

Cork Institute of Technology
Bachelor of Science in Food Science and Technology - Award
(NFQ - Level 7)
Spring 2006
Food Microbiology
(Time: 3 Hours)

Instructions
Answer FIVE questions.
Answer THREE questions from Section A and
TWO questions from Section B.

Examiners: Mr. A. Coffey
Mr. B. Walsh
Mr. R. Fitzgerald

Section A

- Q1. Explain the HACCP process using a food product with which you are familiar.
(40 marks)
- Q2. Show how the intrinsic and extrinsic factors of foods affect their keeping qualities with respect to spoilage micro-organisms. Quote examples freely to support your answer.
(40 marks)
- Q3. The prevention of contamination is the most effective way of maintaining the quality of foods. Discuss this statement.
(40 marks)
- Q4. Discuss the role of micro-organisms in the spoilage of
- (a) Milk and dairy products (10 marks)
 - (b) Meat and meat products (10 marks)
 - (c) Fruit and fruit juices (10 marks)
 - (d) Canned foods (10 marks)

Section B

- Q5. Discuss the following culture-based methods of identifying and enumerating micro-organisms from foods and drinks:
- (a) Conventional plating
 - (b) Spiral plating
 - (c) Hydrophobic Grid Membrane filtration (40 marks)
- Q6. Write an essay on food sampling with particular emphasis on:
- (a) precautions when taking the sample
 - (b) containers and utensils
 - (c) transport/delivery of sample
 - (d) sampling plan
 - (e) work-space and equipment
 - (f) handling of the analytical sample
 - (g) typical microbiological analyses (40 marks)
- Q7. Discuss the different pathogenic *E. coli* strains involved in food poisoning from the point of view of:
- (a) properties
 - (b) sources
 - (c) pathogenesis
 - (d) food analysis
 - (e) detection (40 marks)