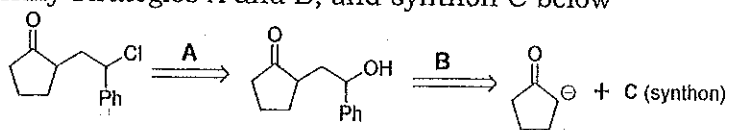


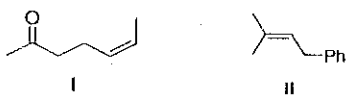


- iii) Give significance and use of Diels-Alder reaction in synthesis  
 iv) Identify strategies A and B, and synthon C below

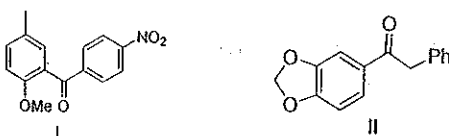


- v) State 'ylide'. Give synthesis of styrene oxide using sulfur ylide  
 vi)  $RCH_2^+$  is best described for disconnection of  $PhOCH_2R$ , but not for  $PhNHCH_2R$ ! Explain  
 vii) Describe in brief protection and deprotection of amino group with suitable examples  
 viii) State various classical methods for ester formation  
 ix) How will you disconnect and construct 1,3-dicarbonyl compound? State the strategy

- Q.3.** a) Give methods for preparation of olefins. Show disconnection and synthesis design of TMs below [06]

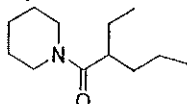


- b) Give significance of Friedel-Craft reaction. Do disconnection and synthesis of TMs below [06]



**OR**

- b) State disconnection strategy for acid  $R-COOH$ , in general. Give disconnection and synthesis strategies of TM below.



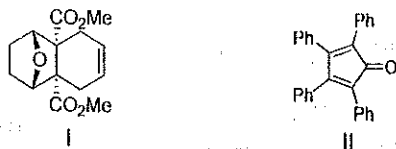
- Q.4** a) State with mechanism, Benzoin condensation, acyloin synthesis and Mannich reaction, along with their uses in synthesis [06]

- b) State the term FGA. Give synthesis design of TMs below [06]

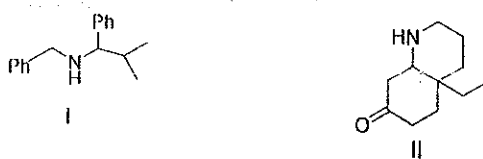


**OR**

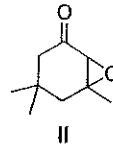
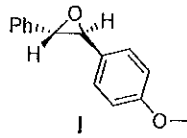
- b) Do the disconnection and synthesis plan of TMs below



- Q.5.** a) Name the reagents used to reduce oxime. Disconnect and design following TMs [06]

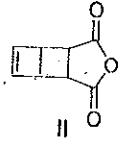
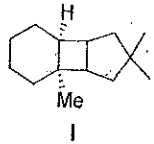


b) Name suitable reagent known for synthon 'δ'. Design synthesis of TMs below



OR

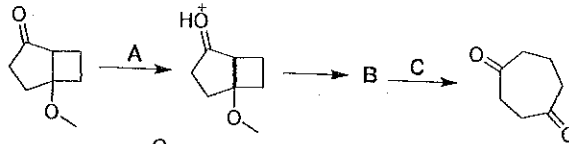
b) How will you construct four member ring? Show the strategy [06]  
in general. Design structures shown below



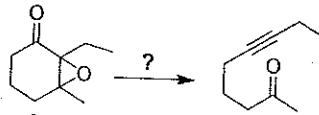
Q.6

a) Complete with reaction conditions, and mechanism of [06]  
forming intermediates and final product

i)

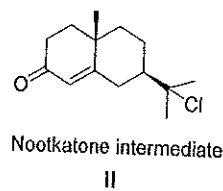
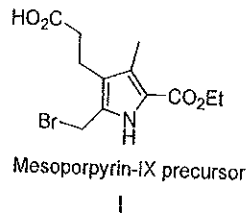


ii)



b) Give the synthesis of molecules given below

[06]



OR

b) Attempt following

- i) Describe strategy to protect and de-protect alcohol, suggesting at least three different ways
- ii) Complete the following with structures A, B, and C identified

