

**Q.1 Why is carbon tetravalent?**

Ans 1: Carbon atom has 4 electrons in the outermost shell. It needs 4 more electrons to complete its octet. Therefore, carbon is tetravalent.

**Q.2 The formula of a hydrocarbon is  $C_n H_{2n}$ . Name the family to which it belongs and also predict its nature.**

Ans 2: The hydrocarbon belongs to alkenes. It is unsaturated in nature.

**Q.3 What is the valency of carbon in  $CH_3-CH_3$ ,  $CH_2=CH_2$  and  $HC=CH$  ?**

Ans 3: The valency of carbon in all its compounds whether saturated or unsaturated is 4.

**Q.4 Out of butter and ground nut oil, which is unsaturated in nature?**

Ans 4: Groundnut oil is unsaturated in nature.

**Q.5 Why is high temperature not favourable for alcoholic fermentation?**

Ans 5: The high temperature destroys the enzymes which are needed to carry fermentation.

**Q.6 Name a cyclic unsaturated hydrocarbon, containing three double bonds?**

Ans 6: Benzene

**Q.7 What is the difference in the molecular mass of any two adjacent homologues?**

Ans 7 : 14 mass units.

**Q.8 Which has triple bond ;  $C_2H_4$ ,  $C_3H_6$  and  $C_3H_4$  ?**

Ans 8:  $C_3H_4$  has triple bond in the formula.

**Q.9 Which substance is added to denature ethyl alcohol?**

Ans 9: A small amount of methyl alcohol, pyridine or copper sulphate is added to denature ethyl alcohol.

**Q.10 Which ions are responsible for making water hard ?**

Ans 10:  $\text{Ca}^{2+}$  and  $\text{Mg}^{2+}$  ions are responsible for making water hard.

**Q.11 Name the catalyst commonly used in hydrogenation of oil to form fats?**

Ans 11: Nickel.

**Q.12 Write the name and molecular formula of alcohol derived from butane ?**

Ans 12:  $\text{C}_4\text{H}_9\text{OH}$  Butanol

**Q.13 Which gas is evolved when sodium carbonate or bicarbonate is added to ethanoic acid ?**

Ans 13 :  $\text{CO}_2$  (carbon dioxide).

**Q.14 What is SCUM ?**

Ans 14: Scum is precipitate of Calcium and Magnesium salt of organic fatty acids.

**Q.15 What are hydrophobic and hydrophilic parts in soaps?**

Ans 15: The alkyl group (R) consisting of long chain of carbon atom is hydrophobic part while  $\text{COONa}$  group is hydrophilic in nature