Carbon and its Compounds

1. Name the simplest hydrocarbon. (AS1)

2. What are the general molecular formulae of alkanes, alkenes and alkynes. (AS1)

3. Name the carboxylic acid used as a preservative. (AS1)

4. Name the product other than water formed on burning of ethanol in air. (AS1)

5. A mixture of oxygen and ethyne is burnt for welding; can you tell why a mixture of ethyne? and air is not used? (AS1)

6. Name the simplest ketone and write its molecular formula. (AS1)

7. What do we call the self linking property of carbon? (AS1)

8. Name the compound formed by heating ethanol at 443 K with excess of conc. H_2SO_4. (AS1)

9. Give an example for esterification reaction. (AS1)

10. Name the product obtained when ethanol is oxidized by either chromic anhydride or alkaline potassium permanganate. (AS1)

11. Write the chemical equation representing the reaction of preparation of ethanol from ethene.(AS1)

12. What are homologous series of carbon compounds? Mention any two characteristics of homologous series. (AS1)

13. Give the names of functional groups (i) -- CHO (ii) -- C = O. (AS1)

14. Why does carbon form compounds mainly by covalent bonding? (AS1)

15. Explain how sodium ethoxide is obtained from ethanol? Give chemical equations. (AS1)

16. Explain the cleansing action of soap. (AS1)

17. Distinguish between esterification and saponification reactions of organic compounds. (AS1)

18. Explain the structure of graphite in term of bonding and give one property based on this structure. (AS1)

19. Name the acid present in vinegar. (AS1)

20. What happens when a small piece of sodium is dropped into ethanol? (AS2)

21. Draw the electronic dot structure of ethane molecule (C_2H_6). (AS5)

22. How do you appreciate the role of esters in everyday life. (AS6

1. Give the IUPAC name of the following compounds. If more than one compound is possible name atleast two of them. (AS1)
i. An aldehyde derived from ethane.
ii. A ketone derived from butane.
iii. A chloride derived from propane.
iv. An alcohol derived from pentane.

2. Explain with the help of a chemical equation, how an addition reaction is used in vegetable ghee industry. (AS1)

3. a) What are the various possible structural formulae of a compound having molecular formulaC3H6O? (AS1)
b) Give the IUPAC names of the above compounds write their structures. (AS1)
c) What is the similarity in these compounds? (AS1)

4. Write the IUPAC name of the next higher homologue of CH2OHCH2CH3. (AS1)

5. Allotropy is a property shown by which class of substances : elements, compounds or mixtures? Explain allotropy with suitable examples. (AS1)

6. Two carbon compounds A and B have molecular formulae C3H8 and C3H6 respectively. Which one of the two is most likely to undergo addition reactions? Justify your answer. (AS2)

7. How do you condemn the use of alcohol as a social practice. (AS7)

8. An organic compound with molecular formula C2H4O2 produces brisk effervescence on addition of sodium carbonate / bicarbonate. Answer the following:
a.) Identify the organic compound. (AS1)
b.) Write the chemical equation for the above reaction. (AS1)
c.) Name the gas evolved. (AS2)
d.) How will you test the gas evolved? (AS3)
e.) List two important uses of the above compound. (AS1)

9. 1ml of glacial acetic acid and 1ml of ethanol are mixed together in a test tube. Few drops of concentrated sulphuric acid is added to the mixture and warmed in a water bath for 5 min. Answer the following:

a. Name the resultant compound formed. (AS2)
b. Represent the above change by a chemical equation. (AS1)
c. What name is given to such a reactions? (AS1)
d. What are the special characteristics of the compound formed? (AS1)

1. Which of the following solution of acetic acid in water can be used as preservative? [ ]
a) 5-10% b) 10-15%
c) 15-20% d) 100%

2. The suffix used for naming an aldehyde is [ ]
a) -ol b) -al c) -one d) -ene

3. Acetic acid, when dissolved in water, it dissociates into ions reversibly because it is a:[ ]
a) Weak acid b) strong acid
c) weak base d) strong base

4. Which one of the following hydrocarbons can show isomerism? [ ]
a) C2H4 b) C2H6 c) C3H8 d. C4H10

5. Combustion of hydrocarbon is generally accompanied by the evolution of
a) Heat b) Light
c) both heat and light d) Electric current.

6. 2ml of ethanoic acid was taken in each of the three test tubes A, B and C and 2ml, 4ml and 8ml of water was added to them, respectively. A clear solution is obtained in: [ ]
a) Test tube A only b) Test tubes A & B only.
c) Test tubes B and C only d) All the test tubes.

7. If 2 ml of acetic acid was added slowly in drops to 5ml of water then we will notice[ ]
a) The acid forms a separate layer on the top of water.
b) Water forms a separate layer on the top of the acid.
c) Formation of a clear and homogenous solution.
d) Formation of a pink and clear solution.

8. A few drops of ethanoic acid were added to solid sodium carbonate. The possible results of the reactions are: [ ]
a) A hissing sound was evolved b) Brown fumes evolved.
c) Brisk effervescence occurred. d) A pungent smelling gas evolved.

9. When acetic acid reacts with ethyl alcohol, we add conc. H_2SO_4, which acts as……and the process is called…….. [ ]
a) Oxidizing agent, saponification b) Dehydrating agent, esterification
c) Reducing agent, Esterification d) Acid & esterification