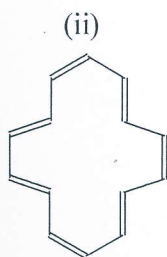
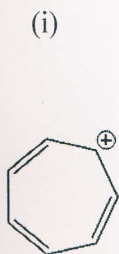


EASTERN UNIVERSITY, SRI LANKA
SECOND YEAR FIRST SEMESTER EXAMINATION IN SCIENCE
[April/May'2017]
EXTERNAL DEGREE
EXTCH 204 REACTION MECHANISM AND AROMATICITY
(Special Repeat)

Answer all questions

Time Allowed: One hour

1. (a) Describe the 'Huckel rule' for predicting Aromaticity and determine whether or not the following molecules are aromatic.



(40 Marks)

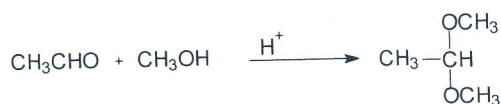
- (b) Write the structural formulas for the product formed when CH_3CHO reacts with each of the following reagents.



(30 Marks)

Contd...

(c) Suggest a reasonable mechanism that will account for the formation of the following product



(10 M)

(d) Describe the following briefly;

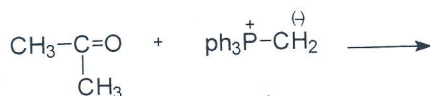
(i) aromaticity of annulenes

(ii) Craig rules for poly nuclear benzoid compounds

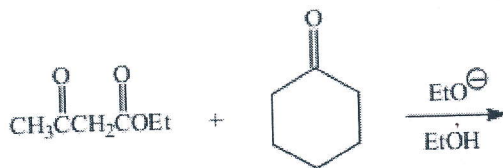
(20 M)

2. (a) Write a mechanism for the following reaction;

(i)



(ii)



(40 M)

(b) What are polynuclear aromatic hydrocarbons? Give the skeletal structure and number of rings in Naphthalene. Give one method for synthesis and two reactions of Naphthalene.

(20 M)

(c) Would you expect the cyclopentadienyl cation to be aromatic on the basis of Hückel's rule? Explain your answer.

(20 M)

(d) Write a mechanism for the perkin condensation that takes place when benzaldehyde reacts with propanoic anhydride in the presence of potassium propanoate.

(20 M)
