

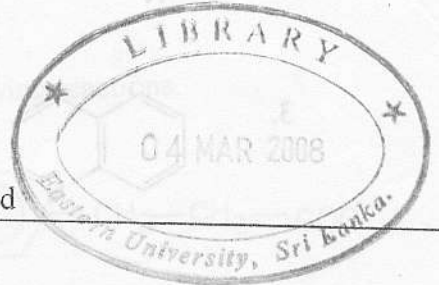


EASTERN UNIVERSITY, SRI LANKA.
THIRD EXAMINATION IN SCIENCE- 2005/2006 - PROPER
FIRST SEMESTER (SEPTEMBER 2007)
CH 302 HETEROCYCLIC CHEMISTRY AND
ORGANIC REARRANGEMENT REACTIONS

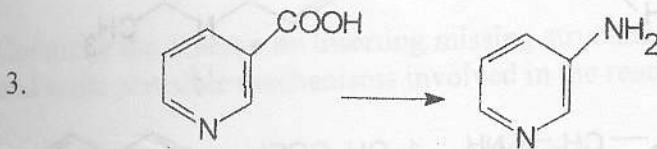
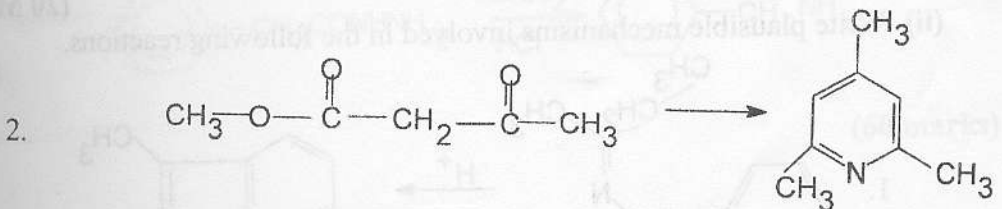
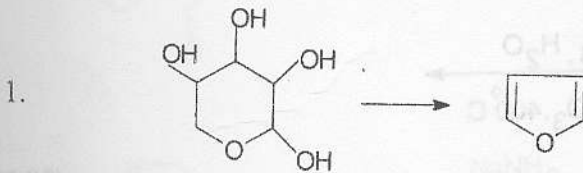
Time allowed: **ONE Hour**

Answer all the questions

The use of a non-programmable calculator is permitted

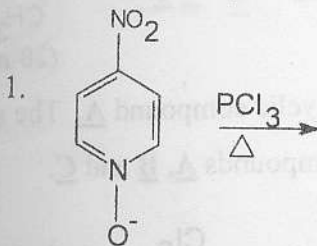


1. (a) By means of equations show how the following transformations could be effected.
Give essential experimental conditions.

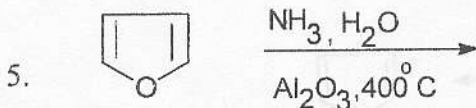
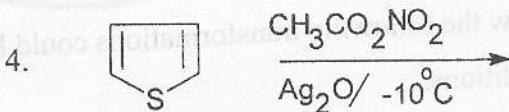
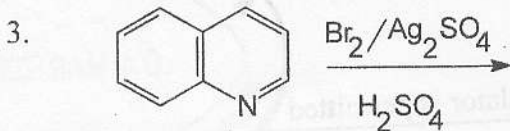
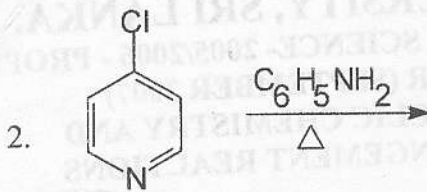


(30 marks)

(b) (i) Write the product/products of the following reactions.

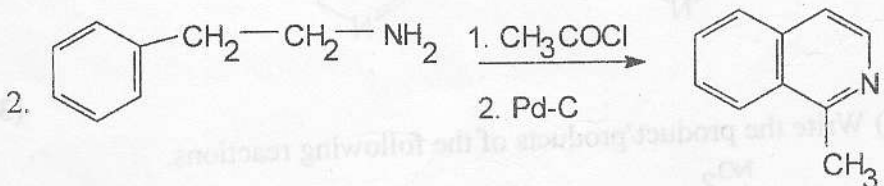
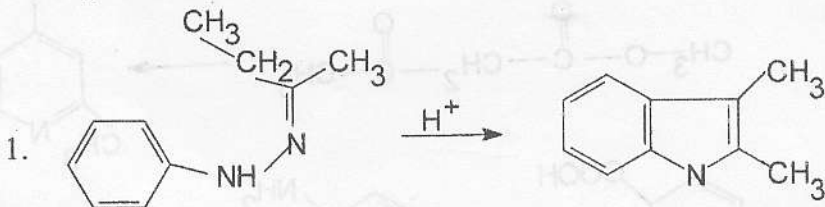


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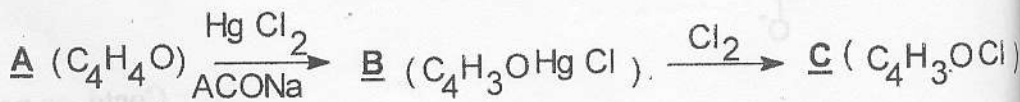
(20 Marks)

(ii) Write plausible mechanisms involved in the following reactions.

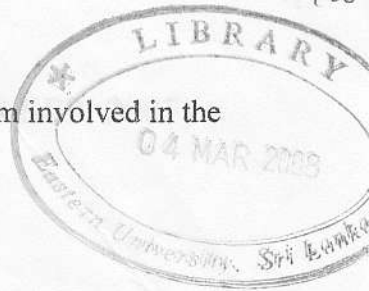


(20 marks)

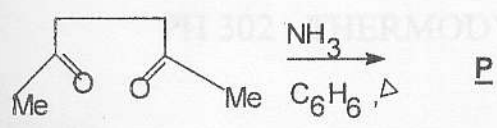
(c) (i) The compound C was synthesized from a cyclic compound A. The sequence of reactions is given below. Deduce the compounds A, B and C.



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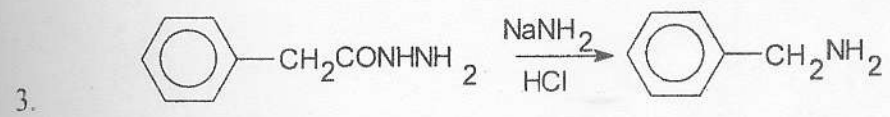
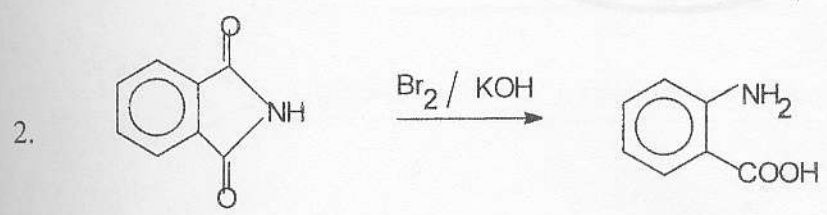
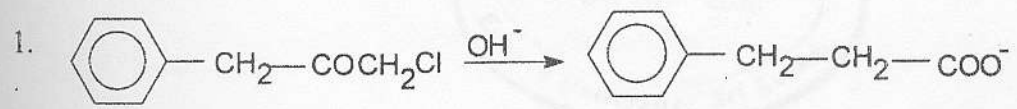


(ii) Deduce the compound **P** and suggest a plausible mechanism involved in the reaction.



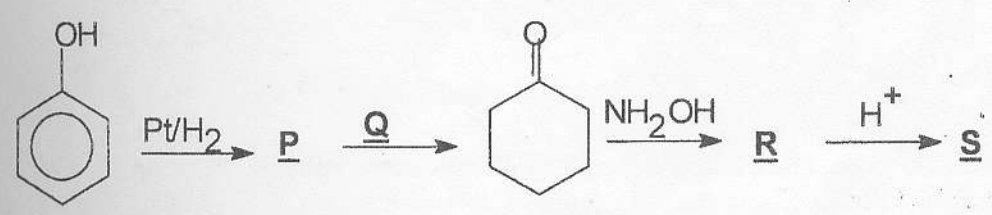
(30 marks)

2. (a) Write plausible mechanisms involved in the following reactions.



(60 marks)

(b) Complete the scheme by inserting missing structures and reagents (**P**, **Q**, **R** and **S**) and write plausible mechanisms involved in the reaction **R** to **S**.



(40 Marks)

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