EASTERN UNIVERSITY, SRI LANKA

SECOND EXAMINATION IN SCIENCE-2014/2015

(November/December' 2017)

FIRST SEMESTER

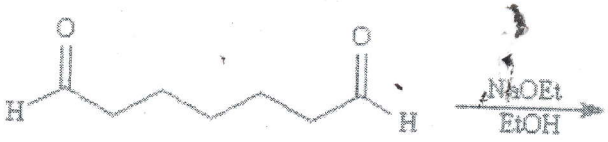
CH204 REACTION MECHANISM AND AROMATICITY

(Proper)

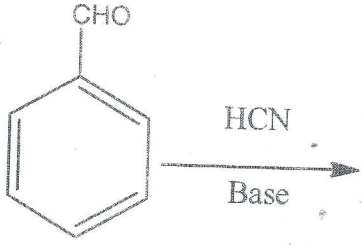
Answer all questions **Time Allowed: One hour**

1 (a) Propose a suitable mechanism for the following reactions.

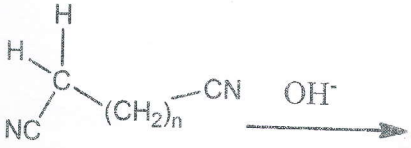
I)



II)



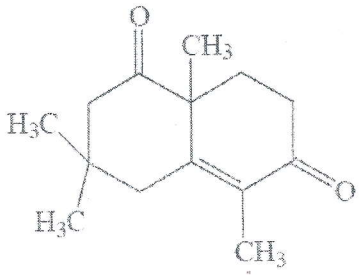
III)



(30 Marks)

Contd.

(b) Propose a detailed mechanism for the formation of the following product of Robinson annula reaction.



(30 Ma

(c) Draw the structures of the products (two β-ketoesters) formed in equal amount by the Dieckm cyclization reaction involving diethyl 3-methylheptanedioate.

(20 Ma

(d) Suggest a possible mechanism for the reaction between benzaldehyde and propanoic anhyd in the presence of potassium propanoate.

(20 Ma

2 (a) Describe the following briefly;

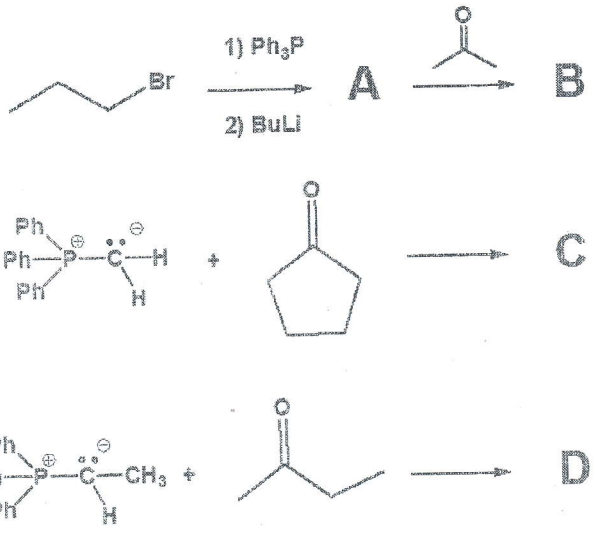
(i) aromaticity of annulenes

(ii) Craig rules for poly nuclear benzoid compounds

(20 Ma

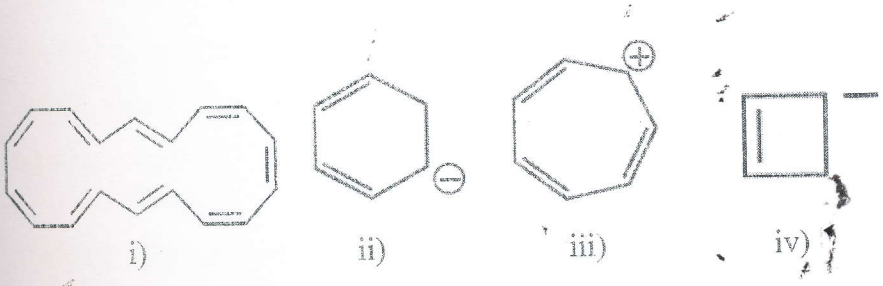
Co

(b) Write down the possible products (**A, B, C, D**) of the following reactions.



(20 Marks)

(c) State Huckel's rules for aromaticity. Classify the following compounds as aromatic, antiaromatic and non-aromatic and justify your answer.



(20 Marks)

(d) Using polygon & Circle method to find out whether the following compounds are aromatic or not.

(20 Marks)

(e) What are polynuclear aromatic hydrocarbons? Explain the Haworth synthesis of anthracene.

(20 Marks)

End of paper