

# Cork Institute of Technology

## Bachelor of Science (Honours) in Herbal Science – Stage 2

(SHERB\_8\_Y2)

Summer 2008

### **Nutrition**

(Time: 3 Hours)

#### Instructions

Answer a total of **FIVE** questions (2 must be from section A , 2 must be from section B and 1 may be from either sections A or B)

#### Examiners:

Ms. A. Keaveney  
Mr G. Levieille  
Dr. D. Corrigan  
Dr. D. Clare

### Section A

Q.1. (a) Discuss essential fatty acids in terms of their: (10marks)

- i. Chemical structure (give examples)
- ii. Metabolic pathway (give examples)
- iii. Function in the body (give examples)

(b) List the health benefits attributed to essential fatty acids and briefly discuss the evidence in support of each. (10 marks)

Q2. (a) Discuss the role of fibre in: (10 marks)

- i. Gastric emptying
- ii. Small intestine motility

(b) Describe the mechanisms of action of dietary fibre and colonic transit time and the role of gut microflora in these mechanisms. (10 marks)

Q3. (a) Discuss the classification of fats, give examples from food sources. (8 marks)

(b) Describe how cholesterol is processed by the body. (12 marks)

- Q4. (a) Discuss amino acids in terms of (give examples) (8 marks)
- i. Chemical structure
  - ii. Essential and non-essential amino acids
- (b) Discuss proteins in terms of (12 marks)
- i. Biological values as a food source
  - ii. Protein synthesis within the body
  - iii. Nitrogen balance within the body

## Section B

- Q5. (a) Explain the importance of calcium in nutrition, its role and function in the human body and the risks associated with deficiency of this mineral. (12 marks)
- (b) Discuss the variations of nutritional requirements in Calcium for an individual through the different phases of life. (8 marks)
- Q6. (a) Describe the metabolism of alcohol in human body. (10 marks)
- (b) Discuss the risks associated with long-term excessive alcohol intake. (10 marks)
- Q7. (a) Discuss the importance of Iodine dietary intake, the consequences of Iodine deficiency and the measures taken to prevent iodine deficiencies. (10 marks)
- (b) What are the consequences of Iron deficiency? Describe the stages and the Health implications of Iron deficiency and Iron overload. (10 marks)
- Q8. (a) Give a definition of a vitamin. (3 marks)
- (b) Describe the chemical nature of Vitamin E. (5 marks)
- (c) Discuss the absorption and functions of Vitamin E. (12 marks)