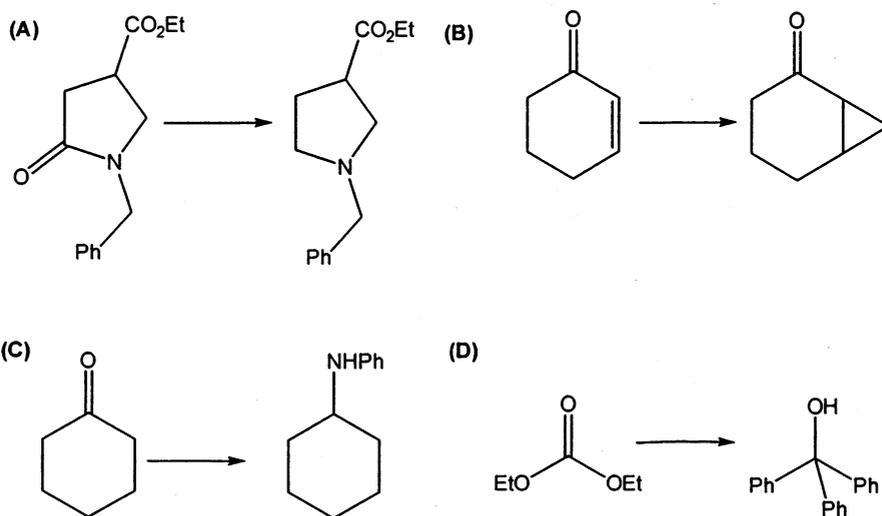


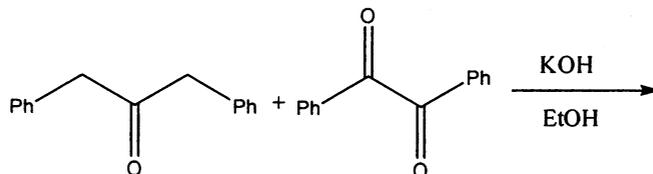
6. Suggest appropriate reagents and conditions for the following transformations.

(1 x 4 = 4 marks)



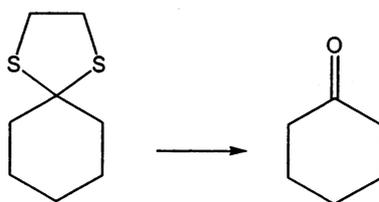
7. What is the product of the following reaction? Explain with a mechanism.

(2 marks)



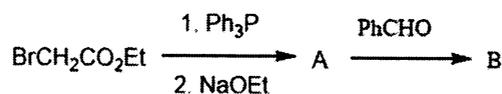
8. How would you carry out the following transformation? Show a plausible mechanism.

(2.5 marks)



9. Identify A and B in the following sequence and provide mechanism for each step.

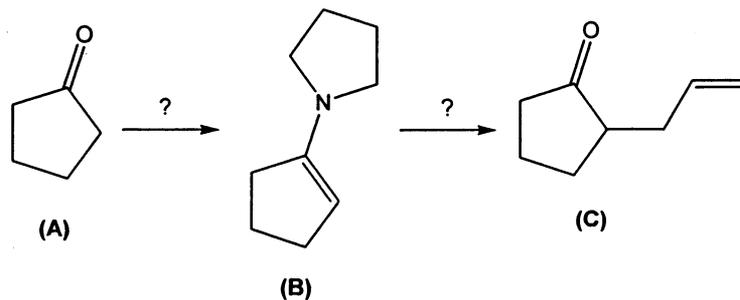
(2.5 marks)



10. Provide the missing reagents for the transformations: A to B and B to C. Show mechanisms for both the steps.

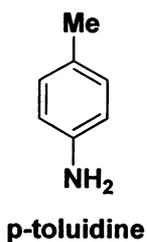
(3 marks)

*D: 1-1-2024
Supratim. B. B.*



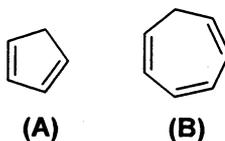
Part B

11. *p*-Toluidine (structure given below) reacts with benzene diazonium chloride to form a compound which on boiling with dil. sulphuric acid gives four products (excluding nitrogen). Write the structures of the four products with appropriate mechanism. (2+1 marks)



12. Which one is more acidic and why?

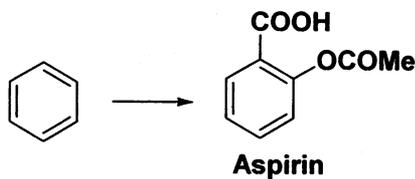
(1 mark)



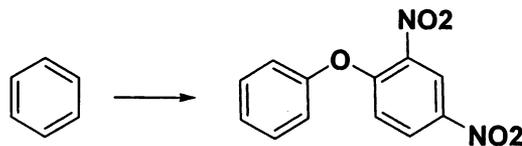
13. Carry out the following transformations (mechanism is not needed)

(2x3=6 marks)

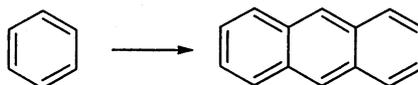
a)



b)



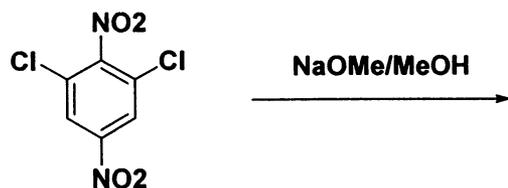
c)



*D: 47...h...j...
Supra. By.*

14. Predict the product(s) with mechanism:

(2.5 marks)



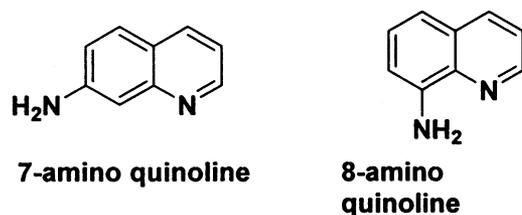
15. Suggest the reagents and mechanism to carry out the following transformation.

(2.5 marks)



16. 8-aminoquinoline is more basic than 7-aminoquinoline. Explain.

(2 marks)



17. The Hantzsch pyridine synthesis involves the following molecules. Suggest the mechanism in details:

(4 marks)



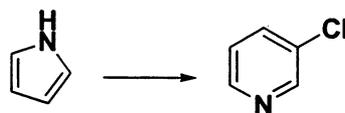
18. Carry out the following transformation (mechanism is not needed).

(2 marks)



19. Carry out the following transformation with mechanism and reagent.

(2 marks)



D: 11-11-20
Supratim Ban