

# **CHEMISTRY STUDY MATERIALS FOR CLASS 10**

## **(NCERT Based: Questions with Answers)**

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74. How much carbon is present on earth and CO<sub>2</sub> in atmosphere?

**ANSWER: 0.02%, 0.03%**

75. What is valency of carbon?

**ANSWER: 4**

76. Why does carbon form strong bonds?

**ANSWER: IT IS DUE TO SMALL SIZE.**

77. What will be the product formed when carbon is burnt in presence of air?

**ANSWER: CARBON DIOXIDE**

78. What is Allotropy?

**ANSWER: It is a property due to which an element can exist in more than one form which differ in physical properties but have similar chemical properties,  
e.g., carbon, sulphur, phosphorus, oxygen show allotropy.**

79. Name three allotropes of carbon.

**ANSWER: DIAMOND, GRAPHITE AND BUCKMINSTER FULLERENES**

80. Which is the purest allotrope of carbon?

**ANSWER: BUCKMINSTER FULLERENES.**

81. Why is graphite soft and slippery?

**ANSWER: Due to weak vander Waals' forces of attraction between hexagonal layers.**

82. Why is diamond hard?

**ANSWER: IT IS DUE TO STRONG COVALENT BONDS.**

83. Why is diamond lustrous?

**ANSWER: IT IS DUE TO HIGH REFRACTIVE INDEX.**

84. Carbon has four electrons in its valence shell. How does carbon attain stable electronic configuration.

**ANSWER: BY SHARING FOUR ELECTRONS WITH OTHER ATOMS.**

85. Why is carbon tetravalent?

**ANSWER: IT IS BECAUSE CARBON CAN SHARE FOUR ELECTRONS TO COMPLETE ITS OCTET.**

86. Which gas is present in LPG?

**ANSWER: BUTANE AND ISOBUTANE**

87. Which element exhibits the property of catenation to maximum extent and why?

**ANSWER: CARBON SHOWS CATENATION TO MAXIMUM EXTENT BECAUSE IT FORMS STRONG COVALENT BONDS.**

88. Which gas is present in biogas and CNG?

**ANSWER: METHANE**

89. Give name of one cyclic hydrocarbon.

**ANSWER: CYCLOHEXANE**

90. What are organic Compounds?

**ANSWER: Those compounds which consist of carbon essentially and hydrogen mostly along with other elements like oxygen, sulphur, nitrogen, halogens, etc., are called organic compounds.**

91. What is Vital Force Theory?

**ANSWER: It was proposed that 'vital force' is necessary for formation of these organic compounds. They can only be obtained from living organisms.**

92. Name the first organic compound prepared in Laboratory.

**ANSWER:** In 1828, Wohlar prepared first organic compound urea by heating ammonium cyanate by isomerisation reaction.



93. Why carbon considered being the most important element?

**ANSWER:** Carbon is considered to be the most important element because it forms largest number of compounds which are useful in our daily life.

94. Name the following compounds: (a)  $\text{CH}_3\text{CH}_2\text{OH}$  (b)  $\text{CH}_3\text{CHO}$

**ANSWER:** (A) ETHANOL (B) ETHANAL

95. Write the general formula of hydrocarbon alkene. Write the name of simplest alkene.

**ANSWER:**  $\text{C}_n\text{H}_{2n}$ , ETHENE

### FILL IN THE BLANKS

- ..... is a versatile element that forms the basis for all living organisms and many of the things we use.
- Covalent bonds are formed by the ..... of electrons between two atoms so that both can achieve a completely filled outermost shell.
- The unsaturated hydrocarbons which contain one or more double bonds are called .....
- The general formula of alkynes is .....
- A group of organic compounds having similar structures and similar chemical properties in which the successive compounds differ by  $\text{CH}_2$  group is called a .....
- ..... are sweet-smelling substances which are used in making perfumes.

**ANSWERS:-** 1. Carbon    2. Sharing    3. Alkenes    4.  $\text{C}_n\text{H}_{2n-2}$   
5. homologous series    6. Esters

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