

Cork Institute of Technology
Bachelor of Science (Honours) in Herbal Science – Stage 2

(NFQ Level 8)

Summer 2007

Nutrition

(Time: 3 Hours)

Instructions
Answer any **FIVE** questions

Examiners: Ms. A. Keaveney
Dr. D. Corrigan
Mr. E. Walsh

- Q1. (a) Discuss the key recommendations in the report ‘Recommended dietary allowances for Ireland 1999’. (5 marks)
- (b) Discuss the changes in the Irish diet since the National Nutrition Survey in 1948 and the current concerns in terms of diet, energy intake, physical activity and health issues. (15 marks)
- Q2. (a) Briefly discusses proteins under the following headings giving examples in each case:
- (i) Chemical structure
 - (ii) Functions
 - (iii) Essential amino acids and biological value (12 marks)
- (b) Discuss the changes in attitude to protein intake and deficiency (protein gap) since the 1950’s. (8 marks)
- Q3. (a) Briefly discuss fats under the following headings giving examples in each case:
- (i) Types of fats
 - (ii) Cis/ Trans fats
 - (iii) P:S ratio
 - (iv) Roles of fat in the diet (12 marks)
- (b) Discuss the current understanding of the health benefits or otherwise of the different fats in the diet. (8 marks)

- Q4. (a) What are essential fatty acids and how are they metabolised in the body? (5 marks)
- (b) Discuss the proposed mechanism by which essential fatty acids are thought to reduce the risk from cardiovascular disease and inflammatory joint diseases. (15 marks)
- Q5. (a) Discuss the physiological effects of non-starch polysaccharide on the gut. (10 marks)
- (b) Describe the metabolism of glucose within the absorptive and post-absorptive states. (10 marks)
- Q6. (a) What is a vitamin? (2 marks)
- (b) Discuss the classification of vitamins including sources within the categories and briefly outline the role of these vitamins in the body. (8 marks)
- (c) Discuss the theory linking free radical generation to increased risk of cardiovascular disease. (10 marks)
- Q7. (a) Discuss the current thinking in relation to calcium, diet and osteoporosis. (10 marks)
- (b) Discuss the current thinking on salt intake and hypertension. (10 marks)
- Q8. (a) Discuss the energy obtained from food in terms of its individual component values (calorie/ Joule). (5 marks)
- (b) Discuss the daily energy expenditure of the body in terms of its components (basal metabolic rate(BMR), diet induced thermogenesis and energy cost of physical activity. (15 marks)