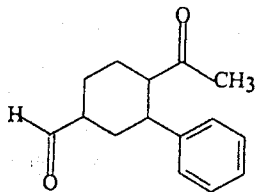


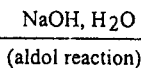
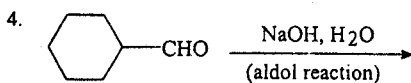
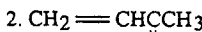
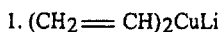
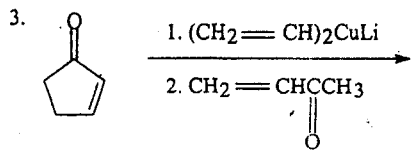
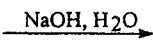
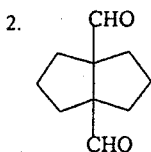
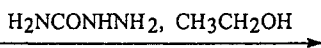
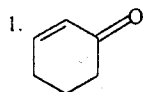
系 級	科 目	授 課 教 師	考 試 日 期	學 號	姓 名
藥 二	有機化學	李 誠	93 年 1 月 13 日 第 1 節		

*①請注意本試題共 5 張。如發現頁數不足及空白頁或缺印，應當場請求補齊，否則缺少部份概以零分計。
 ②每張試題卷務必填寫(學號)、(姓名)。

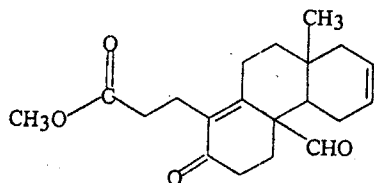
I. Give IUPAC name for the compound; 3 %



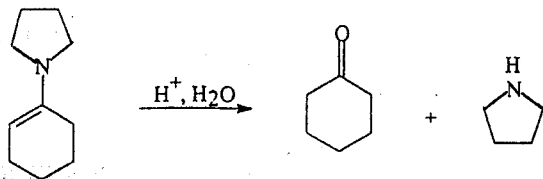
II. Give the expected major product of the following reactions. 12 %



III. Propose synthesis of the following compound by using Michael addition followed by aldol condensation (i.e., Robinson annulation). 5 %



IV. Formulate mechanism for the acid-catalyzed hydrolysis of the pyrrolidine enamine of cyclohexanone. 4 %



V. Would the use of an enamine instead an enolate improve the likelihood of successful alkylation of a ketone by a secondary haloalkane? 5 %

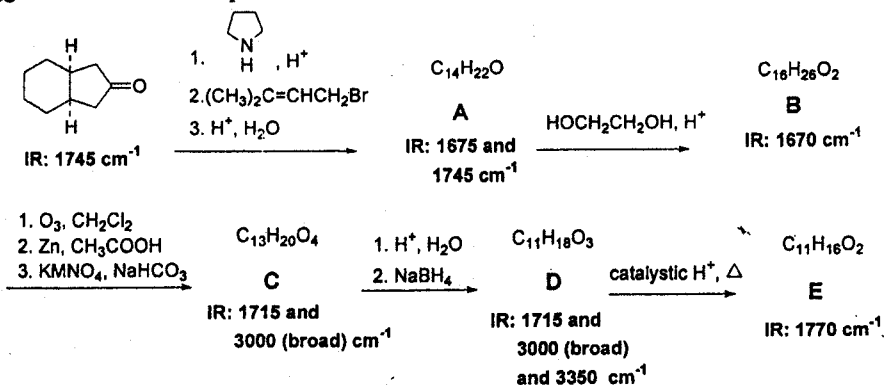
系 級	科 目	授 課 教 師	考 試 日 期	學 號	姓 名
藥二	有機化學	李慶國	92年1月13日第 節		

* ①請注意本試題共 5 張。如發現頁數不足及空白頁或缺印，應當場請求補齊，否則缺少部份概以零分計。
 ②每張試題卷務必填寫(學號)、(姓名)。

IX. Give the product of reaction of cyclopentanecarboxylic acid with each of the following reagents. 4%

- (A) $\text{CH}_3\text{CH}_2\text{NH}_2$ (B) $\text{CH}_3\text{CH}_2\text{COBr}$ (C) LiAlH_4 , then H^+ , H_2O (D) Br_2 , P
- (A) (B) (C) (D)

X. Suggest structures for the products of each reaction in the following synthetic sequence. 5%



A B C D E

XI. When ethyl ester treated butanedioic acid with thionyl chloride (SOCl_2), she was surprised to find that the product she obtained was an anhydride rather than an acyl chloride. Propose a mechanism to explain why she obtained an anhydride. 6%

XII. The relative reactivity of the substrates follow a consistent order: alkanoyl (acyl) halides are most reactive, followed by anhydrides, then ester, and finally the amides, which are least reactive. Why? 7%

XIII. For each of the following pairs of compounds, how could distinguish between them? (Describe your reason) 4%

(A) $\text{CH}_3\text{CH}_2\text{CH}_2\text{CHO}$ and $\text{CH}_3\text{CH}_2\text{COCH}_3$

(B) $\text{CH}_3\text{CH}_2\text{CONH}_2$ and $\text{CH}_3\text{CH}_2\text{COOCH}_3$

XIV. Which peak would be more intense in the mass spectrum of the following compounds, the peak at $m/z = 57$ or the peak at $m/z = 71$? 4%

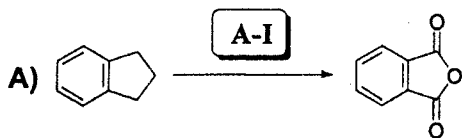
A. 3-methylpentane

B. 2-methylpentane

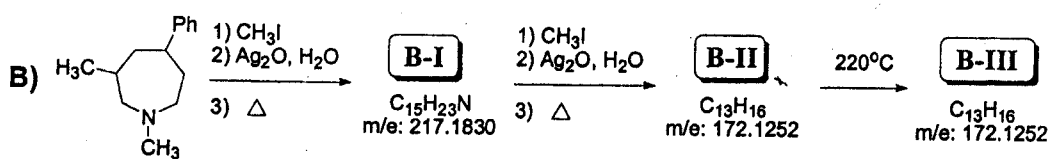
系級	科	目	授課教師	考試日期	學號	姓名
藥學	有機化學		蔡祐輔	93年1月13日第 節		

※①請注意本試題共 5 張。如發現頁數不足及空白頁或缺印，應當場請求補齊，否則缺少部份概以零分計。
 ②每張試題卷務必填寫(學號)、(姓名)。

VI. Please give the structure of the major product or provide necessary reagent(s) and conditions for each of the following reactions. (18%)



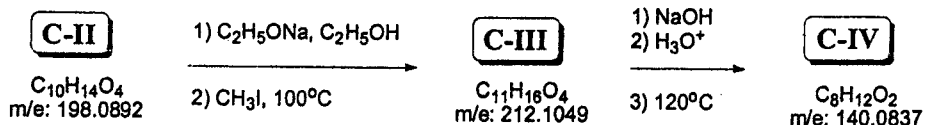
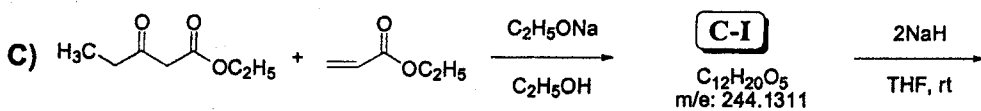
A-I _____



B-I _____

B-II _____

B-III _____



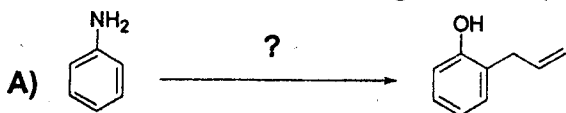
C-I _____

C-II _____

C-III _____

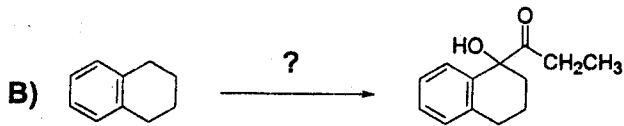
C-IV _____

VII. Please give the synthetic method of the product from the assignment starting material for each of the following reactions. (12%)

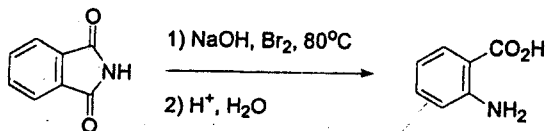


系級	科目	授課教師	考試日期	學號	姓名
藥二	有機化學	蔡祐軒	92年1月13日第 節		

*①請注意本試題共 5 張。如發現頁數不足及空白頁或缺印，應當場請求補齊，否則缺少部份概以零分計。
 ②每張試題卷務必填寫(學號)、(姓名)。



VIII. Please give the mechanism of the following reaction. (6%)



臺北醫學大學九十七學年度第一學期期中考試(試)命題紙

系級	科目	授課教師	考試日期	學號	姓名
第2	有機化學	吳建德	93年1月13日第 節		

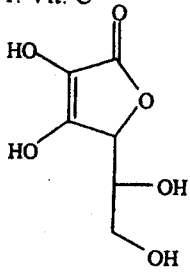
*①請注意本試題共 張。如發現頁數不足及空白頁或缺印，應當場請求補齊，否則缺少部份概以零分計。
 ②每張試題卷務必填寫(學號)、(姓名)。

Answer Pool:

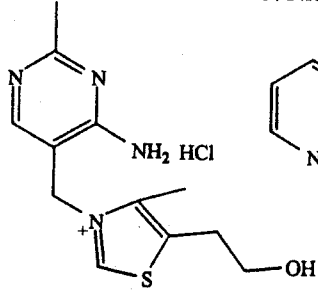
A. Thiazole, B. Pyridine, C. Pteridine, D. Lactone, E. Pyrimidine, F. Pyrrolidine, G. Azirine, H. Piperazine, I. Diazepine, J. Pyrazole, K. Imidazole, L. Piperidine, M. Thiophen, N. Benzofuran, O. Thiazolidine, P. Benzimidazole, Q. β -Lactam
 R. Benzodiazepine, S. Dihydrofuran, T. Aziridine, U. Purine

Name the Heterocyclic structure of each of the following compounds: (15%). Select answers from the Answer Pool provided above.

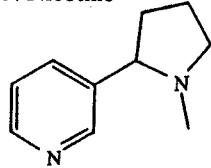
1. Vit. C



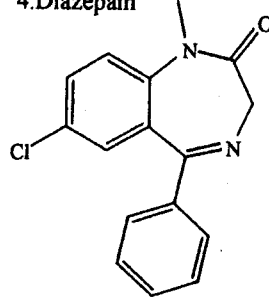
2. Vit. B1



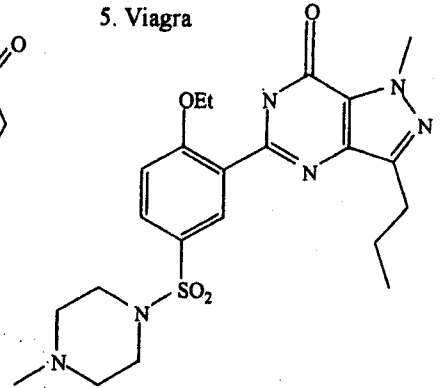
3. Nicotine



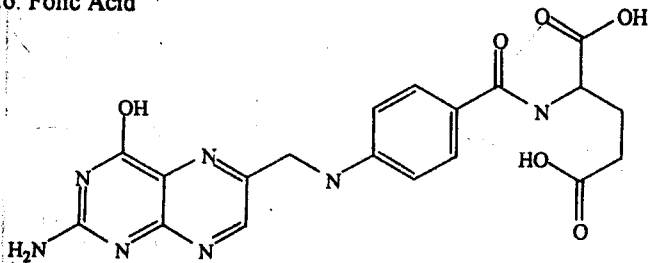
4. Diazepam



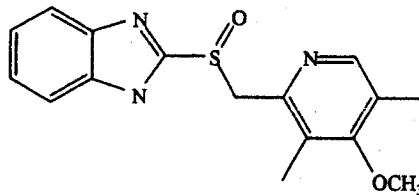
5. Viagra



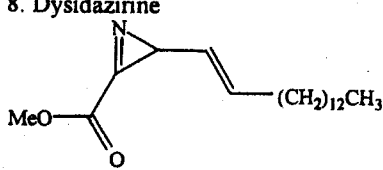
6. Folic Acid



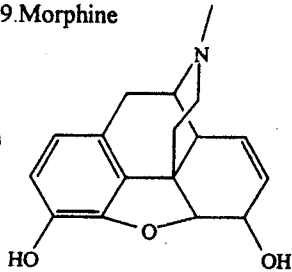
7. Omeprazole



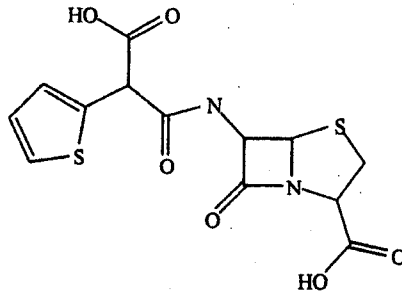
8. Dysidazirine



9. Morphine



10. Ticarcillin



Answers:

1. Vit. C: _____

4. Diazepam: _____

7. Omeprazole: _____

2. Vit. B1: _____

5. Viagra: _____

8. Dysidazirine: _____

3. Nicotine: _____

6. Folic Acid: _____

9. Morphine: _____

10. Ticarcillin: _____