

## CBSE TEST PAPER

### CHAPTER 4 CARBON AND ITS COMPOUNDS

1. If the pH of water is two, out of soap and detergent which one will you use for cleaning clothes? (1)
2. An organic compound X with a molecular formula  $C_2H_6O$  undergoes oxidation with in presence of Alkaline  $KMnO_4$  to form a compound Y. X on heating in presence of conc.  $H_2SO_4$  at 443k gives Z which on reaction with  $H_2O$  in presence of  $H_2SO_4$  gives back 'X' 'Z' reacts with  $Br_2$  (aq) and decolorizes it. Identify X, Y & Z and write the reactions involved. (3)
3. An organic compound 'A' is widely used as a preservative in pickles and has a molecular formula  $C_2H_2O_2$ . This compound reacts with ethanol to form a sweet smelling compound B.
  - (i) Identify the compound A.
  - (ii) Write the chemical equation for its reaction with ethanol to form compound 'B'
  - (iii) How can we get compound 'A' back from B?
  - (iv) Name the process and write corresponding chemical equation (3)
4. Hydrocarbons X and Y have melting points  $-190^{\circ}C$  &  $-90^{\circ}C$  respectively. Which one of these has minimum carbon in the molecule & why? (2)
5. Three bottles without labels contain alcohol, ethanoic acid and soap solution separately how will you test which bottle contains what. (3)
6. A compound X has molecular formula  $C_4H_{10}$ . It undergoes substitution reaction more readily than addition reaction. It burns with blue flame and is present in LPG. Identify 'X' and give the balanced equation for its combustion and substitution reaction with  $Cl_2$  in the presence of sunlight. (3)
7. A compound 'A' works well with hard water. It is used for making shampoos and products for cleaning clothes. A is not 100% biodegradable and causes water pollution. 'B' does not work well with hard water. It is 100% biodegradable and does not create water pollution. Identify A & B. (1)
8. Can we use sodium metal for drying alcohol, why? (2)
9. Complete and balance following equation:-
  - a)  $CH_2=CH_2 + H_2 \xrightarrow{heat, Ni}$
  - b)  $CH_4 + O_2 \rightarrow$
10. Two alkanes A and B have 4 and 6 carbon atoms respectively in their molecule. In which physical state will they occur at room temp?
  - i) Give a test that can be used to differentiate chemically between butter and cooking oil.
  - ii) How will you distinguish between ethanol and ethanoic acid by a suitable chemical test? Write chemical reactions involved.
- ii) Complete the following reactions :-
  - a)  $CH_3COOH + NaHCO_3 \xrightarrow{conc. H_2SO_4}$
  - b)  $HCOOH + CH_3OH \rightarrow$
  - c)  $CH_3COOC_2H_5 + H_2O \rightarrow$

4) Name the compound  $\text{CH}_3\text{COOC}_2\text{H}_5$ . Name the acid and alcohol from which it is made. Write equation.

## MCQ MULTIPLE TYPE QUESTIONS

Q1. Which of the following is not a saturated hydrocarbon?

- i) cyclohexane.                      ii) benzene.                      iii) butane                      iv) isobutene

Q2. The bond between two identical non-metallic atoms has a pair of electrons?

- i) unequally shared between two atoms.                      ii) transferred completely from one atom to another.  
iii) with identical spins                      iv) equally shared between them.

Q3. Covalent compounds are generally

- i) soluble in water                      ii) insoluble in water                      iii) ionize in water                      iv) hydrolyse in water

Q4. Propane with the molecular formula  $\text{C}_3\text{H}_8$  has

- i) 7 covalent bonds                      ii) 8 covalent bonds                      iii) 9 covalent bonds                      iv) alcohol

Q5. A hydrocarbon reacts with ammoniacal cuprous chloride solution to form a red precipitate. The hydrocarbon is

- i) ethane                      ii) ethene                      iii) 2-pentyne                      iv) 1-propyne

Q6. Which of the following substances is added to denature ethanol?

- i) methanol                      ii) pyridine                      iii) copper sulphate                      iv) all of them

Q7. Which of the following is not an allotropic form of carbon?

- i) fluorine                      ii) fullerene                      iii) diamond                      iv) graphite

Q8. Detergents are sodium or potassium salts of long chain of :-

- i) aldehydes                      ii) ketones                      iii) carboxylic acid                      iv) sulphonic acid

Q9. Which of the following represents the correct increasing order of unsaturated carbon?

- i) alkanes, alkenes, alkynes                      ii) alkanes, alkynes, alkenes  
iii) alkenes, alkynes, alkanes                      iv) alkynes, alkanes, alkenes

Q10. In a double covalent bond there is sharing of

- i) 2 electrons                      ii) 4 electrons                      iii) 6 electrons                      iv) 3 electrons