

8th May, 13

Organic Chemistry - III

8/5/13

Sem - III (Rev.) A.T.K.T., 2nd

138 : 1ST HALF-13 (o)-JP

Sem III (Rev.) ATKT - O.C. - III

Con. 4163-13.

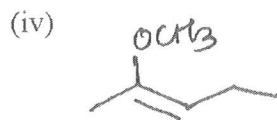
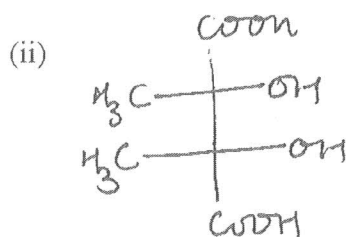
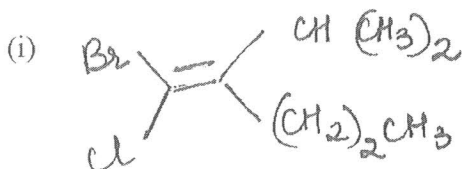
DC-2180

(2 Hours)

[Total Marks : 40

- N.B.: (1) Question No. 1 is compulsory.
(2) Answer any four questions out of remaining five.

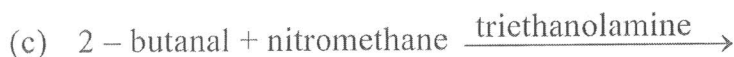
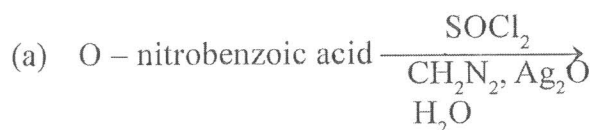
1. (a) Assign R/S, E/Z configuration and write systematic nomenclature to the following structures. 4



- (b) Define the following terms :— 4

- (i) Configuration
- (ii) Chirality
- (iii) Enantiomers
- (iv) Mesoisomes.

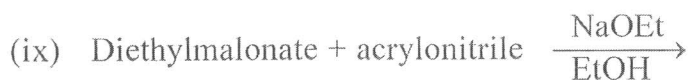
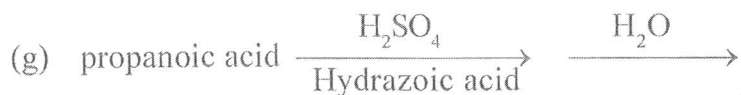
2. Give the product of the following reactions (any eight) :— 8



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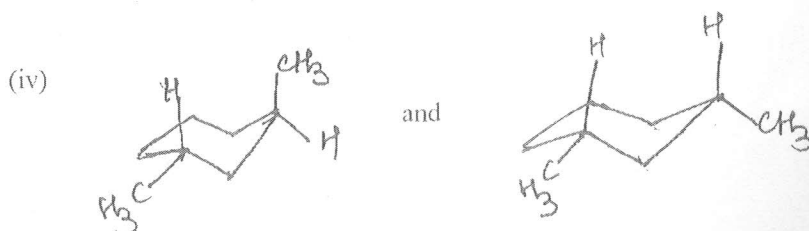
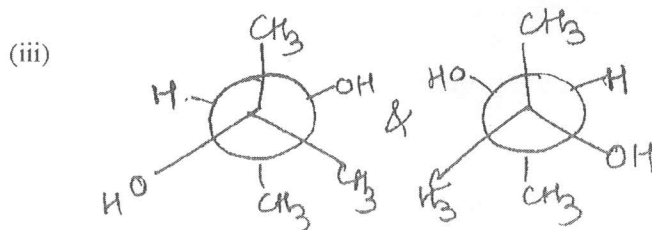
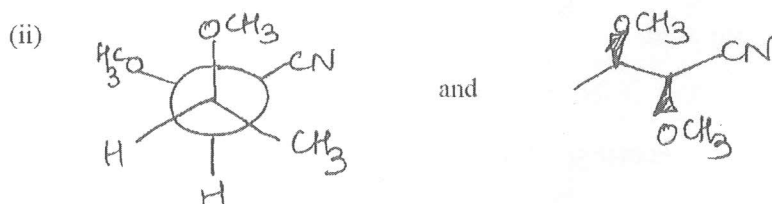
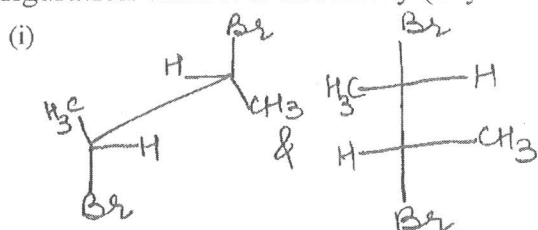
3. Attempt the following conversions (any **four**) :—

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- Benzamide to m-bromoaniline
- Benzyl methyl ether to 1-phenylethanol
- 2-Chlorocyclohexanone to Ethyl cyclopetane carboxylate
- Acetophenone to acetanilide
- Benzaldehyde to phenylacetic acid.

4. (a) Write the relationship between each of the given pairs as enantiomers, diastereomers, homomers, or conformational isomers. Justify your answer by indicating correct configuration wherever necessary (any **two**) :—

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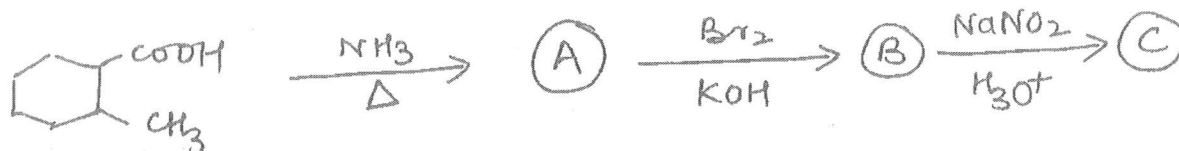


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(b) Complete the following reaction pathway identify A, B, and C

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(c) Draw all possible isomers of 2-Bromopropanaldehyde

1

5. Give the detailed mechanism for the following reactions (any **four**) :—

8

- Sommelet rearrangement
- Benzil-Benzilic acid rearrangement
- Cannizaro reaction
- Claisen condensation reaction
- Stobbe condensation.

6. (a) Discuss various methods used for separation of racemic mixtures. Support your answer by giving suitable examples. 4

(b) What are meso isomers? Are they optically active? Explain the answer with suitable example. 2

(c) Justify, Diaxial orientation of cyclohexane-1,3-diol is favoured over diequatorial orientation. 2
