

258 : 2ndHF-I
2007-08
Con. 4891-07.
10/12/07

ORGANIC CHEMISTRY - I

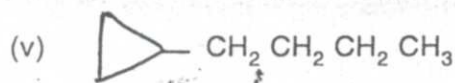
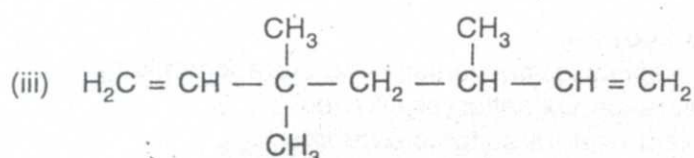
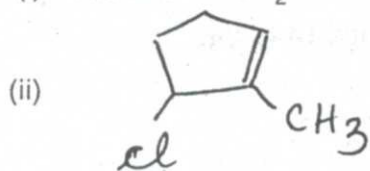
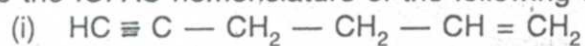
(2 Hours)

Sem-I
BB-6234
F.Y. B. Pharm
[Total Marks : 40

- N.B. (1) Question No. 1 is compulsory.
(2) Attempt any four from the remaining six questions.
(3) Figures to the right indicate full marks.

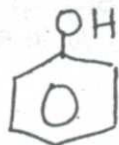
1. (a) Write the IUPAC nomenclature of the following compounds (any four) :—

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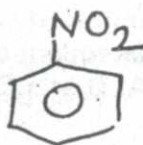


(b) Draw resonating structures for —

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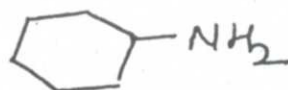
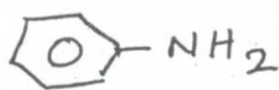


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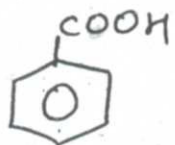


2. (a) (i) Compare the basicity of —

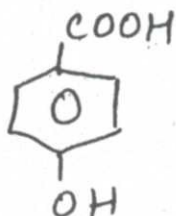
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(ii) Compare the acidity of —



and



(b) An organic dibasic acid contains C = 17.39, H = 1.45 and Br = 57.97 percent. The vapour density of the ethyl ester is 166. Determine the molecular formula of the acid. (Atomic weight of : C = 12, H = 1, Br = 80 and O = 16).

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3. (a) Write the structures of the products formed and complete the following reactions :—

5



- (b) Write the structures of the products formed from reductive ozonolysis of — 2
- (i) 3, 5-dimethyl-4-octene
 - (ii) 1, 2-dimethylcyclohexene.
5. (a) Give the mechanisms of the following reactions (any three) :— 6
- (i) UV-induced chlorination of methane
 - (ii) Acid catalysed dehydration of 2-methyl-3-pentanol
 - (iii) Dimerization of alkenes
 - (iv) Anti-addition of halogens to alkenes.
- (b) Give one example of each of the following reactions (any two) :— 2
- (i) Syn-hydroxylation of alkene
 - (ii) Electrophilic addition to conjugated diene
 - (iii) Halohydrin formation.
6. Answer the following questions (any two) :— 8
- (a) Discuss SN¹ reaction with respect to mechanism and stereochemistry.
 - (b) Write a note on — “Hydroboration-Oxidation of alkenes”.
 - (c) Discuss the E1CB mechanism using a suitable example.
7. (a) Write the reactions and reagents used for the following conversions (any two) :— 4
- (i) 1-bromobutane to 1-hexyne
 - (ii) propylene to acetone
 - (iii) propene to propyne.
- (b) C₃H₇Cl (A) reacts with alcoholic KOH to form B (C₃H₆). B decolourizes Br₂/CCl₄ solution. Reaction of A with Mg in ether and subsequent treatment with CO₂ and dilute acid gives C (C₄H₈O₂). Deduce the structures of A, B and C. 4
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