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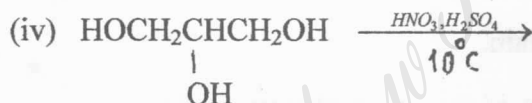
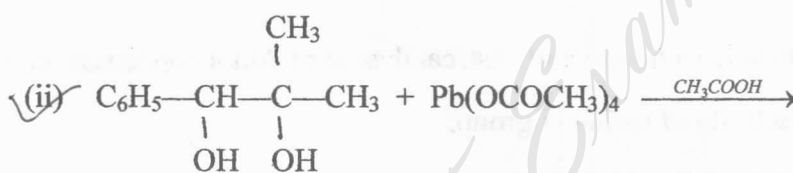
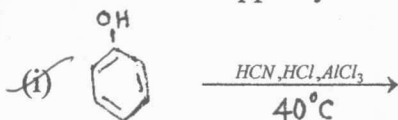
2009-2010
B.Sc. (HONS.) (PART-II) EXAMINATION
(CHEMISTRY)
ORGANIC CHEMISTRY
(CH - 212)

Maximum Marks : 26

Duration : Two Hours

- NOTE: (i) Answer ALL questions.
(ii) Marks are indicated against each question.

1. (a) What organic product would you expect from any two of the following? Give (03) mechanism to support your answer.



- (b) Answer any TWO of the following : (02)

(i) Account for the relative acidity of alcohols and phenols.

(ii) Alkyl aryl ethers are cleaved with HI to give alkyl iodide and phenol rather than aryl iodide and alcohol, Explain why?

(iii) Discuss the orientation of epoxide ring opening.

- (c) Give a brief account of Claisen rearrangement. (02)

2. (a) Give general methods for the preparation of ketones starting from : (03)

(i) Carboxylic acids

(ii) Alkyl nitrites

- (b) Discuss the use of acetoacetic ester in the preparation of ketones. (02)

- (c) Outline the mechanism of the following reactions : (02)

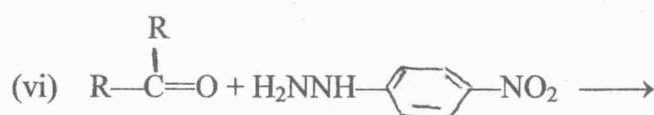
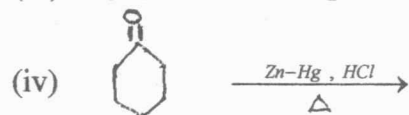
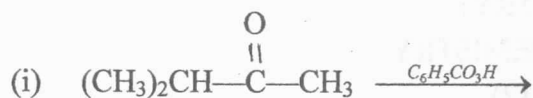
(i) Mannich reaction

(ii) Perkin reaction

OR

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2. (a) Give the structure of the product(s) for each of the following reactions : (03)



(b) Outline the mechanism (both acid catalysed and base catalysed) of Aldol condensation. (02)

(c) Discuss the structure and reactivity of carbonyl group. (02)

3. Answer any THREE parts of the following : (2+2+2)

(a) Starting from glycerol, how will you synthesize citric acid ?

(b) What is Hell-Volhard-Zelinsky reaction ? Explain.

(c) Explain, why m-nitrobenzoic acid is a weaker acid than p-nitrobenzoic acid.

(d) Discuss the mechanism of esterification of carboxylic acid.

(e) How will you explain the greater reactivity of acylhalides towards nucleophilic attack, among the carboxylic acid derivatives.

4. (a) Discuss the reduction of nitroarenes in acidic, neutral and alkaline media. (02)

(b) By taking suitable examples, discuss the important factors which influence the basicity of amines. (02)

(c) Describe the mechanism of nucleophilic substitution in nitroarenes. (02)

OR

(c) How will you prepare the following from benzene diazonium chloride : (02)

(i) Diphenyl

(ii) P-Hydroxyazobenzene