

# Cork Institute of Technology

Higher Certificate in Science in Applied Biology – Award  
(National Certificate in Science in Applied Biology – Award)  
(NFQ – Level 6)

Summer 2005

## **Food Processing**

(Time: 3 hours)

Answer any FIVE questions.

Examiners: Ms. A. Murphy

All questions carry equal marks.

Prof. R.J. Fitzgerald

- Q1. (a) Briefly describe the Quality Assurance Schemes in place in the Irish food industry.  
Describe their functions and the foods involved in these schemes.
- (b) Discuss the control measures involved in abattoirs to control E. coli 0157 contamination.
- Q2. (a) Outline the steps involved in the slaughtering process of a beef carcass.
- (b) Describe the main quality changes that occur during the storage of eggs.  
Outline briefly how these changes can be minimised.
- Q3. (a) What would be the expected residual levels of salt (%), nitrate and nitrite (p.p.m.) when bacon is manufactured by injecting pork at 15.8% with a brine containing 15.9% salt, 0.22% nitrate and 0.10% nitrite?
- (b) What injection level of a brine containing 14.5% salt should be used to give bacon with a residual salt level of 2.45%?
- Q4. (a) What weight of cream containing 36% fat and skim milk containing 0.02% fat would be expected from the separation of 3645kg of milk containing 3.62% fat?
- (b) How much skim milk containing 0.03% fat should be removed from 6245kg of milk in order to increase the fat content from 3.51% to 3.63%?

- Q5. (a) Outline the steps involved in the production of wine.
- (b) Describe briefly the stages involved in the milling of white flour.
- Q6. (a) Outline a laboratory method for the determination of ascorbic acid in a fruit juice or vegetable.
- (b) Describe briefly the effects of processing and storage on the vitamin C content of fruits and vegetables.
- Q7. (a) Describe briefly five of the following food preservation methods:
- (i) Fluidised Bed Drying
  - (ii) Modified Atmosphere Packaging
  - (iii) Accelerated Freeze Drying
  - (iv) Spray Drying
  - (v) Chemical Preservatives
  - (vi) Irradiation
- Q8. (a) Describe the steps involved in the production of cheddar cheese.
- (b) Write a note on the H.T.S.T. process of milk pasteurisation to include the time and temperature involved.