

**CORK INSTITUTE OF TECHNOLOGY
INSTITIÚID TEICNEOLAÍOCHTA CHORCAÍ**

Autumn Examinations 2016

Module Title: Fundamentals of Human Nutrition

Module Code: BIOL6025

School: Science and Informatics

Programme Title(s): BSc. (Hons) Nutrition and Health Science – Year 2
BSc. Applied Biosciences – Year 2

Programmes Code(s): SNHSC_8_Y2
SBIOS_7_Y2

External Examiner(s): Dr Cormac Gahan, Dr Tom O'Connor

Internal Examiner(s): Dr Helena Stack
Dr Aoife McCarthy

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

Duration: 2 hours

Sitting: Autumn 2016

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.

Q1. Compulsory

- (a) The nutritional composition of whole cow's milk (per 100ml) is given in the table below. Copy the table into your answer book and complete the missing information by stating the guideline daily amount (GDA) and calculating the percentage of the GDA provided by a 200ml serving of whole cow's milk. Show all calculations clearly.

(14 marks)

	Per 100ml	Guideline Daily Amount (GDA)	% GDA provided by a 200ml serving
Energy (kcal)	66 kcal		
Protein (g)	3.3g		
Fat (g)	3.9g		
Of which saturates (g)	2.5g		
Carbohydrate (g)	4.6g		
Of which sugars (g)	4.6g		
Cholesterol (mg)	14mg		

- (b) State which anthropometric measurement can be used to assess each of the following:

- (i) Body fat accumulation
- (ii) Body fat distribution
- (iii) Body fat percentage

(3 marks)

- (c) List two techniques used to analyse diets, which convert dietary data into nutrient data.

(2 marks)

- (d) What condition, often seen in elderly people, has been partly attributed to inadequate dietary protein intake?

(1 mark)

Q2.

- (a) Write a short note on the four categories of nutritional status

(5 marks)

- (b) Write a short note on hunger, appetite and satiety.

(5 marks)

- (c) Distinguish between EARs and RDAs, in terms of dietary guidelines. Use a labelled diagram to illustrate your answer.

(5 marks)

- (d) Write a short note on the use of carbohydrate as a fuel for muscles.

(5 marks)

Q3. Write an essay on the role of proteins in human nutrition under the following headings:

- (i) functions of protein in the human body (5 marks)
- (ii) protein quality and complementary proteins (7 marks)
- (iii) consequence of protein excess and protein deficiency (8 marks)

Q4. Write an essay on dietary fiber and health. In your answer include a discussion of the types of dietary fiber, the fate of dietary fiber in the digestive system and the benefits of optimal and consequence of excess dietary fiber.

(20 marks)