

**CORK INSTITUTE OF TECHNOLOGY  
INSTITIÚID TEICNEOLAÍOCHTA CHORCAÍ**

**Autumn Examinations 2013/14**

**Module Title: Nutritional Analysis**

**Module Code:** BIOL7018

**School:** Science & Informatics

**Programme Title(s):** Bachelor of Science in Applied Biosciences  
Bachelor of Science (Hons) in Herbal Science  
Bachelor of Science in Nutrition and Health Science

**Programmes Code(s):** SBIOS\_7\_Y2/ SHERB\_8\_Y2 / SNHSC\_8\_Y2

**External Examiner(s):** Dr. Tom O' Connor  
Prof. Olivia Corcoran  
Prof. Torres Sweeney

**Internal Examiner(s):** Anneliese Dressel

**Student Name:** ..... **ID NO:**.....

**Instructions:**

1. Write your student number in the box provided
2. Section A: Short Questions. Answer all questions (40 marks). Write your answers in the book provided.
3. Section B: Long Questions – Answer a total of 3 questions from a selection of 5 questions (60 marks – 20 marks X 3) Please use a separate answer book
4. No use of mobile phones, textbooks or notes.
5. Any rough notes written must be handed up with your answer books

**Duration:** 2 hours

**Sitting:** Autumn 2014

**Requirements for this examination:** Calculator

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

## **Section A: Short Questions**

**Answer all 15 questions (40 marks in total)**

1. a) Calculate the BMI for a woman that weighs 88kg and is 1.55m? (2 marks)  
b) What category does this woman fall into? (1 mark)

(a)

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(b)

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2. What is the WHO recommendation for a healthy waist to hip circumference ratio: (2 marks)

For men:

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For women:

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3. What is the RDA (Recommended Daily Allowance) for an adult woman for the following: (3 marks)

(a) Calcium:

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(b) Iron:

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(c) Sodium:

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4. Define Basal Metabolic Rate - BMR (2 marks)

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5. What is the difference between BMR and EER? (2 marks)

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6. Please give a short definition of the following terms: (3 marks)

- a. Coeliac Disease
- b. Anaemia
- c. Tolerable Upper-Intake Level (UL)

(a)

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(b)

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(c)

7. Name the 3 buffer systems in the human body. (3 marks).

(a)

(b)

(c)

8. List 3 food sources of essential fats (3 marks)

(a)

(b)

(c)

9. Name 3 circumstances that can affect the bioavailability and absorption of minerals? (3 marks)

10. Define cofactors and coenzymes (2 marks)

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11. List 3 functions of calcium in the human body (3 marks)

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12. List 3 functions of magnesium in the human body (3 marks)

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13. What is the purpose of adding sulphur dioxide to wine (2 marks)

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14. Define flavanoids and what is their function in the human body? (3 marks)

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15. What are the effects of Vitamin A deficiency on the human body? (3 marks)

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## **Section B: Long Questions**

**Answer a total of 3 questions out of 5. Each question is worth 20 marks each for a total of 60 marks.**

1. Discuss the role of potassium in the body and describe the absorption and excretion of potassium. Elaborate on the issues resulting from potassium deficiency. Name the food sources of potassium. (20 marks)
2. Discuss the requirements and role of iron in the human body? Explain the risks associated with deficiency of this mineral. Name the food sources of iron including a list of the foods as iron sources that you would recommend to a vegetarian. (20 marks)
3. Explain the importance of Vitamin E in nutrition, its role and function in the human body, the nutritional requirements and the risks associated with deficiency of this vitamin. (20 marks)
4. Choosing one of the B vitamins, discuss its functions in the body. What are the physiological effects of deficiency and toxicity? Name the food sources of your chosen B vitamin. (20 marks)
5. Discuss the physiological process for regulation of fluid balance in the human body. Explain the physiological phenomenon of thirst and the regulation of water intake. What is the normal daily water requirement and when might it be increased? (20 marks)