

PARANA - I (2012 Course) (CBCS): JULY - 2013
SUBJECT: ADVANCED PHARMACEUTICAL CHEMISTRY - I

Day: Thursday
Date: 04/07/2013

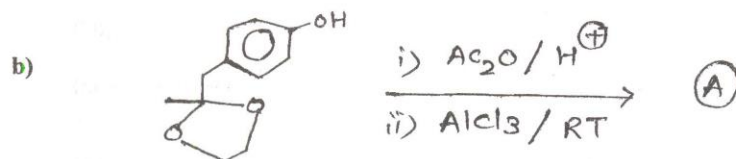
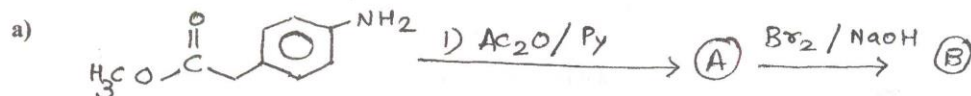
Time: 10:00 A.M. TO 1:00 P.M.
Max. Marks: 60

N.B.:

- 1) Attempt ANY THREE questions from Section-I & ANY THREE questions from Section - II.
- 2) Figures to right indicate FULL marks.
- 3) Answers to both the sections to be written on SEPARATE answer books.

SECTION - I

Q.1 Complete the following reactions giving major products and reaction mechanism. (10)

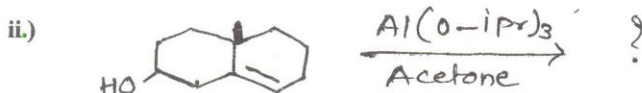
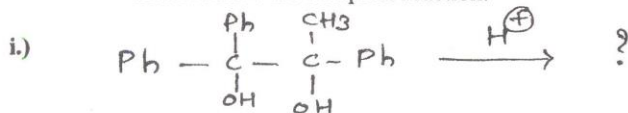


Q.2 a) Discuss reaction mechanism, reactivity, orientation and stereochemistry of Beckmann rearrangement. (05)

b) Elaborate on various methods for protection and deprotection of $-\text{NH}_2$ group of amino acids in peptide synthesis. (05)

Q.3 a) Discuss how MPV reduction and Oppenauer oxidation are related to each other highlighting the similarities and differences. (05)

b) Predict the products of following, giving detailed mechanism showing electron flow for complete reaction. (05)



Q.4 Write short notes on ANY TWO of the following: (10)

- a) Enzyme catalysis
- b) Heterogeneous reduction
- c) Applications of fluorinating agents

SECTION - II

- Q.5 a) For the following reactions, state whether conrotatory or disrotatory motion of groups is involved. State whether you would expect the reaction to occur under the influence of light or heat. Justify your answer. (05)



- b) Write in short about the Zincke reaction. (05)
- Q.6 Discuss Synthesis of the following. (10)
- a) 2 - methyl indole
b) 3, 4 - dimethyl - 2 - ethyl thiophene carboxylate.
- Q.7 a) Discuss stereochemistry of alkenes. (05)
- b) What is dynamic stereochemistry? Explain the principles governing the same. (05)
- Q.8 Write short notes on ANY TWO (10)
- a) Methods of preparation of α - methylene lactones
b) Orbital symmetry and its conservation
c) Salient features of chemistry of active methylene compounds

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