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SEAT No. _____

No. of Printed Pages : 4

SARDAR PATEL UNIVERSITY

M.Sc. Semester-III (Organic Chemistry) (Old Course, NC) Examination

Thursday, 25th October- 2018

PS03CORCO2: Organic Synthesis – A Disconnection Approach

Time: 02:00pm to 05:00pm

Total Marks: 70

Q.1 Select the Correct answer in the following. 08

- 1 The synthetic equivalent for the synthon Ph^- is....
 - (a) PhBr
 - (b) PhOH
 - (c) PhLi
 - (d) PPh_3
- 2 An analytical operation which breaks a bond and converts a molecules in to a possible starting material is known as....
 - (a) Disconnection
 - (b) Protecting groups
 - (c) FGI
 - (d) Leaving group
- 3 The Symmetric 1,2 diol can be prepared by....
 - (a) Pinacol reduction
 - (b) Perkin reaction
 - (c) Acyloin reaction
 - (d) Darzan condensation
- 4 Which of the following reaction is used for the preparation of olefins?
 - (a) Aldol Condensation
 - (b) Wurtz reaction
 - (c) Wittig reaction
 - (d) Mannich reaction
- 5 The cyclic α -Hydroxy ketone can be prepared by....
 - (a) Acyloin reaction
 - (b) Pinacol reduction
 - (c) Darzan reaction
 - (d) Dieckmann reaction
- 6 The reconnection is applicable in the disconnection for....
 - (a) 1,2-dicarbonyl Compounds
 - (b) 1,3-dicarbonyl Compounds
 - (c) 1,4-dicarbonyl Compounds
 - (d) 1,6-dicarbonyl Compounds
- 7 The THP derivative is used for the protection of....
 - (a) Phenol
 - (b) Amine
 - (c) Ketone
 - (d) Alcohol
- 8 The MEM derivative is used for the protection of....
 - (a) Phenol
 - (b) Carboxylic Acid
 - (c) Ketone
 - (d) None of these

Q.2 Answer the following (Write Any Seven). 14

- 1 Define the term Synthetic Equivalent with suitable example.
- 2 Explain the term FGI with example.

(1)

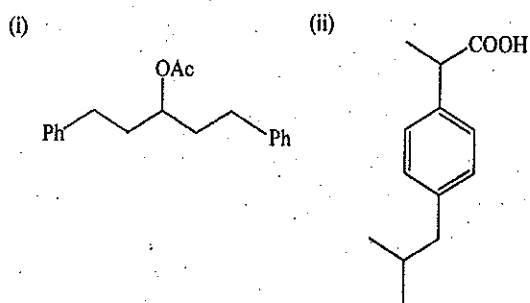
(PTO)

- 3 Give the mechanism of Benzoin Condensation with suitable example.
- 4 Give the suitable example of pinacol reduction.
- 5 Write about the protection and deprotection of ketone group.
- 6 Define the term Illogical Electrophiles.
- 7 Give the examples of sulphur ylide in the preparation of epoxide.
- 8 Using umpolung approach, plan the synthesis for the following molecule.

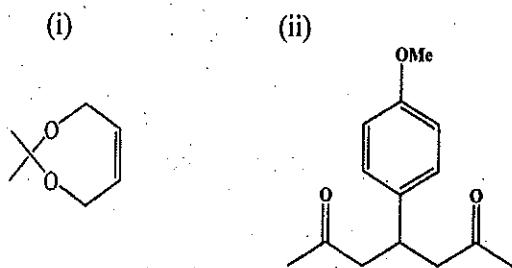


- 9 What is the importance of enamine in organic synthesis?

Q.3 A Do the disconnection and plan the synthesis for the following molecules. 06

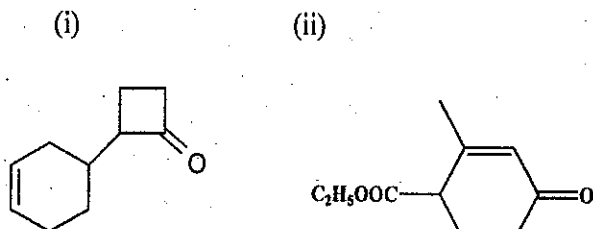


B Do the disconnection and plan the synthesis for the following molecules. 06



OR

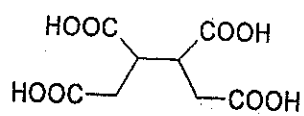
B Do the disconnection and plan the synthesis for the following compound. 06



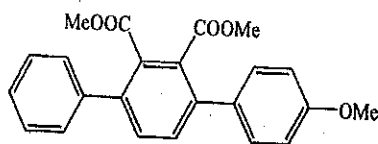
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Q.4 A Do the disconnection and plan the synthesis for the following molecules. 06

(i)

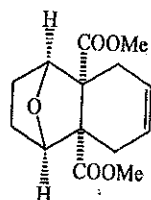


(ii)

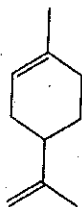


B Do the disconnection and plan the synthesis for the following molecules. 06

(i)



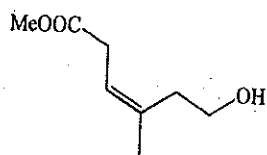
(ii)



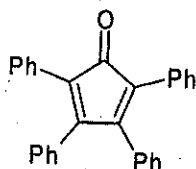
OR

B Do the disconnection and plan the synthesis for the following molecules. 06

(i)

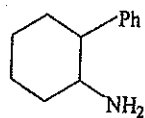


(ii)

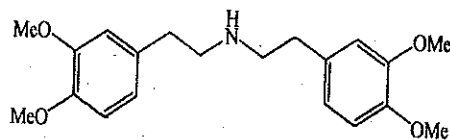


Q.5 A Do the disconnection and plan the synthesis for the following molecules. 06

(i)

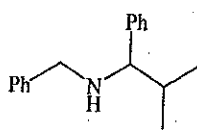


(ii)

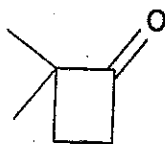


B Do the disconnection and plan the synthesis for the following molecules. 06

(i)



(ii)



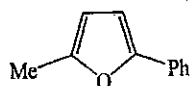
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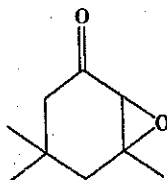
OR

B Do the disconnection and plan the synthesis for the following molecules. 06

(i)

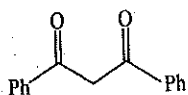


(ii)



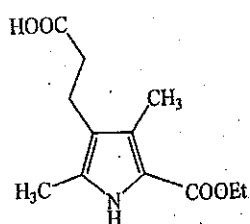
Q.6 A Answer the followings.

(i) Do the disconnection & plan the synthesis for the following compound. 03



(ii) Discuss the protection and deprotection of phenols and amines. 03

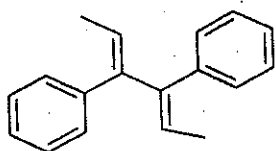
B Give the synthesis of following pyrrole derivative used as intermediate in the synthesis of Mesoporphyrin-IX. 06



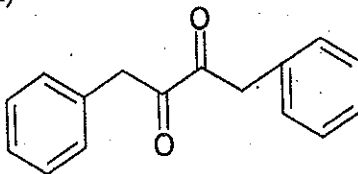
OR

B Do the disconnection and plan the synthesis for the following molecules. 06

(i)



(ii)



—X—

(4)