UNIVERSITY OF ESWATINI SUPPLEMENTARY EXAM – 2019

TITLE OF PAPER

Advanced Organic Chemistry

COURSE NUMBER

: C 403

TIME

Three Hours

INSTRUCTIONS:

Answer any four (4) questions of the six (6) questions and every question holds 25 marks. NB: all questions are to be answered in a separate answer sheet.

Reaction Scheme.

$$\begin{array}{c|c} A \\ \hline \\ C \\ \hline \\ C \\ \hline \\ CH_2OH \\ \hline \\ CH_3OH \\ CH_3OH \\ \hline \\ CH_3OH \\ CH_3OH \\ \hline \\ CH_3OH \\ CH_3OH \\ \hline \\ CH_3OH \\ C$$

Question 3

- A) 5- and 6-membered organic ring compounds are the easiest to make, stable and quite common in nature. Why? (5)
- B) Prepare methyl substituted payroll and pyridine using a diketone starting material and "4+1" and "5+1" strategies, respectively. (5)
- C) Discuss the reactivity of Pyridine in comparison with Benzene. (5)
- D) Electrophilic Substitution of Pyridines favors the β position as compared to α/γ . What is the underlying cause for this preference? (5)
- E) What is the identity of the intermediate A? Explain why? (5)