

# Cork Institute of Technology

Higher Certificate in Science in Applied Chemistry – Stage 1  
(National Certificate in Science in Applied Chemistry – Stage 1)

Higher Certificate in Science in Applied Biology – Stage 1  
(National Certificate in Science in Applied Biology – Stage 1)

Higher Certificate in Science in Applied Physics & Instrumentation – Stage 1  
(National Certificate in Science in Applied Physics & Instrumentation – Stage 1)

(NFQ – Level 6)

Autumn 2005

## **Complementary Studies – Health and Recreation**

(Time: 3 Hours)

Instructions  
Answer FOUR questions  
All questions carry equal marks.

Examiners: Mr. K. Kehily  
Ms. O. McGrath  
Mr. P. Staunton

- Q1. (a) List and describe each of the components of health related fitness. (15 marks)
- (b) Calculate the target training heart rates for a 20 years old person at 60% -70% of maximum resting heart rate. R.H.R is 70 beats per min. (Use the Karvonen formula). (10 marks)
- Q2. (a) List and describe the food nutrients which are essential for maintaining optimal nutrition. (15 marks)
- (b) Explain how to design a nutritious diet using the Food Pyramid and the right balance of food intake in relation to the different food groups. (10 marks)

Q3. (a) Sprains and Strains are common sports injuries involving damage to muscle, ligament and tendon tissue. Clearly explain the underlined words. (15 marks)

(b) Discuss stress in today's world and outline ways of reducing it. (10 marks)

Q4. (a) Outline the main risk factors associated with coronary heart disease (CHD). (15 marks)

(b) Apply the FITT principles to clients with heart disease. (10 marks)

Q5. Write notes on each of the following;

- Warm-up and cool down (10 marks)
- Body Mass Index (BMI) (10 marks)
- Sports clothing in warm and cold weather (5 marks)