



NATIONAL UNIVERSITY OF SCIENCE AND TECHNOLOGY  
DEPARTMENT OF APPLIED CHEMISTRY  
SUPPLEMENTARY EXAMINATIONS – AUGUST 2004  
ORGANIC INDUSTRIAL CHEMISTRY III – SCH 4215  
TIME: 3 HOURS

INSTRUCTIONS TO CANDIDATES

Answer ALL questions from Section A and from Section B.

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**SECTION A (40 marks)**

1. (a) Allocate the following drugs into their appropriate therapeutic classes:
- |              |         |            |          |
|--------------|---------|------------|----------|
| diazepam     | amoxil  | ampicilin  | asprin   |
| erythromycin | indicin | cimetidine | v-cillin |
- (8 marks)
- (b) Give *five* factors that affect drug absorption in the human body. (5 marks)
- (c) What are the *five* common ways of drug application? (5 marks)
- (d) What are the *five* prerequisites for a good fermentation process? (5 marks)
- (e) What do the following terms refer to in sugar processing?
- |        |               |           |
|--------|---------------|-----------|
| (i)    | Inversion     |           |
| (ii)   | Bagasse       |           |
| (iii)  | Liming        |           |
| (iv)   | Clarification |           |
| (v)    | Molasses      |           |
| (vi)   | Shock seeding |           |
| (vii)  | Massecuite    |           |
| (viii) | Strike        | (8 marks) |
- (f) Give *five* differences between beers and wines. (5 marks)
- (g) What are vitamins? (2 marks)
- (i) Give *two* classes of vitamins. (2 marks)

**SECTION B (60 marks)**

2. With the aid of a diagram, describe the process of making beer with special emphasis on the following:
- (i) brewing
  - (ii) fermentation
  - (iii) lagering
- (20 marks)
3. Outline in detail the production of industrial alcohol from *one* of the following:
- (i) corn
  - (ii) ethylene
- (20 marks)
4. With the aid of a chemical flow chart, outline the production of each of the following drugs:
- (i) salicylic acid
  - (ii) diazepam
- (20 marks)

*End of Question Paper*