

Cork Institute of Technology

Bachelor of Science in Food Science and Technology – Award

(NFQ – Level 7)

Summer 2007

Environmental Science and Industrial Hygiene

(Time: 2 Hours)

Instructions
Answer any THREE questions.
All questions carry equal marks.

Examiners: Mr. E. Callery
Prof. R.J. Fitzgerald

- Q1. (a) Describe how Acid Rain is formed and discuss the effects it has on the environment.
(16 marks)
- (b) What measures has Ireland taken under the National Ceilings Directive to reduce the formation of acid rain?
(7.3 marks)
- (c) Outline the main aims of the Air Quality Framework Directive and how it was implemented into Irish Law.
(10 marks)
- Q2.(a) Discuss how different agricultural activities can have an environmental impact on soil quality.
(16.6 marks)
- (b) Radon gas can be a serious health risk. Elaborate on this statement illustrating how radon is formed, its potential effects and what controls should be put in place to minimize this risk.
(16.6 marks)

Q3.(a) Explain (i) how the body regulates temperature and (ii) the body mechanisms used to control against heat stress.

(11.1 marks)

(b) Describe TWO of these heat stress conditions in more detail.

- (i) Heat Cramps
- (ii) Heat Exhaustion
- (iii) Heat Stroke

(11.1 marks)

(c) Outline one condition brought on by exposure to a cold environment and comment on the control measures that can be taken to offset this condition.

(11.1 marks)

Q4.(a) Write an informative account of occupational dermatitis under the following headings:

- (i) The skins natural defenses
- (ii) Contact Dermatitis
- (iii) Skin Cancer

(20 marks)

(b) Describe the main eye hazards in the workplace and list what preventative measures should be taken to minimize the risk of exposure to these hazards.

(13.3 marks)

Q5.(a) What is the role of the Health & Safety Authority as outlined in the Health, Safety and Welfare Act, 1989 (updated in 2005)?

(10 marks)

(b) Discuss the main duties of Manufacturers & Suppliers under the provisions of the Safety, Health and Welfare at Work Act, 1989 (updated in 2005).

(10 marks)

(c) Describe the functions and main components of

- (i) A Hazard Label
- (ii) A Materials Safety Data Sheet

(13.3 marks)