M.Sc. Examination 2017

Semester-IV

Chemistry

Course: CH-1022

(Optional : Organic Chemistry)

Time: Three Hours **Full Marks: 40**

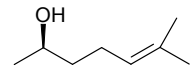
Questions are of value as indicated in the margin.
Answer ***two*** questions from ***Question No. 1-3*** and
two questions from ***Question No. 4-6.***

1. What do you mean by cardiovascular drugs? Briefly describe the following categories of cardiovascular drugs: 2+8
   a) Anti-anginals
   b) Anti-arrhythmics
   c) Anti-hypertensives
   d) Anti-coagulants

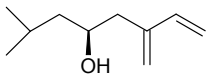
2. Write short notes on (***any five***): 5x2
   a) Amyl nitrate
   b) Sorbitrate
   c) Diltiazem
   d) Quinidine
   e) Verapamil
   f) Methyl Dopa

3. a) What do you mean by β-lactum antibiotics? Give two examples. 2
   b) What is β-lactamase inhibitors? Show mechanistically, how these inhibitors work with an antibiotic drug? 4
   c) Write down the synthesis of 'Ampicillin' and 'Cephalosporins' from APA derivative. 2+2

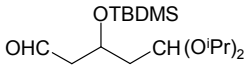
4. Write down the synthetic route for each of the following compounds: 4x2.5

   a) 

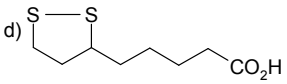
   from 2-deoxy-D-ribose

   b) 

   from *S*-leucine

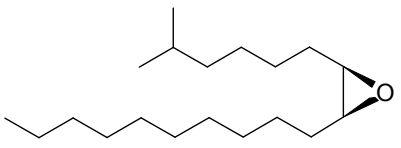
   c) 

   from *S*-malic acid dimethyl ester

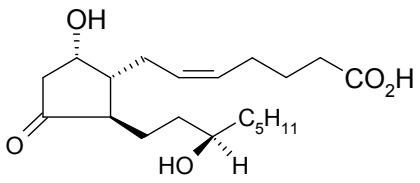
   d) 

   from Cyclohexanone
   (lipolic acid)

5. a) Write down the synthetic route for CBS reagent, and then carry out the reduction with acetophenone. Show the possible intermediate. 4
   b) Design the chiral synthesis of disparlure (A) and prostaglandin (B). 2+4



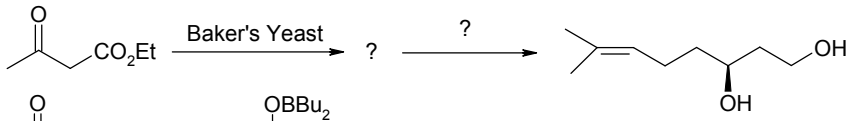
(A)

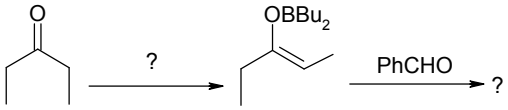


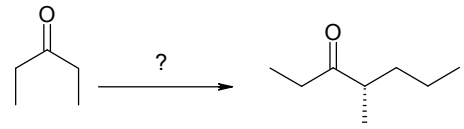
(B)

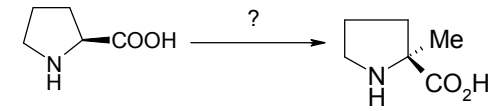
P.T.O.

6. Complete the sequence of the following reactions (multi-step may be required): 5x2

a) 

b) 

c) 

d) 

e)