CBSE TEST PAPER 08
CLASS XI CHEMISTRY
(Hydrocarbons)

General Instruction:

- All questions are compulsory.
- Marks are given alongwith their questions.

---

1. How is alkyne prepared from calcium carbide? [2]

2. How is alkyne prepared by Kolbe's method? [2]

3. Write structures of different isomers formed by C_6H_{10}. Also write IUPAC names of the all the isomers. [3]

4. How is alkyne prepared from vicinal dihalides? [2]

5. How will you distinguish between ethylene and methane? [2]

6. Although acetylene is acidic in nature, it does not react with NaOH or KOH. Give reason? [2]

7. Write the conversion of ethene to ethyne. [2]

CBSE TEST PAPER 08

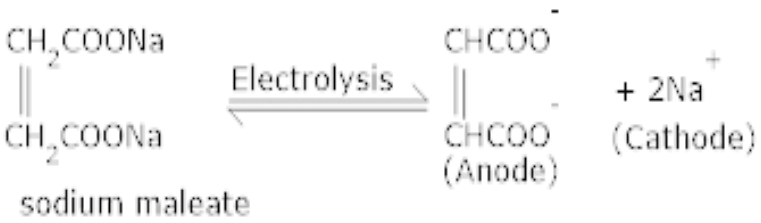
CLASS XI CHEMISTRY (Hydrocarbons)

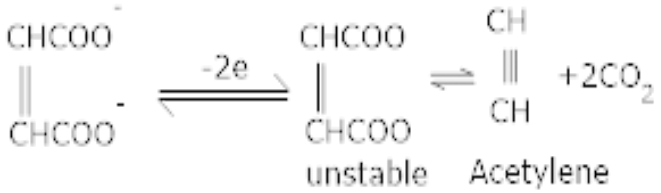
[ANSWERS]

Ans 01. Calcium carbide is treated with water to get ethyne and calcium hydroxide is obtained as side product.

$$CaC_2 + 2H_2O \rightarrow Ca(OH)_2 + C_2H_2$$

Ans 02.





Ans 03. The possible isomers are

(a) $HC \equiv C - CH_2 - CH_2 - CH_2 - CH_3$

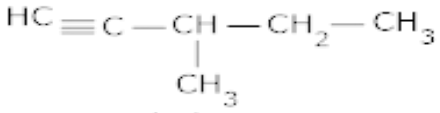
Hex – 1- yne.

(b) $CH_3 - C \equiv C - CH_2 - CH_2 - CH_3$

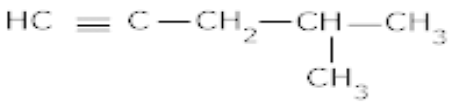
Hex – 2- yne

(c) $CH_3 - CH_2 - C \equiv C - CH_2 - CH_3$

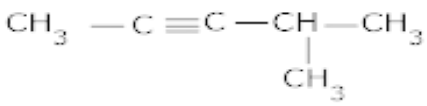
Hex- 3- yne

(d) 

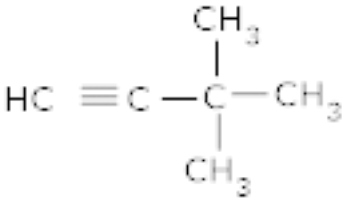
3- Methyl-pent-1-yne

(e) 

4- Methyl-pent-1-yne

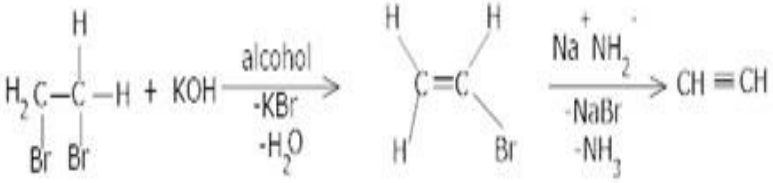
(f) 

4- Methyl-pent-2-yne

(g) 

3,3-Dimethyl-but-1-yne

Ans 04. Vicinal dihalides on treatment with alcoholic potassium hydroxide undergo dehydrohalogenation. One molecule of hydrogen halide is eliminated to form alkenyl halide which on treatment with sodium amide gives alkynes.



Ans 05. Ethylene decolourises bromine water and Baeyer's reagent while methane does not gives such reaction.

Ans 06. Acetylene is a very weak acid (pKa=25) and hence only an extremely strong base like amide ion (NH_2^-) can successfully remove a proton.

Ans 07.