ಎಸ್ಎಸ್ಎಲ್ಸಿ-ಇಂಗ್ಲ್ರಿಷ್ ಮಾಧ್ಯಮ

SCIENCE

Carbon and its Compounds

VERY SHORT ANSWER TYPE QUESTIONS

21. What is meant by a saturated hydrocarbon?

Ans: Those hydrocarbons in which valency of carbon is satisfied by single bonds only are called saturated hydrocarbons.

22. Name the compound formed when ethanol is warmed with ethanoic acid in the presence of a few drop of conc. H_2SO_4 .

Ans: Ethyl ethanoate is formed.

$$\begin{array}{c} \text{CH}_3\text{COOH} + \text{C}_2\text{H}_5\text{OH} \xrightarrow{\quad \text{conc. H}_2\text{SO}_4 \quad} \text{CH}_3\text{COOC}_2\text{H}_5 \\ \text{Ethanoic acid} & \text{Ethanol} \\ \\ \text{Ethanoic Approximate Physics} \\ \text{Ethanoic App$$

23. Draw structure of CH₃COOH molecule.

Ans:

24. Draw the structure of ethanol molecule.

Ans:

25. What is a homologous series?

Ans: The series of organic compounds having same functional group, similar chemical properties is called homologous series. Each member of this series differs from successive member by -CH₂-group and by 14 u in its molecular weight.

26. What happens when a small piece of sodium is dropped into ethanol?

Ans: Hydrogen gas will be evolved.

$$2C_2H_5OH(l) + 2Na(s) \rightarrow 2C_2H_5ONa(l) + H_2(g)$$

27. What is the difference in the molecular formula of any two consecutive members of a homologous series of organic compounds?

Ans: -CH₂- is the difference in the molecular formula of any two consecutive members of a homologous series of organic compounds.

28. Give the names of the following functional groups:

Ans: (i) Alcohol group (ii) Carboxylic acid group.

29. Name the product other than water formed on burning of ethanol in air.

Ans: Carbon dioxide

 $C_2H_5OH(l) + 3O_2(g) \rightarrow 2CO_2(g) + 3H_2O(l) + Heat + Light$

30. Name the functional group present in

propanone (acetone).

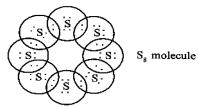
Ans:

31. What would be the electron dot structure of carbon dioxide which has formula CO_2 ?

Ans:

32. What would be the electron dot structure of a molecule of sulphur which is made up of eight atoms of sulphur?

Ans:



33. Why is the conversion of ethanol to ethanoic acid an oxidation reaction?

Ans: It involves addition of oxygen and removal of hydrogen therefore, it is an oxidation process

$$\begin{array}{c} \text{CH}_{3}\text{CH}_{2}\text{OH} + 2\text{[O]} & \xrightarrow{\text{KMnO}_{4}} \\ \\ \text{Ethanol} & \text{CH}_{3}\text{COOH} + \text{H}_{2}\text{O} \\ \\ \text{Ethanolic acid} & \end{array}$$

34. A mixture of oxygen and ethyne is burnt for welding. Why do you think a mixture of ethyne and air is not used?

Ans: It is because air contains nitrogen as well as oxygen and nitrogen is a non-supporter of combustion.

35. Would you be able to check if water is hard by using a detergent?

Ans: No, we cannot determine, whether the water is hard or not by using a detergent because it will form equal lather with both hard and soft water.

36. What change will you observe if you test soap with litmus paper (red and blue)?

Ans: Soap solution will turn red litmus to blue but it will not affect blue litmus.

37. Which of the following compounds contains carboxyl group?

(a) CH₃CH₂OH

(b) CH₃COOCH₃

(c) CH₃COOH

(d) CH₃COCH₃

Ans: (c) CH₃COOH has carboxyl group.

38. Ethane, with the molecular formula C_2H_6 has

- (a) 6 covalent bonds
- (b) 7 covalent bonds
- (c) 8 covalent bonds
- (d) 9 covalent bonds

(Contd.....)