

Roll No.

91530

**B. Sc. 2nd Semester Physics (Hons.)
(New Scheme)**

Examination – May, 2016

CHEMISTRY - II

Paper : Phy-205

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 at least two questions from each Section.

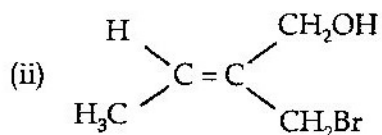
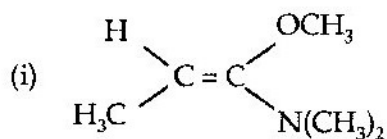
SECTION - I

1. (a) Differentiate : 6
(i) Electrophiles and Nucleophiles
(ii) Inductive and Electromeric effect.
- (b) Define: 2
(i) Chirality
(ii) Specific rotation

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2. (a) Why formic acid is stronger acid than acetic acid? 2
- (b) Why aniline is weaker base than ethylamine? 2
- (c) Assign E and Z designation to the following compounds: 4



3. (a) Compare the relative stability of different conformations of n-butane. 4
- (b) What are threo and erythro diastereomers? 2
- (c) Explain the relative basicity of primary, secondary and tertiary amines with reason. 2
4. (a) Describe the electrophilic and nucleophilic substitution reactions with suitable examples. 4
- (b) What is aromaticity? Write the important characteristics of aromatic compounds. 2
- (c) Out of chair and boat conformation of cyclohexane, which is more stable and why. 2

91530- (P-3)(Q-8)(16) (2)

SECTION – II

5. (a) Discuss the factors which affect the stability of carbocations. 4
- (b) "Nitration of toluene is easier than benzene." Explain. 2
- (c) What is Esterification? 2
6. (a) Describe the structure and reactions of arynes. 4
- (b) What is the difference between Friedel craft alkylation and Friedel craft acylation? 2
- (c) "All polymers are macromolecules but all macromolecules are not polymer. Explain. 2
7. (a) Describe: 4
- (i) Perkin Reaction
- (ii) Mannich Reaction
- (b) Differentiate natural and synthetic polymers. 2
- (c) What is grignard reagent? How it is prepared? 2
8. (a) Explain chain growth and step growth polymer with examples. 3
- (b) Discuss the effect of electron releasing and electron withdrawing groups on acidic strength of phenols. 3
- (c) What do you mean by singlet and triplet carbenes? 2

91530- (P-3)(Q-8)(16) (3)