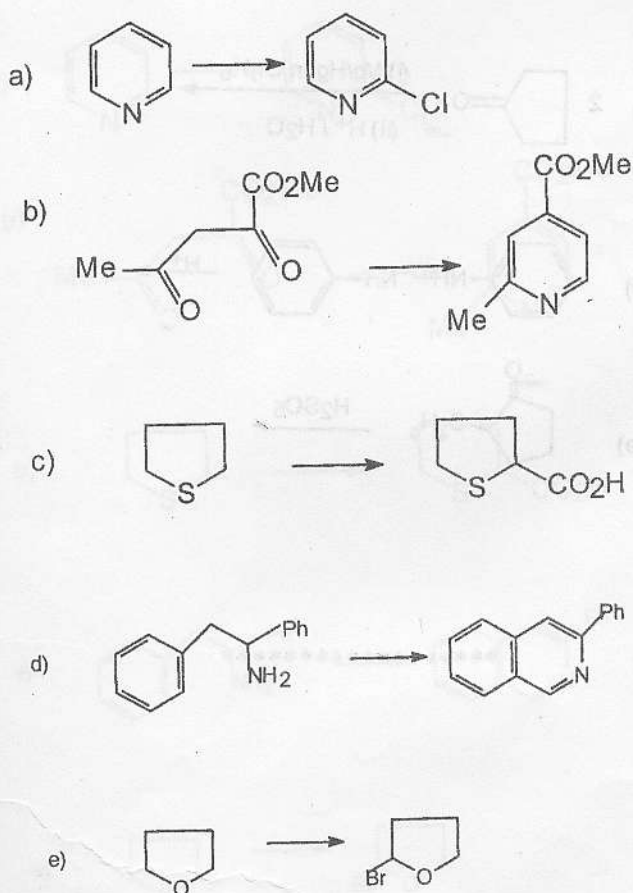


EASTERN UNIVERSITY SRI, LANKA
DEPARTMENT OF CHEMISTRY
THIRD YEAR IN SCIENCE
FIRST SEMESTER -2004/2005
CH 302: HETEROCYCLIC CHEMISTRY AND REARRANGEMENT
REACTIONS (Proper)

Time: 1 hour

Answer **all** questions.

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



(II) Explain the following observations.

(a) When pyridine is treated with a mixture of conc. HNO_3 and conc. H_2SO_4 acids, 3-nitro pyridine is obtained as the product.

(b) Furan undergoes Diels Alder reaction when heated with maleic anhydride but thiophene does not react with maleic anhydride under the same conditions.

2. Give the structure of the major products formed in the following reactions. Suggest plausible mechanisms for the reactions involved.

