

Guess Paper – 2014
Class – X
Subject – Chemistry

CARBON & ITS COMPOUND

TIME- 3 hrs

F.M- 90

Q1 to 3= 1mark each Q4 to 7 = 2 marks each Q 8 to 19 = 3 marks each Q20 to 24 = 5 marks each Q 25 to 42 = 1mark each

SECTION-A

Q1: Which is the common name for ethyne?

Q2: What is the term used for the compounds which have same molecular formula but different structures?

Q3. What is next homologue of C_3H_7OH is called?

Q4. What is meant by the term functional group?

Q5. Give the names of the following functional groups:

i) $-OH$ (ii) $-COOH$

Q6. What would be the electron dot structure of carbon dioxide which has the formula CO_2 ?

Q7. A neutral organic compound A of molecular formula C_2H_6O on heating with excess of conc.

H_2SO_4 gives compound B of molecular formula C_2H_4 . Compound B on reduction gives compound C of molecular formula C_2H_6

(a) Name A, B, and C. (b) Write chemical equation for the conversion of A to B.

Q8. Why a candle flame burns yellow, while a highly-oxygenated gas-fuel flame burns blue?

Q9. Why is the reaction between methane and chlorine considered a substitution reaction?

Q10. How many structural isomers can you draw for pentane?

Q11. What are Hydrocarbons? Give examples. What are saturated hydrocarbons?

Q12 "Saturated hydrocarbons burn with a blue flame while unsaturated hydrocarbons burn with a sooty flame". Why?

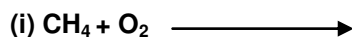
Q13 Differences between Organic Compounds and Inorganic Compounds

Q14. People use a variety of methods to wash clothes. Usually after adding the soap, they 'beat' the clothes on a stone, or beat it with a paddle, scrub with a brush or the mixture is agitated in a washing machine. Why is agitation necessary to get clean clothes?

Q15.(a) What is vinegar? (b) Describe with a chemical eqn, what happens when sodium hydrogen carbonate reacts with ethanoic acid.

Q.16. What are the ill-effects of drinking excess of alcohol?

.Q.17. Complete the following equations:



acid



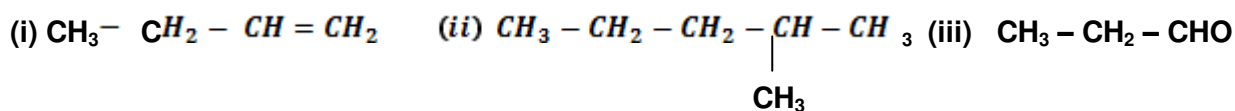
Conc. H_2SO_4



443K

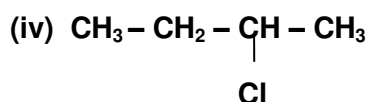
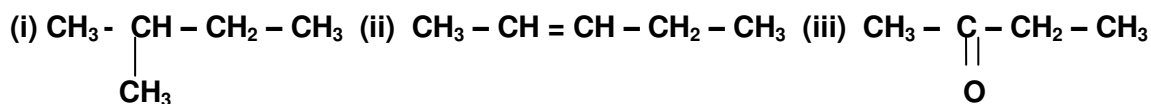
Q18. How is it that we can use detergents for washing clothes even when the water is hard, but not soaps? What change has been made in the composition of detergents to make them biodegradable?

Q19. How would you name the following compounds?



Q20. (a) Why does carbon form compound mainly by covalent bonding? (b) List any two reasons for carbon forming a very large number of compounds. (c) An organic acid 'X' is a liquid which often freezes during winter time in cold countries, has the molecular formula, $\text{C}_2\text{H}_4\text{O}_2$. On warming it with ethanol in the presence of few drops of concentrated sulphuric acid, a compound 'Y' with a sweet smell is formed.

Q21. Write the name for the following compounds:



Q22. Ethanol is commonly called alcohol and is the active ingredient of all alcoholic drinks. In addition, because it is a good solvent, it is also used in medicines such as tincture iodine, cough syrups, and many tonics. Ethanol is also soluble in water in all proportions. Consumption of small quantities of dilute ethanol causes drunkenness. Even though this practice is condemned, it is a socially widespread practice. However, intake of even a small quantity of pure ethanol (called absolute alcohol) can be lethal. Also, long term consumption of alcohol leads to many health problems.

(a) What is the commercial use of ethanol? (b) Is alcohol good for health? If, not, give reasons for it? What harm does it cause to social values? (c) What values do you observe this context ?

Q23 What is soap? Why does micelle formation take place when soap is added to water? Will a micelle be formed in other solvents such as ethanol also?

Q24. An organic compound 'X' is widely used as a preservative in pickles and has a molecular formula $\text{C}_2\text{H}_2\text{O}_2$. This compound reacts with ethanol to form a sweet smelling compound 'Y'.

- Identify the compound 'X'
- Write the chemical equation for its reaction with ethanol to form compound 'Y'.
- How can we get compound 'X' back from 'Y'?
- Name the process and write corresponding chemical equation.
- Which gas is produced when compound 'X' reacts with washing soda? Write the chemical equation.

SECTION-B

Q25: Which one of the following is an unsaturated hydrocarbon?

- (a) Acetylene (b) Butane (c) Propane (d) Decane

Q26: Which of the following represents alkynes?

- (a) -C-C- (b) -C=C- (c) -C≡C- (d) none of these

Q27: Complete combustion of a hydrocarbon gives

- (a) CO + H₂O (b) CO₂ + H₂O (c) CO + H₂ (d) CO₂ + H₂

Q28: Buckminsterfullerene is an example of _____ of carbon

- (a) an isomer (b) an isotope (c) an allotrope (d) a functional group

Q29: Butanone is a four-carbon compound with the functional group

- (a) carboxylic acid. (b) aldehyde. (c) ketone. (d) alcohol.

Q30: Major constituent of LPG is _____.

- (a) ethane (b) butane (c) propane (d) pentane

Q31: The gas used in welding and cutting metals is

- (a) ethyne (b) ethane (c) ethene (d) propene

Q32. A carboxylic group is present in

- (a) ethylene (b) formic acid (c) formaldehyde (d) ethanol

Q33. Which of the following will react with sodium metal?

- (a) acetic acid (b) formic acid (c) ethyl alcohol (d) acetylene

Q34. Which of the following will give a pleasant smell of ester when heated with ethyl alcohol and a small quantity of sulphuric acid?

- (a) CH₃COOH (b) CH₃CH₂OH (c) CH₃OH (d) CH₃CHO

Q35. The hydrophilic end of a synthetic detergent is

- (a) CH₃-(CH₂)₁₀-CH₂- (b) -CO⁻ Na⁺ (c) -SO₃⁻ Na⁺ (d) -COO⁻ Na⁺

Q36. Formalin is an aqueous solution of

- (a) formaldehyde (b) formic acid (c) acetic acid (d) citric acid

Q37. IUPAC name of acetone is

- (a) propanal (b) propanol (c) propanone (d) propanoic acid

Q38. When acetic acid is treated with NaHCO₃, the gas evolved is

- (a) H₂ (b) CO₂ (c) CH₄ (d) CO

Q39. Ethanol on complete oxidation gives

- (a) CO₂ and water (b) acetaldehyde (c) acetic acid (d) acetone.

.Q40. Ethanoic acid was added to sodium bicarbonate solution and the gas evolved was tested with burning splinter. Which one of the following four observations is correct?

- (a) the gas burns with pop sound and the flame gets extinguished (b) the flame gets extinguished and gas does not burn. (c) the gas burns with a blue flame and the splinter burns brightly. (d) the gas is brown in colour

Q41. Which acid amongst following can be used for the preparation of soap?

- (a) stearic acid (b) citric acid (c) oxalic acid (d) formic acid.

Q42. Hardness of water is caused by the presence of salts of:

- (a) sodium and potassium (b) calcium and magnesium (c) sodium and lithium (d) potassium and calcium

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get coached

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