

EASTERN UNIVERSITY, SRI LANKA

FIRST SEMESTER THIRD EXAMINATION IN SCIENCE

2009/2010 (JUNE – JULY 2011)

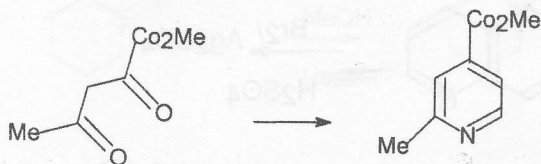
CH 302: HETEROCYCLIC CHEMISTRY AND ORGANIC REARRANGEMENT REACTIONS  
(Proper & Repeat)

Answer all questions

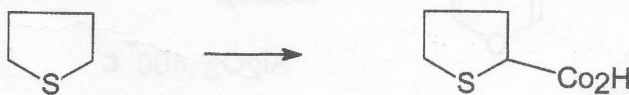
Time Allowed: One hour

1) (a) Indicate how the following conversions could be effected and give essential experimental conditions.

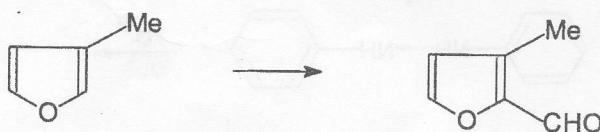
(i)



(ii)

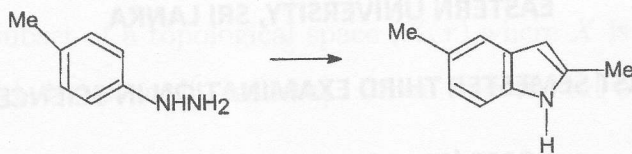


(iii)



Contd.

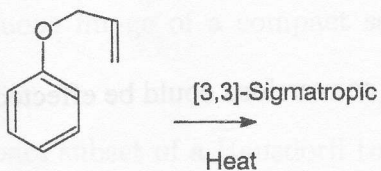
(iv)



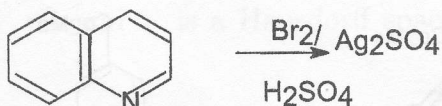
(4x15 = 60 marks)

(b) Give the structure of the product formed in the following rearrangement reactions

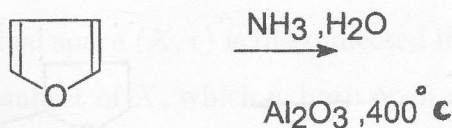
i)



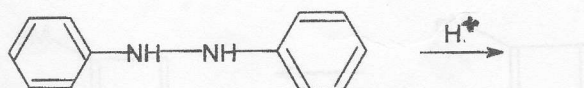
ii)



iii)



iv)



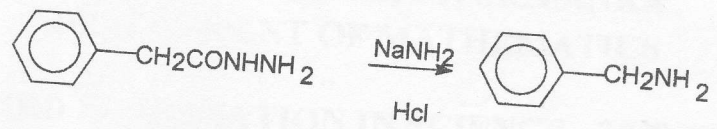
(4x10 = 40 marks)

Contd.

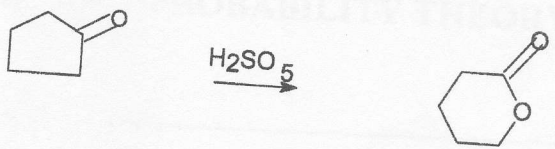


2) (a) Write plausible mechanisms involved in the following reactions.

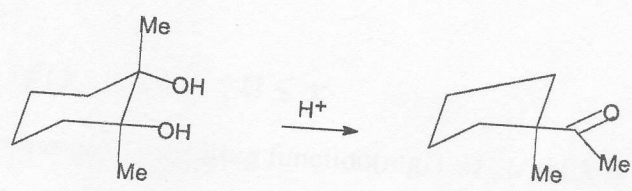
i)



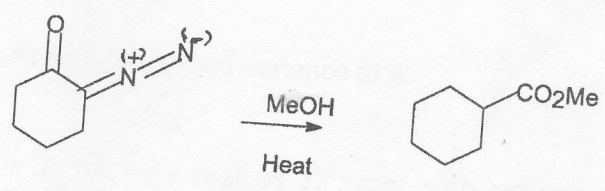
ii)



iii)



iv)



(4x20 = 80 marks)

(b) Explain the observation when Pyridine is treated with mixture of conc.  $\text{HNO}_3$  & conc.  $\text{H}_2\text{SO}_4$  acids 3-nitro pyridine is obtained as the product.

(20 marks)