

CBSE TEST PAPER-03

SCIENCE & TECHNOLOGY (Class-10)

Chapter 4. Carbon and its compounds

1. Draw the electron dot structure of O_2 and N_2 molecules. (1 mark)
2. A test – tube contains a brown coloured liquid in it. The colour of the liquid remains unchanged when methane is passed through it but disappears when ethane is passed. Suggest the name of the compound giving brown colour to the liquid. (1 mark)
3. Draw the structure of chloro butane. (1 mark)
4. What happens when ethanol is oxidised with alkaline potassium permanganate (or acidified potassium dichromate)? Write the equation of the reaction involved. (1 mark)
5. What would be the electron dot structure of carbon dioxide which has the formula CO_2 ? (1 mark)
6. An organic compound 'A' is a constituent of antifreeze. The compound on heating with oxygen forms another compound 'B' which has a molecular formula $C_2H_4O_2$. Identify the compound 'A' and 'B'. Write the chemical equation of the reaction to form the compound 'B'. (2 marks)
7. Give two tests to demonstrate that acetic acid (CH_3COOH) is acidic in nature. (2 marks)
8. What is detergent? Explain giving reasons: Detergents made up of molecules, in which branching is minimum, are prepared these days. (2 marks)
9. What type of compounds show additional reactions? Explain with an example. (2 marks)
10. Write the balanced equations for the combustion of methane and ethanol. (2 marks)
11. Draw the structural formulae of all the possible isomers of pentane. (3 marks)
12. Explain the cleaning action of soaps. (3 marks)
13. (i) Describe with chemical equation how Ethanoic acid may be obtained from (3 marks)
 - (a) ethanol and
 - (b) methanol.

(ii) Write chemical equation for the decarboxylation reaction of Ethanoic acid.
14. (i) Why is ethanol used as a fuel? (5 marks)
 - (ii) Why is the conversion of ethanol into Ethanoic acid an oxidation reaction?
 - (iii) Why, methanol is much more dangerous to drink than ethanol?
 - (iv) Why ethane decolourises bromine water whereas ethane does not?
 - (v) Why does the element carbon form a large number of organic compounds?