

BACHELOR OF PHARMACY HONOURS - LEVEL 04 - 2018/19  
BSU4340- PHARMACEUTICAL CHEMISTRY III  
FINAL EXAMINATION

INDEX NO: .....

Part B – Answer all questions

(80 marks)

For question 1-4, write answers in the space provided. For question 5 and 6, provide answers in a separate sheet.

1. Explain the following statements giving reasons.

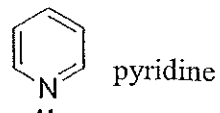
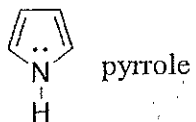
a) Benzene easily undergoes electrophilic substitution reactions but rarely nucleophilic substitution reactions. (05 marks)

b) *p*-nitrophenol is more water soluble than *o*-nitrophenol. Explain. (05 marks)

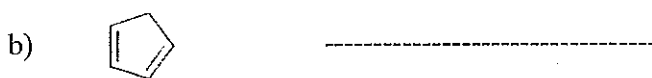




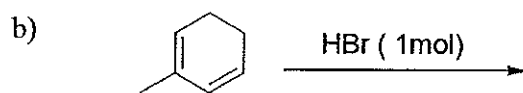
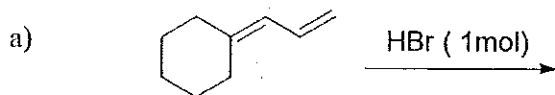
c) Pyrrole is a weaker base than pyridine? (05 marks)



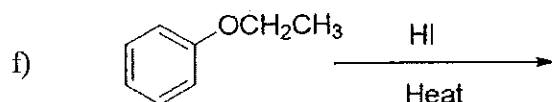
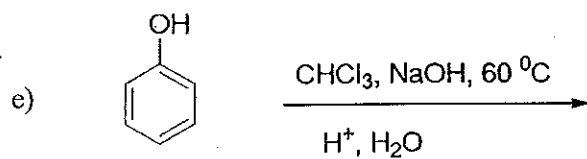
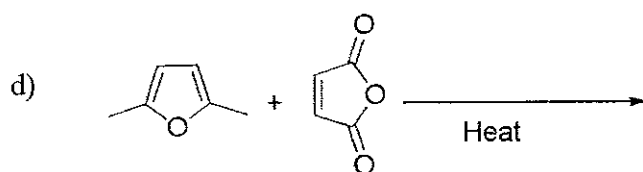
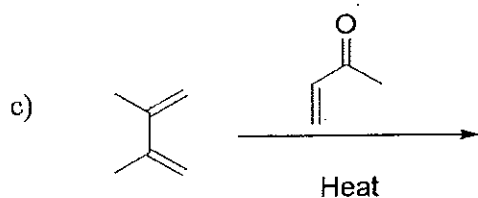
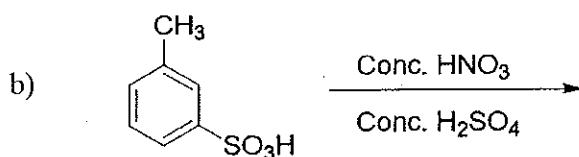
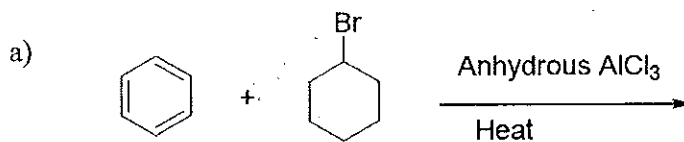
1. Deduce whether each of the following compounds is aromatic, anti-aromatic or non-aromatic by applying Huckel's rule. Provide reasons. Assume all the molecules given here are planar. (06 marks)

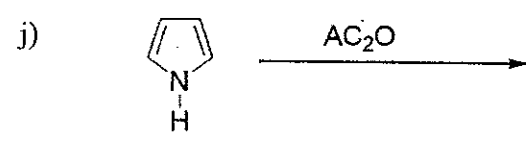
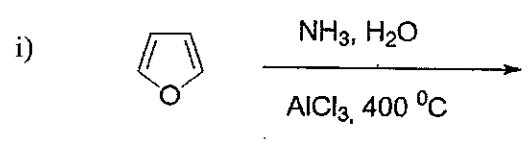
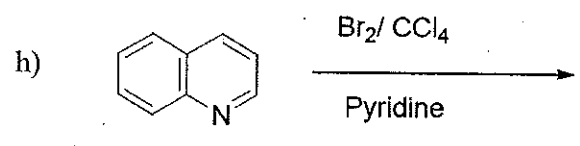
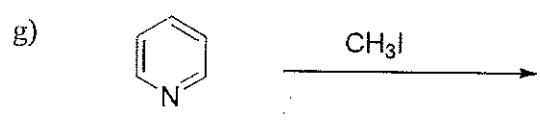


2. Indicate the mechanisms and predict the major products of following reactions. (14 marks)

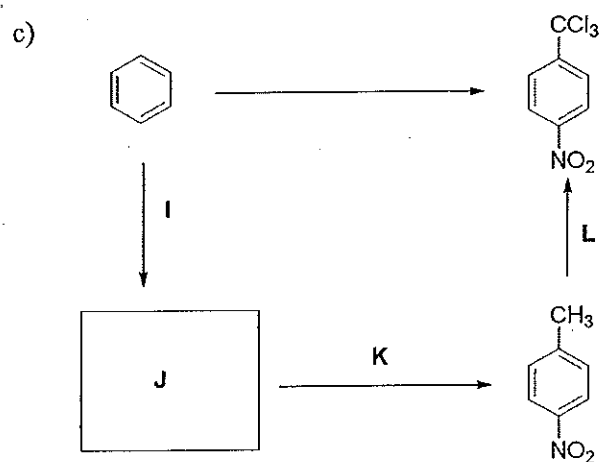
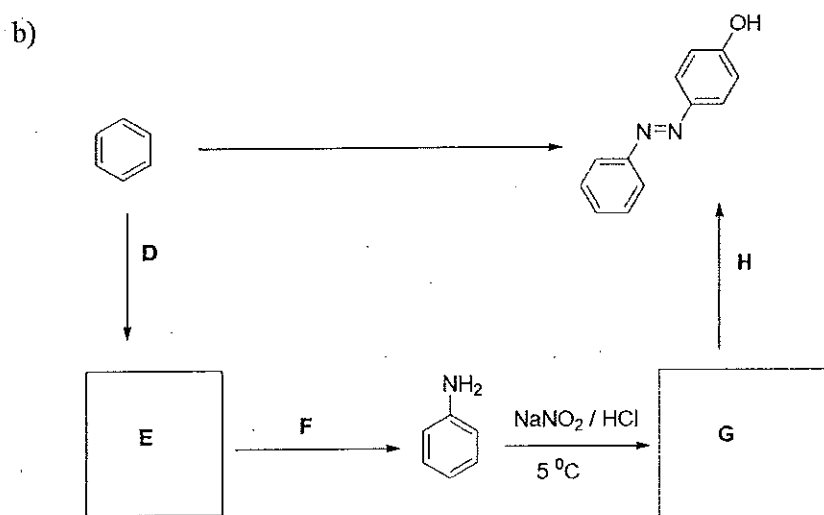
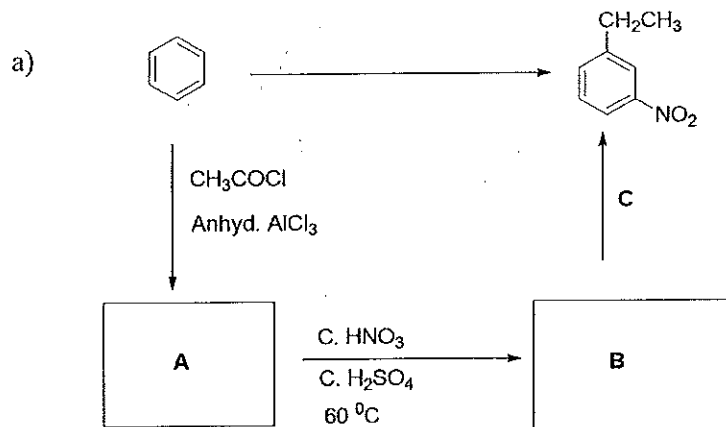


4. Give the structures of the major product/s of the following reactions. (10 marks)

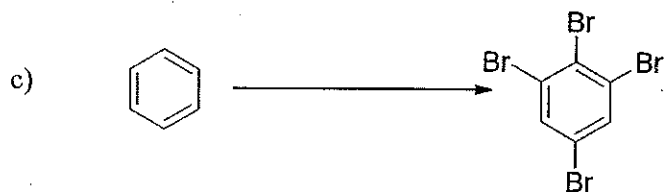
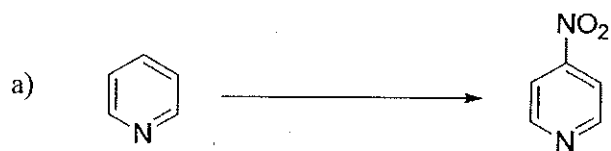




5. Complete the following reaction sequences giving structures of missing products, reagents and conditions. (12 marks)



6. Giving necessary reagents and conditions, show how you would carry out the following multistep transformations. (23 marks)



END