

CHEMISTRY Paper-VI

(Organic Chemistry-B)

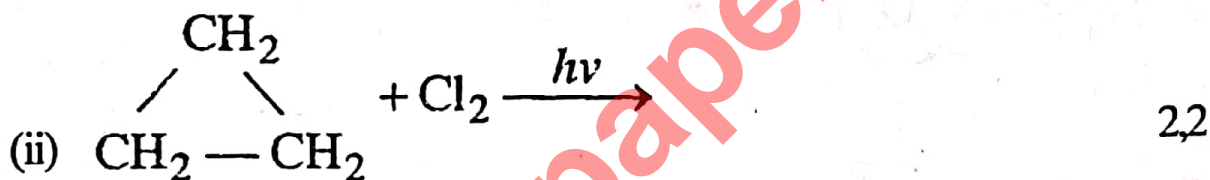
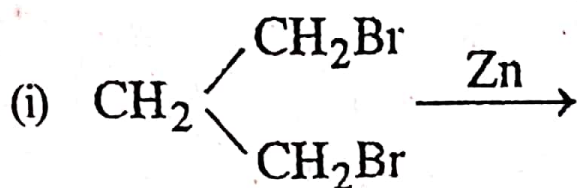
Time : 3 Hours

Max. Marks : 22

Note : Attempt four questions in all, selecting one question from each Unit. Question No. 9 is compulsory. All questions carry equal marks.

Unit-I

1. (a) Justify that the order of relative reactivities of halogenation of alkanes is $F_2 > Cl_2 > Br_2 > I_2$.
(b) Complete the following reactions :



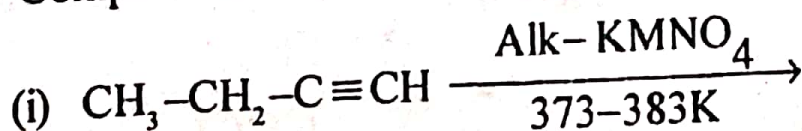
2. (a) How do you prepare cycloalkanes by Dehalogenation of dihalides and Simmon's S-mith reaction?
(b) Give mechanism of Corey - House method and Freud's method. 2,2

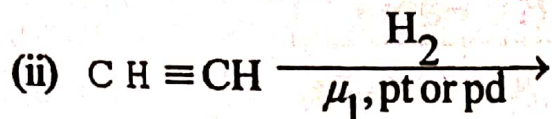
Unit-II

3. (i) Discuss the mechanism of ozonide formation.
(ii) Why peroxide effect is shown only by HBr and not by HCl or HI? 22
4. (a) Give the mechanism of oxymercuration reduction.
(b) Discuss the mechanism of the alkylation of alkenes. 22

Unit-III

5. (a) Write and explain the free radical and nucleophilic addition to alkynes.
(b) How will you convert?
(i) Trans-2-butene into 2-butyne
(ii) 3-Hexyne into propanal 22
6. (a) Discuss the structure of acetylene and why acetylene shows acidic reactions. Explain.
(b) Complete the following reactions:





22

Unit-IV

7. (a) Chlorobenzene gives *p*-nitrochlorobenzene when it reacts with $\text{HNO}_3/\text{H}_2\text{SO}_4$ although chlorine is electro withdrawing atom.

(b) What is Friedal-Craft reaction? Give its mechanism.

22

8. (a) Define the terms :

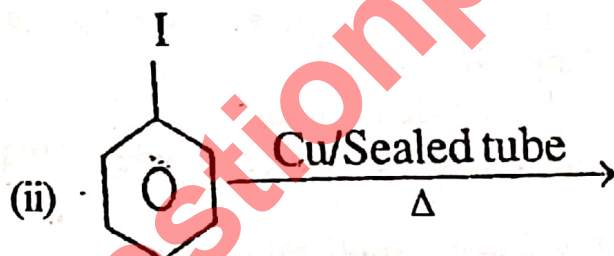
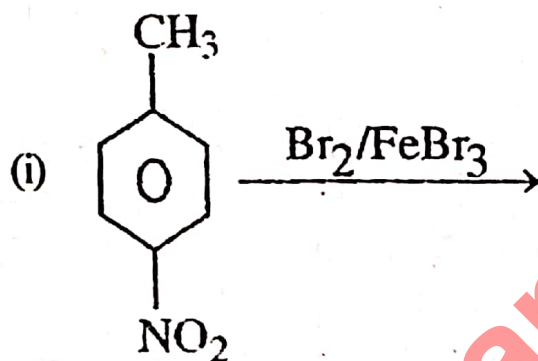
(i) Benzenoids

(ii) Non- Benzenoids aromatics

Give at least one example.

22

(b) Calculate the following reactions :



22

9. Compulsory Question :

(i) How many Sigma bonds are there in a molecule of (i) Ethane (ii) Ethene?

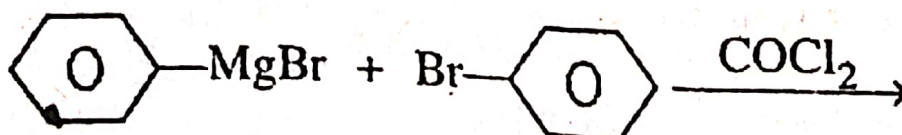
(ii) What is Markonikoff's rule?

(iii) What is Hydrogenation?

(iv) What is Birch reduction?

(v) What are different classes of dienes ? Given examples.

(vi) Complete the following reaction :



1×6=6