EASTERN UNIVERSITY, SRI LANKA

THIRD EXAMINATION IN SCIENCE (FIRST SEMESTER) - 2002/2003 CH 302 HETEROCYCLIC CHEMISTRY AND REARRANGEMENT REACTIONS

Time: 1 Hour

Answer all questions

1. Answer both parts (a) and (b)

(a). Suggest plausible mechanism for three of the following rearrangement reactions

(II).
$$C_2H_5C-NH_2$$

$$C_2H_5NH_2$$
(III). $C_2H_5C-NH_2$

Contd...

(b). Explain the following observations

(I).

(II).

N-OH
$$H^{+} \longrightarrow (-NH(CH_{2})_{5}-C)_{n}$$
Nylon-6

(III). When an equimolar mixture of the compounds \underline{P} and \underline{Q} was treated with a mineral accompounds \underline{R} and \underline{S} were obtained as the major products, of which only the compounds radioactivity. Write the mechanism of the reaction. Draw the structures of the property \underline{R} and \underline{S} . Why does \underline{S} show radioactivity?

Cor

2. Answer both parts (a) and (b).



(a) By means of equations show how three of the following transformations may be affected. Give essential experimental conditions.

Contd...

(b) Give the structure of the product(s) of each of the following reactions.

