

**CORK INSTITUTE OF TECHNOLOGY**  
**INSTITIÚID TEICNEOLAÍOCHTA CHORCAÍ**

**Autumn Examinations 2013**

**Module Title: Food and Healthcare Toxicology - CA**

**Module Code:** **CHEM 7003**

**School:** Biological Science

**Programme Title:** Bachelor of Science in Food Science and Technology – Year 3  
Bachelor of Science (Honours) in Nutrition & Health Science – Year 3  
Bachelor of Science (Honours) in Herbal Science – Year 3

**Programme Code:** **SFSTE\_7\_Y3**  
**SNHSC\_8\_Y3**  
**SHERB\_8\_Y3**

**External Examiner(s):** Dr Gillian Gardiner, Prof Torres Sweeney, Dr Julia Green  
**Internal Examiner(s):** **Dr. Helena Stack**

**Instructions:** Answer question 1 and two other questions.  
All questions carry equal marks.

**Duration:** **2 Hours**

**Sitting:** **Autumn 2013**

**Requirements for this examination:**

**Note to Candidates:** Please check the Programme Title and the Module Title to ensure that you have received the correct examination paper.  
If in doubt please contact an Invigilator.

Answer question 1 and two other questions.

**Q1.** (a) Write notes on the following:

- (i) Principle of competitive ELISA (4 marks)
- (ii) N-acetyl-p-benzoquinoneimine (NABQI) (4 marks)
- (iii) Chromium (4 marks)
- (iv) *Daphnia magna* (4 marks)
- (v) Principle of the AMES test (4 marks)

**Q2.** Absorption is a factor that affects toxic response. Discuss. (20 marks)

**Q3.** Write an essay on residues in food. Use the following headings:

- (i) Pesticides (16 marks)
- (ii) Veterinary drug residues (4 marks)

**Q4.** Write notes on four of the following:

- (a) Toxicity assessment parameters (5 marks)
- (b) Physiological characteristics of toxic molecules (5 marks)
- (c) Urinary excretion of toxin (5 marks)
- (d) Teratogenesis (5 marks)
- (e) Aflatoxin (5 marks)