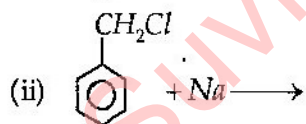
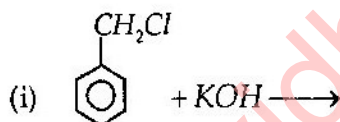


SECTION – IV

8. (a) Why aryl halides are less reactive than alkyl halides towards nucleophilic substitution reaction ?
- (b) Give elimination- addition mechanism of conversion of chlorobenzene into aniline.
- (c) Explain the following reactions :
- (i) Wurtz fittig reaction.
- (ii) Ullmann biaryl synthesis. 3, 3, 2
9. (a) How can you prepare (BHC) Benzene Hexachloride from benzene ?
- (b) Complete the following reactions :



- (c)  $\text{CHF}_3$  is less acidic than  $\text{CHCl}_3$ . Explain.
- (d) Give the mechanism of  $\text{S}_\text{N}^2$  reactions of alkyl halides. 2, 2, 2, 2

91535- (P-4)(Q-9)(16) (4)

Roll No. ....

91535

B. Sc. 2nd Semester Chemistry (Hons.)  
(New Scheme)

Examination – May, 2016

ORGANIC CHEMISTRY

Paper : 203

Time : Three Hours ]

[ Maximum Marks : 40

Before answering the questions, candidates should ensure that they have been supplied the correct and complete question paper. No complaint in this regard, will be entertained after examination.

Note: Attempt five questions in all, selecting one question from each Section. Question No. 1 is compulsory. All questions carry equal marks.

1. (a) What is octane number? 1 × 8 = 8
- (b) What are annulenes? Give two examples.
- (c) Give Baeyer's test for Alkene.
- (d) Give the IUPAC name of DDT. Also draw its structure.
- (e) Draw molecular orbital structure of Benzene.

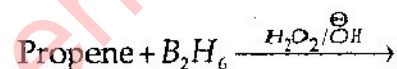
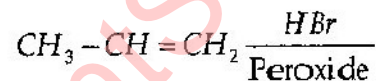
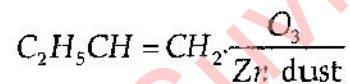
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P. T. O.

- (f) What is Freon ? What are its uses ?  
 (g) What is Inversion of configuration during  $S_N^2$  ?  
 (h) Name the compound used as Fire-extinguisher under the name pyrene ?

### SECTION - I

2. (a) Discuss the mechanism of dehydrohalogenation of alkyl halide.  
 (b) An alkene on ozonolysis give two molecules of propanone. Identify the given structure and write equation involved.  
 (c) Why the boiling point of neopentane is lower than n-pentane ?  
 (d) Discuss the substitution of allylic and vinylic positions of alkene by taking suitable examples ?
- 2, 2, 2, 2
3. (a) Complete the following reactions :

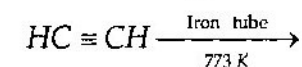
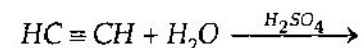


- (b) Explain the mechanism of Markownikoff's addition to alkene with suitable example.  
 (c) What is knocking value ? What antiknock additives can be added to petrol? 3, 3, 2

91535- (P-4)(Q-9)(16) (2)

### SECTION - II

4. (a) Explain the synthesis of :  
 (i) Naphthalene from benzene  
 (ii) Anthracene from buta - 1, 3 diene.  
 (b) Give mechanism of Electrophilic Substitution reaction in Naphthalene ? 5, 3
5. (a) Why alkynes are acidic in nature ?  
 (b) Complete the following reactions :



- (c) Write a short note on Diel's Alder reaction.  
 (d) Discuss the conformations of cyclohexene.

2, 2, 2, 2

### SECTION - III

6. (a) What is Hackle's rule of aromaticity ? Illustrate with example.  
 (b) Cycloheptatrienyl cation is more stable than cycloheptatriene. Why ?  
 (c) Justify the statement that it is easy to nitrate toluene than benzene.  
 (d) Give two methods of formation of phenyl acetylene. 2, 2, 2, 2
7. (a) Explain the mechanism of sulphonation of benzene.  
 (b) Write a short note on Birch Reduction.  
 (c) What are antiaromatic and non-aromatic compounds ? Give examples. 3, 3, 2

91535- (P-4)(Q-9)(16) (3)

P.T.O.