

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

Time: 30 min

Ch#13: Hydrocarbons-01

Full Marks: 20

Instructions:

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

Q1 - Write the general formula for the following

- (i) Cycloalkanes
- (ii) Cycloalkenes

(1 Mark)

Q2 - State Markovnikov's rule.

(1 Mark)

Q3 - How a sigma bond is different from pi bond?

(1 Mark)

Q4 - Define electrophile and nucleophile with examples.

(2 Marks)

Q5 - Write the IUPAC name of the following compounds

- (a) $(\text{CH}_3)_3\text{C}-\text{CH}_2\text{C}(\text{CH}_3)_3$
- (b) Tetra-tert-butylmethane

(2 Marks)

Q6 - Explain Huckel Rule? Draw the structure of Pyridine and Furan. Are these aromatic?

(2 Marks)

Q7 - Represent the following by chemical reactions:

- (i) n-heptane is heated with vanadium pentaoxide at 773 K temperature and 10-20 atmospheric pressure.
- (ii) Calcium carbide reacts with water.
- (iii) Propene reacts with HBr.

(3 Marks)

Q8 - How will you prepare cis and trans alkenes separately? Give chemical reactions for both.

(3 Marks)

Q9 - Give the structures of the following compounds?

- (a) Benzene
- (b) Anthracene
- (c) Naphthalene
- (d) Phenanthrene
- (e) Toluene

(5 Marks)