INDIAN SCHOOL NIZWA - WORKSHEET

CHEMISTRY

CH:13 HYDROCARBONS

Name: _____ Date:_____ Class: XI Sec: ___

ANSWER THE FOLLOWING

1. Explain the following reactions with equations

   i)Cracking

   ii)Wurtz reaction

   iii)Kolbe's electrolytical method.

   iv)Decarboxyllation

   v)Isomerisation

   vi)Substitution reactions

   vii)FriedelCraft's reaction.

2. Describe a method to distinguish between the following pairs of compounds.

   i) ethane or ethylene from ethyne.

   ii) 1- butyne and 2- butyne.

3. Give the different conformations of ethane with their Sawhorse representation and Newmann projection formulae.

4. i)What is beta elimination?

   ii) What are the expected products when 2- bromo pentane is treated with alc.KOH ?

5. Will propene exhibit geometrical isomerism? Why?

6. StateMarkownikoff's rule. Write the mechanism involved with an example.

7. What is Kharasch effect.t Explain the mechanism involved with an example.

8. Arrange the following set of compounds in the order of their decreasing relative reactivity with an electrophile.

. i) Chlorobenzene, 2,4- dinitrobenzene , p- nitro chloro benzene

   ii) Toluene, p- methyl toluene, p – methyl nitrobenzene, 1,4 – dinitro benzene.

9. Write the IUPAC names of the following.

   a)$CH_3\ CH_2\ CH{=}CH\ CH\ (CH_3)\ CH_3$

   b) CH_3-CH=CH-CH=CH-CH_3

c) $CH_3\ CH_2\ CH{=}CH_2$

d) CH_3- C≡ C- C $(CH_3)_2$– $CH(CH_3)$- CH_2-CH_3

10. Give reasons for the following.
    i) Boiling point of alkanes increases with increase in molecular mass.
    ii) Boiling point of branched chain alkanes is lower than that straight chain alkanes.
    iii) Peroxide effect is not observed in addition of HCl and HI.
    iv) Cis but-2-ene has higher boiling point than trans but-2-ene.
11. Draw the geometrical isomers of pent-3-ene.
12. An alkene on ozonolysis gives a mixture of ethanol and pentan -3-one. Write the structure and IUPAC name of the alkene.
13. Effect the following conversions.
    a)propanoic acid to ethane
    b) propene to 2,3 dimethyl butane
    c) ethyne to benzene