

Time: 2 Hours

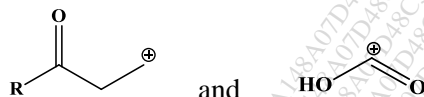
Marks: 40

- N.B.:** 1. All Questions are compulsory  
2. Figures to right indicate full marks

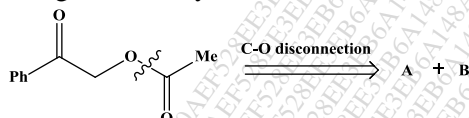
**Q.1.** Answer the following in brief. Draw structures wherever required. 10M

i. Define: a. Functional group interconversion    b. Synthn 2M

ii. Suggest suitable synthetic equivalents for the following synthns 2M

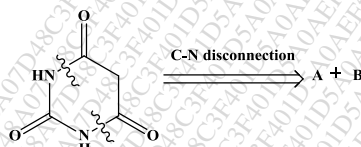


iii. Identify synthn A and B in the given retrosynthesis reaction 2M



iv. Discuss any two disconnection rules by giving suitable example 2M

v. Identify A and B in the given heterocyclic retrosynthesis 2M

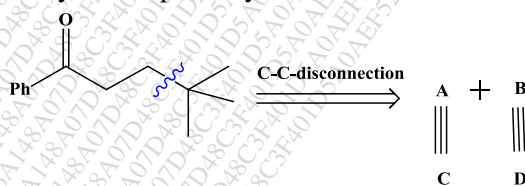


**Q.2.** i. Identify the following conversion as Functional Group Interconversion (FGI) or Functional Group Addition (FGA) or Functional Group Removal (FGR) and give suitable justification 3M



ii. Suggest the economical and simple retrosynthetic pathway and synthetic scheme for 4-methoxyacetophenone **OR** Ethyl 1,4-diphenylpiperidin-2,6-dione-3-carboxylate 3M

iii. Complete the following retrosynthetic pathway 4M

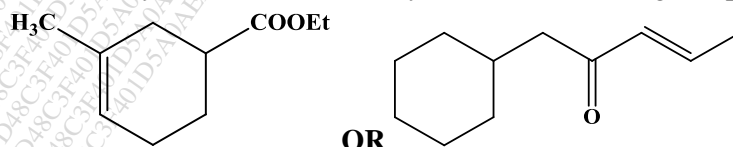


**Q.3.** i. Write the "Order of events" for retrosynthesis of m-nitrochlorobenzene 3M

ii. Write the retrosynthesis of furan **OR** N-methylpyrrole using "1+4" strategy. 3M

iii. Discuss the retrosynthetic pathway for Benzocaine **OR** Sulfadiazine 4M

**Q.4.** i. Suggest a suitable retrosynthetic scheme for any one of the following compounds 3M



ii. Discuss the term "Umpolung" using suitable example 3M

iii. Discuss the retrosynthesis of Ibuprofen **OR** Propranolol 4M