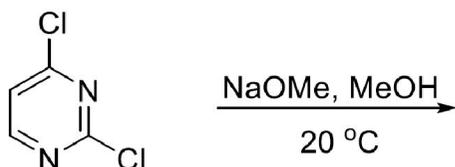


Section D

7. Sketch an important method for the synthesis of guanine and caffeine. **12**
8. (a) Give the general methods for the structural determination of quercetin.
- (b) Write down the product(s) of the following reaction. Also sketch the mechanistic pathway : **8,4**



Roll No.

Total Pages : 04

LMDQ/D-23

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PHARMACEUTICAL CHEMISTRY

SPECIAL-I

CHEM-304

(CBCS-LOCF)

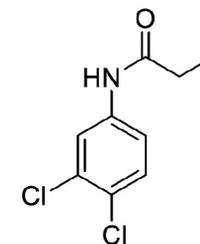
Time : Three Hours]

[Maximum Marks : 60

Note : Attempt *Five* questions in all, selecting at least *one* question from each Section. All questions carry equal marks.

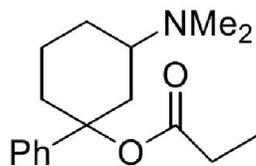
Section A

1. (a) Discuss synthetic equivalents and FGI with examples.
- (b) Analyze the molecule using disconnection approach :



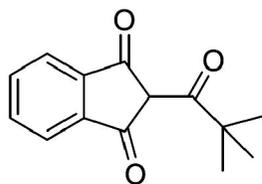
- (c) Discuss one group C-X disconnection of acid derivatives. **4,4,4**

2. (a) What do you understand by masked H₂S equivalent ?
Explain.
- (b) Define and discuss reversal of polarity.
- (c) Disconnect the molecule to propose a suitable synthetic method : **4,4,4**



Section B

3. (a) Disconnect the compound using synthon approach :



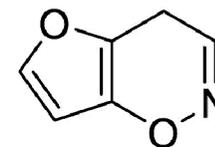
- (b) Explain the application of synthon approach in the synthesis of nafimidone. **5,7**
4. (a) Apply synthon approach in the synthesis of propanolol.
- (b) Describe the role of (i) THP and (ii) Cbz as protective groups. **5,7**

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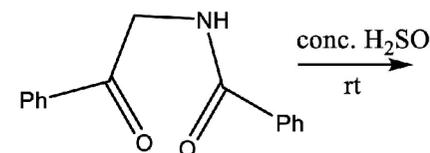
2

Section C

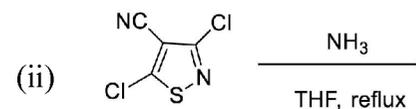
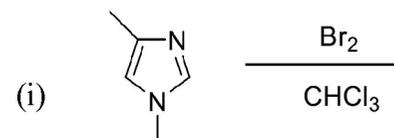
5. (a) Write the systematic name of :



- (b) How will you synthesize pyrazole starting from acetylacetone ?
- (c) Complete the reaction. Also discuss the mechanism : **3,5,4**



6. (a) Discuss the reactivity of 1, 2- and 1, 3-azoles towards nucleophilic reactions.
- (b) Write the product(s)/mechanism : **4,8**



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P.T.O.