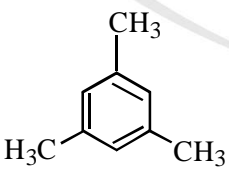


XI CHEMISTRY TEST ON HYDRO CARBON

TIME : 1 HOUR

MM : 46

1. What is pyrolysis or cracking? 2
2. Of all the conformations of ethane, which is more stable and why? 2
3. a. Out of cis and trans But-2-ene, which has higher melting point and why? $1\frac{1}{2} + \frac{1}{2} = 2$
b. Explain Kolbe's reaction.
4. a. What is Friedel-crafts alkylation reaction? $1\frac{1}{2} + \frac{1}{2} = 2$
b. Draw Newman Projection of Ethane.
5. Carry out the following conversion : $2 \times 7 = 14$
 - a. Ethyne to Nitrobenzene
 - b. Ethane to Methane
 - c. Ethane to Ethene
 - d. Benzene to m-bromonitro benzene
 - e. Ethyne to But-1-yne
 - f. Hexane to BHC
 - e. 2-bromopropane to 1-bromopropane
6. Give reason for the following : $2 \times 2 = 4$
 - a. Only HBr shows peroxide effect not HCl and HI
 - b. Iodination of Alkane is always carried out in the presence of oxidizing agent like HIO_3 or HNO_3 .
7. Complete the following reaction : $2 \times 3 = 6$
 - a. $(\text{CH}_3)_2\text{C} = \text{CH}(\text{CH}_3) \xrightarrow[\text{H}_2\text{SO}_4]{\text{KMnO}_4}$
 - b. $\text{CH}_4 + \text{O}_2 \xrightarrow{\text{Mo}_2\text{O}_3}$
 - c.  $\xrightarrow[\text{(ii) Zn/H}_2\text{O}]{\text{(i) O}_3}$
8. Write the mechanism of Anti Markovnikov rule. 3
9. Propanal and Pentan-3-one are the ozonolysis product of an alkene. What is a structural formula of alkene. Draw the reactions. 3
10. Alkynes are acidic in nature. Explain with a help of chemical reaction. 3
11. How do ethane formed during the chlorination of methane. Explain with mechanism. 5