

21263

**B. Sc. (Hons.) Chemistry 2nd Semester
Examination – May, 2019**

ORGANIC CHEMISTRY

Paper : CH(H)-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, Question No. 1 is compulsory. Select one question from each Section.

1. (a) Which alkene on ozonolysis gives methanal.
1 × 8 = 8
- (b) Define Octane Number.
- (c) Name the products formed on combustion of Ethene.
- (d) Which type of reaction is generally shown by alkyl halides.
- (e) How can you convert chlorobenzene into Biphenyl ?
- (f) Define Polynuclear Hydrocarbon with an example.
- (g) Define Baker-Nathan effect.
- (h) Define Annulenes.

P. T. O.

SECTION – I

2. (a) Do the following conversions : 4, 4
- (i) Ethene into Ethanol
- (ii) 1, 2-dichloroethane into Ethene
- (iii) chloroethane into Ethene
- (iv) Ethene into chloroethane
- (b) What will happen when :
- (i) 1, 2-dichloroethane reacts with Zn-dust, Heat
- (ii) Ethene reacts with cold $KMnO_4$
- (iii) Propene reacts with Hot $KMnO_4$
- (iv) But-2-ene undergo ozonolysis
3. (a) Explain the mechanism of : 4, 2, 2
- (i) Dehydration of 3,3-dimethylbutan-2-ol in acidic medium.
- (ii) Bromination of But-2-ene.
- (b) What is the cause of formation of Coal and Petroleum in the earth crust ?
- (c) What is the Octane number of :
- (i) 2,2,4-trimethylpentane
- (ii) n-heptane

SECTION – II

4. (a) Explain the following : 6, 2
- (i) Pschorr synthesis of Phenanthrene
- (ii) Synthesis of Anthracene

(2)

- (b) Explain the mechanism of Sulfonation of benzene showing the formation of both σ and π -complex.

SECTION - IV

8. (a) How can you convert Chloromethane into : 2, 3, 3
(i) Ethane
(ii) Propane.
(b) Explain the Elimination-addition mechanism of nucleophilic aromatic substitution reaction in chlorobenzene using $KNH_2 / NH_3(l)$.
(c) What happens when Chloroethane reacts with :
(i) Aq. KOH
(ii) Alc. KOH
(iii) Moist Ag_2O
9. (a) Why chloroform should be filled up to brim and stored in brown bottles ? 2, 2, 2, 2
(b) What happens when Propene reacts with :
(i) $Br_2 / U.V. \text{ light}$
(ii) HBr / NBS
(c) How can you prepare :
(i) DDT
(ii) BHC
(d) What happens when Chloroform reacts with :
(i) phenol in presence of KOH
(ii) O_2 in presence of light