

J.E.E./A.I.P.M.T.Foundation - XI Chemistry Worksheet

Time: 30 min

Ch#13: Hydrocarbons-02

Full Marks: 20

Instructions:

1. All questions are compulsory.
2. Please give the explanation for the answer where applicable.

Q1 - What do you mean by structural isomerism?

(1 Mark)

Q2 - Define hydrocarbons.

(1 Mark)

Q3 - Calculate the number σ a π bonds in C_2H_2 C_2H_4 C_2H_6 $\text{C}_2\text{H}_2\text{Cl}_2$ N_2 .

(1 Mark)

Q4 - Name the acid whose sodium salt is required for the preparation of propane? Write chemical equation for the reaction.

(2 Marks)

Q5 - Draw the Newman's projection of ethane.

(2 Marks)

Q6 - What do you understand by torsional angle? Which of the conformations of ethane has the maximum and the minimum torsional strain?

(2 Marks)

Q7 - Write the conditions which are necessary for a compound to show geometrical isomerism. Will butene exhibit geometrical isomerism, if yes draw its geometrical isomers?

(3 Marks)

Q8 - (i) Convert ethene into benzene.

(ii) Why HF forms hydrogen bonding with ethyne even though it is non-polar in nature?

(5 Marks)

Q9 - (a) How will you convert ethanoic acid into methane?

(b) Write the name of the products and the chemical reactions involved for the following reaction:

(i) Hex-1-ene reacts with HBr - in the absence of peroxide.

(ii) Hex-1-ene reacts with HBr - in the presence of peroxide.

(3 Marks)