is .....

A. C_nH_{2n}

B. C_nH_{2n+2}

C. C_nH_{2n-2}

D. C_nH_{2n-1}

Answer: B::C

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24. Choose the correct alternative and write it along with its alloted alphabet :

The reaction of ..... with ethanol is a fast reaction.

A. calcium

B. magnesium

C. sodium

D. aluminium

Answer: D

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25. Choose the correct alternative and write it along with its alloted alphabet :

Ethylene has ..... bond between two carbon atoms.

A. a single

B. a double

C. a triple

D. an ionic

Answer: A::B::D

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26. Choose the correct alternative and write it along with its alloted alphabet :

The saturated hydrocarbons are those in which carbon atom are linked by.....

A. a single bond

B. a double bond

C. a triple bond

D. an ionic bond

Answer: A::B::D

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27. Choose the correct alternative and write it along with its alloted alphabet :

C_7H_{16} is .....

A. hexane

B. octane

C. methane

D. heptane

Answer: A

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28. Choose the correct alternative and write it along with its alloted alphabet :

The possible isomers for C_5H_{12} are.....

A. 2

B. 4

C. 1

D. 3

Answer: C

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29. Choose the correct alternative and write it along with its allotted alphabet :

..... is a metal.

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30. Choose the correct alternative and write it along with its alloted alphabet :

Oxygen molecule has ..... Bond between two oxygen atoms.

A. a double

B. a single

C. a triple

D. an ionic

Answer: A::B::D

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31. Choose the correct alternative and write it along with its alloted alphabet :

Some acetic acid is treated with solid NaHCO3. The resulting solution will be.....

A. colourless

B. blue

C. green

D. yellow

Answer: C

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32. Choose the correct alternative and write it along with its alloted alphabet :

Ethanoic acid has a ..... odour.

A. rotten eggs

B. pungent

C. mild

D. vinegar-like

Answer: A

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33. Choose the correct alternative and write it along with its alloted alphabet :

Acetic acid.....

A. turns red litmus blue

B. has pangent odour

C. is red in colour

D. is odourless

Answer: A::D

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34. Choose the correct alternative and write it along with its alloted alphabet :

When acetic acid reacts with sodium metal .....gas is formed.

A. oxygen

B. hydrogen

C. chlorine

D. nitrogen

Answer: D

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35. Choose the correct alternative and write it along with its alloted alphabet :

The molecular formula of acetic acid (ethanoic acid) is.....

A. HCOOH

B. CH3COOH

C. C2H5COOH

D. C_3H_7COOH

Answer: C

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36. Choose the correct alternative and write it along with its alloted alphabet :

When sodium bicarbonate solution is added to dilute acetic acid.....

A. a gas is evolved

B. a solid settles at the bottom

C. the mixture becomes warm

D. the colour of the mixture becomes yellow

Answer: A::D

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37. Choose the correct alternative and write it along with its alloted alphabet :

2ml of ethanoic acid was taken in each of test

tubes A,B,C and 2 ml , 4 ml, 6 ml of water was added respectively to them. A clear solution is obtained in .....

A. test tube A

B. test tube B

C. test tube C

D. all the test tube

Answer: A::B::C::D

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38. When ethanoic acid reacts with ethanol, the product formed _____.

A. ethanol

B. ethanoic

C. ethyl ethanoate

D. ethyl ethanol

Answer: A

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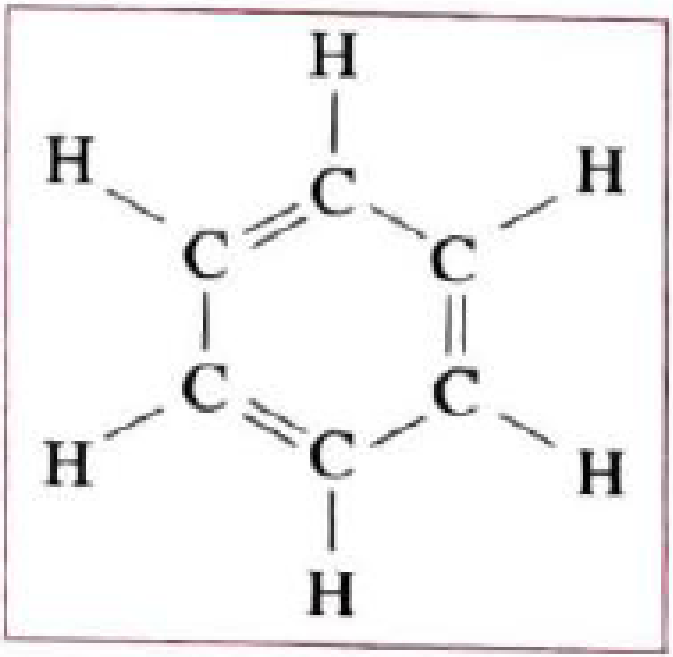
39. Choose the correct alternative and write it along with its alloted alphabet :

The following structural formula belongs to which Carbon compound?



A. camphor

B. benzene

C. starch

D. glucose

Answer: B

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40. Choose the correct alternative and write it along with its alloted alphabet :

What type of reaction is shown below?

$CH_4 + Cl_2 \longrightarrow CH_3Cl + HCl$

A. addition

B. substitution

C. decomposition

D. reduction

Answer: B

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41. Choose the correct alternative and write it along with its alloted alphabet :

The carbon compound is used in daily life is .....

A. edible oil

B. salt

C. carbon dioxide

D. baking soda

Answer: B::D

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42. Choose the correct alternative and write it along with its alloted alphabet :

The melting point of pure ethanoic acid is .....

A. 17 C

B. 19 C

C. 15C

D. 27C

Answer: A::C

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43. State whether the following statements are true or false :

Generally the melting and boiling points of carbon compounds are high.

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44. State whether the following statements are true or false :

Till now the number of known carbon compounds is about 10 million.

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45. State whether the following statements are true or false :

Unsaturated hydrocarbons are less reactive than saturated hydrocarbons.

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46. State whether the following statements are true or false :

Benzene is an aromatic compound.

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47. State whether the following statements are true or false :

The carbon -carbon double and triple bonds are also recognised as functional groups.

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48. State whether the following statements are true or false :

The general formula of alkyne is CnH2n.

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49. State whether the following statements are true or false :

Naphthalene burns with a yellow flame.

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50. State whether the following statements are true or false :

When vegetable oil and tincture iodine react , the colour of iodine does not change.

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51. State whether the following statements are true or false :

Saturated fats are healthy.

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52. State whether the following statements are true or false :

Aqueous solution of ethanol is found to be neutral .

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53. State whether the following statements are true or false :

Saturated fats are healthy.

Watch Video Solution

54. State whether the following statements are true or false :

Vinegar is a 12-15% aqueous solution of acetic acid.

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55. State whether the following statements are true or false :

The functional group of ethanoic acid is a carboxylic group.

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56. State whether the following statements are true or false :

Sodium hydroxide is used in the preparation of soap from fats and oils.

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57. State whether the following statements are true or false :

Rubber is a manmade macromolecule.

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58. State whether the following statements are true or false :

Polyvinyl chloride is used in the manufacture of P.V.C. pipes and bags.

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59. State whether the following statements are true or false :

Polythylene is a homopolymer.

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60. State whether the following statements are true or false :

The chemical bonds in carbon compounds do not produce ions.

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61. Find the odd man out:

Propane, Methane, Ethene, Pentane.

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62. Find the odd one out :

Methane, butane, benzene, sodium chloride

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63. Find the odd one out :

$CH_4, C_2H_6, C_3H_8, CaCO_3$

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64. Find the odd one out:

$C_2H_2, C_3H_8, C_2H_6, CH_4.$

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65. Find the odd one out :

$C_2H_2, C_4H_{10}, C_3H_8, CH_4$

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66. Find the odd one out :

Polythylene , Polysaccharide, polystyrene, polypropylene

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67. Find the odd one out :

$-NH_2, \ -COOH, \ -SO_4, \ -Br$

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68. Find the odd one out :

Methane, Ethane, Propene ,Propane, Butane

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69. Complete the correlation :

Alkane: C-C :: Alkyne : .....

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70. Explain the term with example : Unsaturated hydrocarbon

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71. Match the columns :

(1) Column I	Column II
(1) CH_4	(a) $CH_2 = CH_2$ (b) C_nH_{2n-2}
(2) Ethane	(c) Methane (d) C_2H_6

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72. Match the columns :

(2) Column I	Column II
(1) Aromatic hydrocarbon	(a) Propyne
	(b) Benzene
(2) Alkane	(c) Saturated hydrocarbon
	(d) C_nH_{2n}

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73. Match the columns :

(3) Column I	Column II	
(1) Cyclohexane	(a) CH_3COOH	(b) CH_3Cl
(2) Methanol	(c) CH_3OH	(d) C_6H_{12}

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74. Match the columns :

(4) Column I	Column II
(1) – OH	(a) Amine
(2) – COOH	(b) Aldehyde
	(c) Alcohol
	(d) Carboxylic acid

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75. Match the columns :

(5) Column I	Column II
(1) Ethyne	(a) C_2H_6 (b) C_2H_2
(2) Ethene	(c) C_3H_6 (d) C_2H_4

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76. Match the columns :

(6) Column I	Column II
(1) Cellulose	(a) P.V.C. pipes, bags
(2) R.N.A.	(b) Blankets
	(c) Wood
	(d) Chromosomes of plants

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77. Match the columns:

Column A	Column B
(1) C_2H_6	(a) Unsaturated hydrocarbon
(2) C_2H_2	(b) Molecular formula of an alcohol
(3) C_2H_5OH	(c) Saturated hydrocarbon
(4) C_3H_6	(d) Triple bond

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78. Match the columns :

(8) Column I	Column II *(July '19)*
(1) Ethanol	(a) Hydrogen peroxide
(2) Methane	(b) Tincture iodine
	(c) Biogas
	(d) Non-stick vessels

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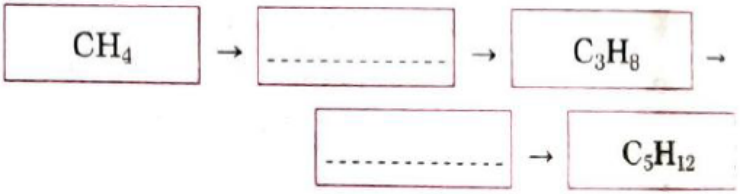
79. Complete the following flowchart and write the general formula of alkane :



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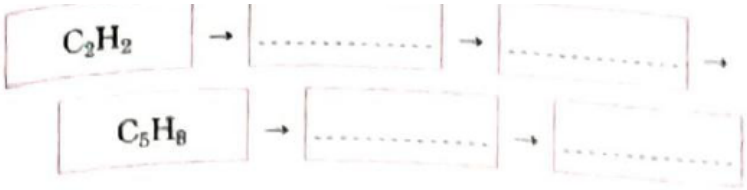

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81. Consider the relation between column I and II. Fill in column IV to match column III. :

Column I	Column II	Column III	Column IV
(1) Ethylene	Polyethylene	Tetrafluoroethylene	.....
(2) Poly-propylene	Propylene	Polystyrene	.....
(3) Poly-saccharide	Glucose	Proteins	.....
(4) Rubber	Isoprene	D.N.A.	.....
(5) Wood	Cellulose	Chromosomes of plants	.....

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82. Define the following : Alkane

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83. Define :

Alkene

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84. Define :

Alkyne

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85. Define the following : Addition reaction

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86. Define the following : Substitution reaction

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87. Define :

Esterification

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88. Define :

Saponification

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89. Define the terms

Polymerization

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90. Name the following :

The higher homologue of hexane.

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91. Name the following :

The number of double bonds in benzene .

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92. Name the following :

The Functional group in ether and halogen.

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93. Name the following :

Polymer of tetrafluoroethylene.

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94. Name the following :

The monomer of polysaccharide.

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95. Name the following :

The polymer of nucleotide.

Watch Video Solution

96. Name the following :

The monomer of rubber.

Watch Video Solution

97. Name the following :

Two oxidising compounds.

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98. Name the following :

IUPAC name of sodium acetate.

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99. Name the following :

The main component of natural gas.

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100. Name the following :

Two isomers of butane.

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101. Name the following :

A nomenclature system based on the structure of the compounds and it was accepted all over the world.

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102. Name the following :

Two carbon compounds used in day -to-day life.

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103. Identify the type of the following reaction of carbon compunds:

(1) $CH_3\text{-}CH_2\text{-}CH_2\text{-}OH \rightarrow CH_3\text{-}CH_2\text{-}COOH$

(2) $CH_3\text{-}CH_2\text{-}CH_2 + 5O_2 \rightarrow 3CO_2 + 4H_2O$

(3) $CH_3\text{-}CH = CH\text{-}CH_3 + Br_2 \rightarrow CH_3\text{-}CHBr\text{-}CHBr\text{-}CH_3$

(4) $CH_3\text{-}CH_3 + Cl_2 \rightarrow CH_3\text{-}CH_2\text{-}Cl + HCl$

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(6) $CH_3\text{-}CH_2\text{-}COOH + NaOH \rightarrow CH_3\text{-}CH_2\text{-}COONa + H_2O$

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(8) $CH_3COOC_2H_5 + NaOH \rightarrow CH_3COONa + C_2H_5OH$

(9) $CH_2 = CH_2 + Br_2 \rightarrow Br\text{-}CH_2\text{-}CH_2\text{-}Br$

(10) $2CH_3OH + 3O_2 \rightarrow 2CO_2 + 4H_2O$

(11) $CH_3CH_2OH + 2[O] \rightarrow CH_3COOH + H_2O$

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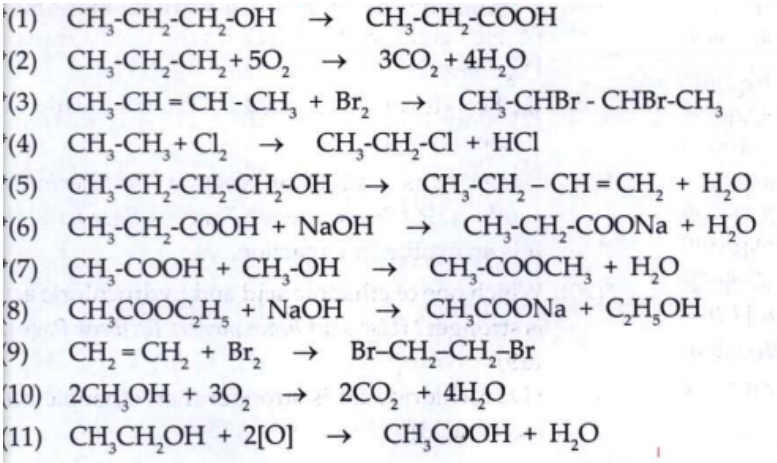
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(5) $CH_3\text{-}CH_2\text{-}CH_2\text{-}CH_2\text{-}OH \rightarrow CH_3\text{-}CH_2 - CH = CH_2 + H_2O$

(6) $CH_3\text{-}CH_2\text{-}COOH + NaOH \rightarrow CH_3\text{-}CH_2\text{-}COONa + H_2O$

(7) $CH_3\text{-}COOH + CH_3\text{-}OH \rightarrow CH_3\text{-}COOCH_3 + H_2O$

(8) $CH_3COOC_2H_5 + NaOH \rightarrow CH_3COONa + C_2H_5OH$

(9) $CH_2 = CH_2 + Br_2 \rightarrow Br\text{-}CH_2\text{-}CH_2\text{-}Br$

(10) $2CH_3OH + 3O_2 \rightarrow 2CO_2 + 4H_2O$

(11) $CH_3CH_2OH + 2[O] \rightarrow CH_3COOH + H_2O$

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109. Identify the type of the following reaction of carbon compunds:

(1) $CH_3\text{-}CH_2\text{-}CH_2\text{-}OH \rightarrow CH_3\text{-}CH_2\text{-}COOH$

(2) $CH_3\text{-}CH_2\text{-}CH_2 + 5O_2 \rightarrow 3CO_2 + 4H_2O$

(3) $CH_3\text{-}CH = CH\text{-}CH_3 + Br_2 \rightarrow CH_3\text{-}CHBr\text{-}CHBr\text{-}CH_3$

(4) $CH_3\text{-}CH_3 + Cl_2 \rightarrow CH_3\text{-}CH_2\text{-}Cl + HCl$

(5) $CH_3\text{-}CH_2\text{-}CH_2\text{-}CH_2\text{-}OH \rightarrow CH_3\text{-}CH_2 - CH = CH_2 + H_2O$

(6) $CH_3\text{-}CH_2\text{-}COOH + NaOH \rightarrow CH_3\text{-}CH_2\text{-}COONa + H_2O$

(7) $CH_3\text{-}COOH + CH_3\text{-}OH \rightarrow CH_3\text{-}COOCH_3 + H_2O$

(8) $CH_3COOC_2H_5 + NaOH \rightarrow CH_3COONa + C_2H_5OH$

(9) $CH_2 = CH_2 + Br_2 \rightarrow Br\text{–}CH_2\text{–}CH_2\text{–}Br$

(10) $2CH_3OH + 3O_2 \rightarrow 2CO_2 + 4H_2O$

(11) $CH_3CH_2OH + 2[O] \rightarrow CH_3COOH + H_2O$

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110. Answer the following questions :

What is meant by a covalent bond?

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111. Answer the following questions :

Explain the term covalent bond with example.

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112. Answer the following questions :

What is hydrogen molecule formed ?

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113. Answer the following questions :

Describe the formation of oxygen molecule (O_2)?

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114. Answer the following questions :

Describe the formation of nitrogen molecule ?

Watch Video Solution

115. Answer the following questions :

How is the methane molecule formed ?

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116. What causes the existence of very large number of carbon compunds?

Watch Video Solution

117. Answer the following questions :

What is meant by catenation power?

Watch Video Solution

118. Answer the following questions :

State the various compounds and its formulae formed by a single atom of carbon with monovalent hydrogen and chlorine.

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119. Answer the following questions :

What is hydrocarbons ?

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120. Answer the following questions :

Define hydrocarbons .Give one example.

Watch Video Solution

121. Answer the following questions :

Name the types of hydrocarbons.

Watch Video Solution

122. What are saturated hydrocarbons? Give examples.

Watch Video Solution

123. Answer the following questions :

Explain the term saturated hydrocarbons with examples.

Watch Video Solution

124. What are unsaturated hydrocarbons? Give examples.

Watch Video Solution

125. Answer the following questions :

State the general formula of alkane .

Watch Video Solution

126. Answer the following questions :

Give two examples of alkanes.

Watch Video Solution

127. Answer the following questions :

Give two examples of alkenes.

Watch Video Solution

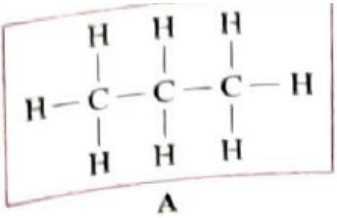
128. Answer the following questions :

Give two examples of alkynes.

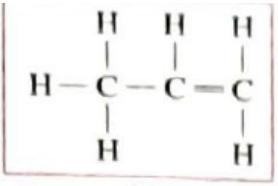
Watch Video Solution

129. Answer the following questions :

Observe the straight chain hydrocarbons given below and answer the following questions.



A



B

Which of the straight chain compounds from A and B is saturated and unsaturated straight chains ?

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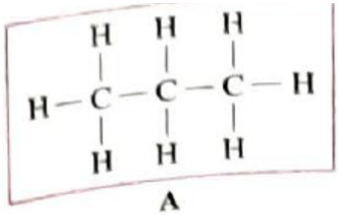
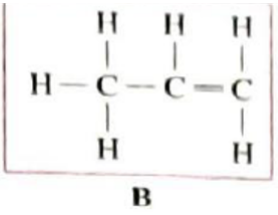
130. Answer the following questions :

Observe the straight chain hydrocarbons given below and answer the following questions.



A



B

Name these straight chains .

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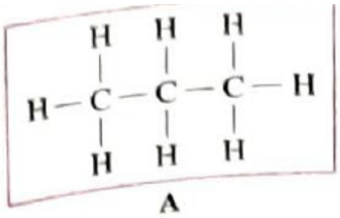
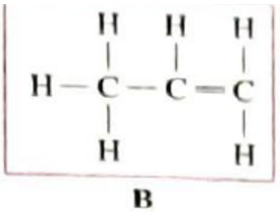
131. Answer the following questions :

Observe the straight chain hydrocarbons given below and answer the following questions.



A



B

Write their chemical formulae and number of $-CH_2$ units.

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132. Answer the following questions :

Draw electron -dot and line structure of an ethane molecule.

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133. Draw all possible structural formulae of compounds from their molecular formulae given below.

i. C_3H_8

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134. Draw all possible structural formula of compounds from their molecular formula given below: C_4H_{10}

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135. Answer the following questions :

Draw structural formulae of compounds from their molecular formula given below: C3H4

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136. Draw an electron-dot structure of the following molecules (without showing the circles).

i. Methane

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137. Answer the following questions: Draw an electron dot structure of the following molecules: Ethene

Watch Video Solution

138. Answer the following questions: Draw an electron dot structure of the following molecules: Methanol

Watch Video Solution

139. Answer the following questions: Draw an electron dot structure of the following molecules: Water

Watch Video Solution

140. Answer the following questions in one word :

Molecular formula of propane is C_3H_8. From the Molecular formula draw its structural formula.

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141. The molecular formula of ethyne is C_2H_2. From this, draw its structural formula and electron-dot structure.

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142. How mnay bonds have to be there in between the two carbon atoms in ethyne so as to satisfy their tetravalency ?

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143. Draw electron dot structure of cyclohexane.

Watch Video Solution

144. Answer the following questions :

Draw the structure and carbon skeleton for cyclohexane.

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145. Answer the following questions :

How many covalent bonds are there in a molecule of cyclohexane?

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146. Answer the following questions :

Classify into saturated and unsaturated hydrocarbons :

Methane

Ethane

Ethene

Ethyne

Propene

Propyne

Butane

Cyclohexene

Cyclopentane

Heptane.

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147. Answer the following questions :

Classify into alkanes, alkenes and alkynes:

Ethane

Ethene

Methane

Propene

Ethyne

Propyne

Butane

Pentane.

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148. Answer the following questions :

Classify into straight chain carbon compounds, branched chain carbon compounds, and ring carbon compounds:

Propene

Butane

Iso-butane

Cyclopentane

Benzene

Isobutylene.

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149. Answer the following questions :

Explain the term alkane with example.

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150. Answer the following questions :

Draw chain and ring structures of organic compound having six carbon atoms in it .

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151. Answer the following questions :

Explain the structure of Benzene.

Watch Video Solution

152. Answer the following questions :

Explain the term Structural isomerism with example.

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153. Answer the following questions :

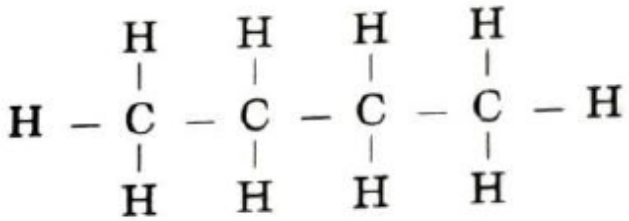
Draw the structures of isomers of Pentane C5H12 .

Watch Video Solution

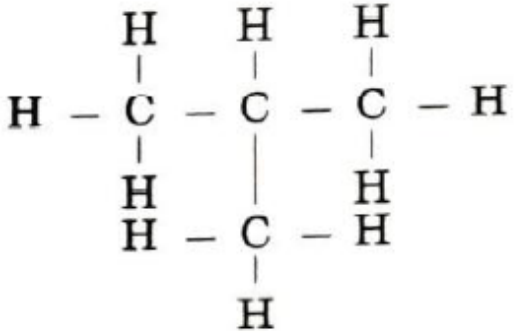
154. Answer the following questions :

Recogonize the carbon chain type for each of the following :

(1)



(2)



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155. Answer the following questions :

What is meant by functional group ? Give examples.

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156. Answer the following questions :

Explain the term functional group with example.

Watch Video Solution

157. Answer the following questions :

Which functional groups are present in aldehyde and ketone?

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158. Answer the following questions :

Which functional group is present in CH3- O-CH3 ?

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159. Answer the following questions :

Explain the term hetero atom in a carbon compound with example.

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160. Answer the following questions:

Give any four functional group containing oxygen as the heteroatom in it. Write name and structural formula and one example each.

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161. Give names of three functinal groups containing three heteroatoms, write names and structural formulae and one example each.

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162. Answer the following questions :

Define functional group and complete the following table:

Functional group	Compound	Formula
.....	Ethyl alcohol	.....
.....	Acetaldehyde	.....

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163. Answer the following questions :

What is meant by homologous series ?

Watch Video Solution

164. Answer the following questions :

Define homologous series ?

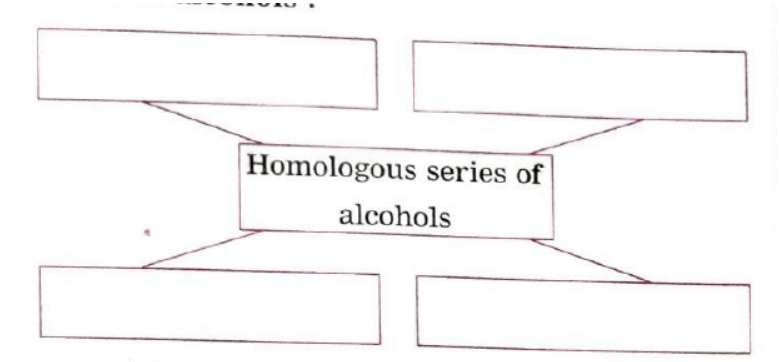
Watch Video Solution

165. State the characteristics of a homologous series.

Watch Video Solution

166. Answer the following questions :

Write names of first four homologous series of alcohols:



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167. Answer the following questions :

Write the name and molecular formula of a higher homologue of propane.

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168. Answer the following questions :

Describe the IUPAC rules of naming organic compounds.

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169. Write the IUPAC names of the following structural formula:

$CH_3 - CH_2 - CH_2 \_ CH_3$

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170. Answer the following questions :

Write the IUPAC names of the following structural formulae :

CH3-CHOH-CH3

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171. Write the IUPAC names of the following structural formula: $CH_3CH_2 - COOH$

Watch Video Solution

172. Write the IUPAC names of the following structural formula: $CH_3 - CH_2 - NH_2$

Watch Video Solution

173. Write the IUPAC names of the following structural formula: $CH_3 - CHO$

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174. Write the IUPAC name of the following structural formula : $CH_3 - CO - CH_2 - CH_3$

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175. Answer the following questions :

Write the IUPAC names of the following structural formulae :

CH3-CH2-CH=CH2

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176. Answer the following questions :

Write the IUPAC names of the following structural formulae :

CH3-C-=C-H

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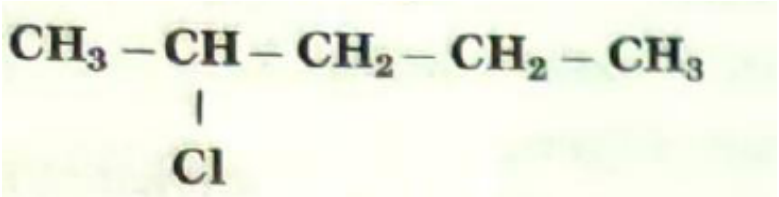
177. Answer the following questions :

Write the IUPAC names of the following structural formulae :



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178. Answer the following questions :

Write the IUPAC names of the following

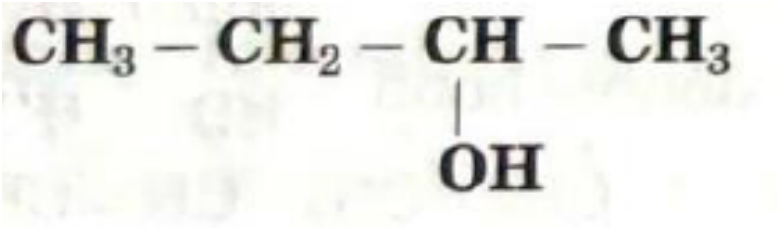
structural formulae :

CH3-CH2-CH2-Br

Watch Video Solution

179. Answer the following questions :

Write the IUPAC names of the following structural formulae :



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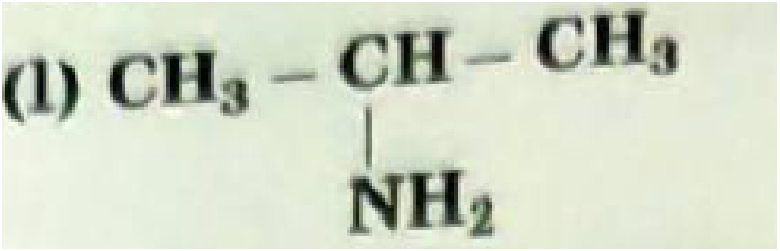
180. Answer the following questions :

Write the IUPAC names of the following structural formulae :



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181. Answer the following questions :

Write the IUPAC names of the following

structural formulae :

HCOOH

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182. Answer the following questions :

Write the IUPAC names of the following structural formulae :

CH3-CH2-CH2-CHO

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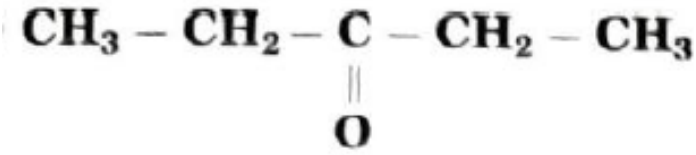
183. Answer the following questions :

Write the IUPAC names of the following structural formulae :



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184. Answer the following questions :

What happens when methane is burnt in air?

Write the balanced chemical equation for the same.

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185. The proportion of carbon atoms in ethanol (C_2H_5OH) and naphthalene $(C_{10}H_5)$

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186. Answer the following questions :

What happens when ethanol is burnt in air ?

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187. Answer the following questions :

What happens when ethanol is treated with alkaline potassium permanganate? Write the balanced chemical equation for the same.

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188. How is the transformation of ethanol into ethanoic acid an oxidation reaction?

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189. Answer the following questions :

What happens when vegetable oil is hydrogenated? Write the balanced chemical equation .

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190. Answer the following questions :

Write a note on chlorination of methane.

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191. Answer the following questions :

Describe the action of chlorine on methane.

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192. Answer the following questions :

Write a note on chlorination of methane.

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193. Answer the following questions :

What happens when ethanol is reacted with sodium ?

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194. Answer the following questions :

What happens when ethanol is heated at 170^0C with excess of con. Sulphuric acid ?

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195. Answer the following questions :

What happens when ethanoic acid is treated with sodium hydroxide ? Write the balanced equation for the same.

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196. Answer the following questions :

What happens when ethanoic acid is treated with sodium Carbonate ?

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197. Answer the following questions :

What happens when ethanoic acid is treated with sodium bicarbonate ?

Watch Video Solution

198. Answer the following questions :

What happens when ethanoic acid is treated

with ethanol ? Write the balanced equation for the same.

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199. What is a catalyst? Write any one reaction which is brought about by use of a catalyst.

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200. Answer the following questions :

What happens when ethylene gas is heated at

high pressure and high temperature in the presence of suitable catalyst?

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201. Answer the following questions :

State the physical properties of ethyl alcohol ethanol.

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202. Answer the following questions :

What is meant by denatured alcohol?

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203. Answer the following questions :

What is meant by vinegar and gasohol? What are their uses?

Watch Video Solution

204. Answer the following questions :

State the uses of ethanol.

Watch Video Solution

205. Answer the following questions :

State the properties of ethanoic acid.

Watch Video Solution

206. Answer the following questions :

What is meant by glacial acetic acid?

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207. Answer the following questions :

Give two examples of natural macromolecules.

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208. Give names of three natural polymers. Write the place of their occurrence and names of monomers from which they are formed.

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209. Answer the following questions :

Write the structure of polystyrene and give its uses.

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210. Answer the following questions :

Write the name and the structure of monomer of polyacrylonitrile.

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211. Answer the following questions :

Write the name and the structure of monomer of teflon and its uses.

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212. Answer the following questions :

What is meant by homopolymers?

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213. Explain the terms with example :

Homopolymer

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214. Answer the following questions :

What is meant by copolymers?

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215. Explain the term with example : Monomer

Watch Video Solution

216. Answer the following questions :

Explain the term with example : Reduction

Watch Video Solution

217. Answer the following questions :

Explain the term with example : Reduction

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218. Write structural formulae for the following IUPAC names: Pentan-2-one

Molecular formula-$C_5H_{10}O$

Watch Video Solution

219. Write structural formulae for the following IUPAC names: 2-Chlorobutane: Molecular formula C_4H_9CI

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220. Write structural formulae for the following IUPAC names: Propan-2-ol: Molecular formula-C_3H_7OH

Watch Video Solution

221. Write structural formulae for the following IUPAC names: Methanal Molecular formula- CH_2O

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222. Answer the following questions :

Write the structural formulae for the following IUPAC names:

Butanoic acid

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223. Write structural formulae for the following IUPAC names: 1-bromopropane: Molecular formula-C_3H_7Br

Watch Video Solution

224. Write structural formulae for the following IUPAC names: Ethanamine : Molecular formula-$C_2H_5\_NH_2$

Watch Video Solution

225. Write structural formulae for the following IUPAC names: Butanone Molecular formula- C_4H_8O

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226. Atomic number of Chlorine is 17. What is the number of electrons in the valence shell of Chlorine?

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227. Molecular formula of chlorine is CI_2. Draw an electron dot and line structure of a chlorine molecule.

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228. The molecule formula of water is H_2O Draw electron dot and line structure of this triatomic molecule (use dots for electron of oxygen atom and cross for electrons of hydrogen atom)

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229. The molecular formula of Ammonia is NH_3 Draw electron dot structure and line structure of ammonia molecule.

Watch Video Solution

230. The molecular formula of carbon-dioxide is CO_2- Draw the electron dot structure (without showing cricle) and line structure of CO_2.

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231. Answer the following questions in one word :

With which bond C atom in CO_2 is bonded to each of the O atoms?

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232. The molecular formula of sulphur is S_8 in which eight sulphur atoms are bonded to each

other to form a ring. Draw an electron-dot structure of S_8 withouth showing circles.

Watch Video Solution

233. Hydrogen peroxide decomposes on its own by the following reactin.

$$H - O - O - H \rightarrow 2H - O - H + O_2$$

From this, what will be your inference about the strength of O-O, Covalent bond.

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234. Inspect the molecular formulae of the members of Alkenes. Do you find any relationship in the number of carbon atoms and the number of hydrogen atoms in the molecular formulae.

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235. If the numbe of carbon atoms in the molecular formulae of alkenes is denoted by 'n' what will be the numbe rof hydrogen atom?

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236. What would be the general formula for the molecular formulae of the members of the homologous series of alkanes ? What would be the value of 'n' for the first member of this series ?

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237. The general molecular formula for the homologous series of alkynes is C_nH_{2n-2}.

Write down the individual molecular formulae of the value 2, 3 and 4 respectively for 'n' in this formula.

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238. Use your brain power! Can you tell :

Write down structural formulae of the first four members of the various homologous series formed by making use of the functional groups.

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239. General formula of the homologous series of alkanes is C_nH_{2n+2}. Write down the molecular formula of the 8^{th} and 12^{th} member using this.

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240. Use your brain power! Can you tell :

Draw three structural formulae having molecular formula C5H12. Give the names n-

pentane, i-pentane and neo-pentane to the above structural formulae.

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241. Draw all possible structural formulae having molecular formula C_6H_{14}. Give names to all the isomers. Which difficulties were faced by you while naming?

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242. Answer the following questions in one word :

Propane (C_3H_6) is one of the combustible component of LPG. Write down the reaction for propane (C_3H_8)

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243. Use your brain power! Can you tell :

Light a bunsen burner. Open and close air hole at the bottom of the burner by means of the

movable ring around it . When do you get yellow sooty flame? When do you get blue flame?

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244. Use your brain power! Can you tell :

The names of four fatty acids separated from vegetable oils are given in the table. Identify the number of carbon - carbon double bonds from their structure and molecular formula from the below fatty acids which one when

reacts with iodine will make the colour of iodine disappear.

Name	Molecular Formula	Number of C=C double bonds	Will it decolourise I_2?
Stearic acid	$C_{17}H_{35}COOH$	.....	yes / no
Oleic acid	$C_{17}H_{33}COOH$	One double bond	yes / ~~no~~
Plamitic acid	$C_{15}H_{31}COOH$	.....	~~yes~~ / no
Linoleic acid	$C_{17}H_{31}COOH$	Two double bonds	yes / ~~no~~

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245. In the Chlorination, substitution reaction of propane, two isomeric products containing

one chlorine atom are obtained. Draw their sturctural formula and give their IUPAC names.

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246. Explain by writing a reaction, what will happen when pieces of sodium metal are put in n-propyl alcohol.

Watch Video Solution

247. Use your brain power! Can you tell :

Explain by writing a reaction , which product will be formed on heating n-butyl alcohol with concentrated sulphuric acid.

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248. Answer the following questions in one word :

Which one of ethanoic acid and hydrochloric acid is stronger?

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249. Answer the following questions in one word :

Which indicator paper out of blue litmus paper and pH paper is useful to distinguish between ethanoic acid and hydrochloric acid?

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250. Use your brain power! Can you tell :

Explain why does the lime water turns milky in

the reaction of acetic acid with sodium carbonate.

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251. Explain the reaction that would take place when a piece of sodium metal is dropped in ethanoic acid.

Watch Video Solution

252. Two test tubes contain two colourless liquids ethanol and ethanoic acid. Explain by writing reaction which chemical test you would perform to tell which substance is present in which test tube.

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253. When fat is heated with sodium hydroxide solution, soap and glycerin are formed. Which

functional group might be present in fat and glycerin?

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254. What are the chemical names of the nutrients that we get from the food stuff, namely cereals, pulses and meat?

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255. What are the chemcial substances that make cloth, furniture, and elastic objects?

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256. Structural formulae of some monomers are given below. Write the structural formula of the homopolymer formed from them.

(b) $CH_2 = \underset{\displaystyle CN}{\overset{\displaystyle CH_3}{\overset{|}{\underset{|}{\mathrm{C}}}}}$

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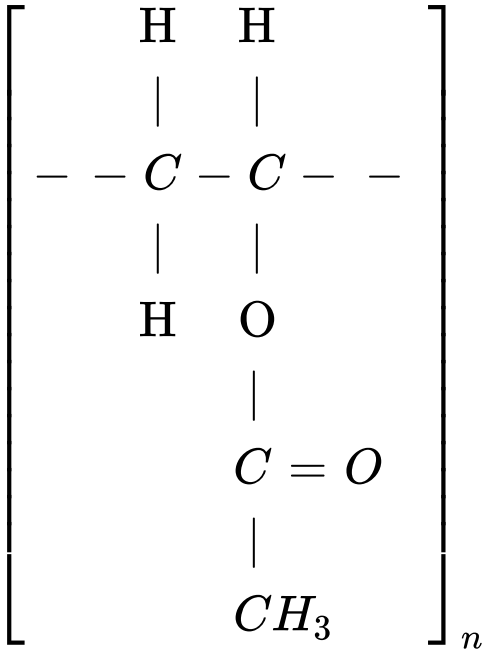
257. From the given structural formula of polyvinyl acetate, that is used in paints and glues, deduce the name and structural formula of the corresponding monomer.



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258. Write short notes :

Catenation Power.

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259. Write short notes :

Characteristics of carbon .

Watch Video Solution

260. Write short notes :

Functional group.

Watch Video Solution

261. Write short notes :

Homologous Series.

Watch Video Solution

262. Define the terms

Polymerization

Watch Video Solution

263. Give scientific reasons :

Carbon atoms are capable of forming an unlimited number of compounds.

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264. Give scientific reasons :

Ethylene is an unsaturated hydrocarbon.

Watch Video Solution

265. Give Scientific reasons: Naphthalene burns with a yellow flame.

Watch Video Solution

266. Give scientific reasons :

The colour of iodine disappears in the reaction between vegetable oil and iodine.

Watch Video Solution

267. Give scientific reasons :

The hydrogenation of vegetable oil in the presence of nickel catalyst forms vanaspati ghee.

Watch Video Solution

268. Differentiate between: Saturated and unsaturated Hydrocarbons.

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269. Match the columns:

Column A	Column B
Name of Polymer	**Constituent monomer**
(1) Polyethylene	(a) $CF_2 = CF_2$
(2) Polystyrene	(b) $CH_3 - CH = CH_2$
(3) Polyvinyl chloride (PVC)	(c) $CH_2 = CH - C \equiv N$
(4) Polyacrylo nitrile	(d) $Cl - CH = CH_2$
(5) Teflon	(e) $CH_2 = CH_2$
(6) Polypropylene	(f) $C_6H_5 - CH = CH_2$

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