

**CORK INSTITUTE OF TECHNOLOGY
INSTITIÚID TEICNEOLAÍOCHTA CHORCAÍ**

Autumn Examinations 2013

Module Title: Food and Healthcare Biotechnology

Module Code: BIOL 7010

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

Programme Code: SFSTE_7_Y3
SNHSC_8_Y3

External Examiner(s): Dr Gillian Gardiner, Prof Torres Sweeney
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. Write short notes on the following:

- (i) Chymosin protein structure (5 marks)
- (ii) rChymosin (5 marks)
- (iii) Bifidobacteria (5 marks)
- (vi) 'Live active culture' seal (5 marks)

Q2. Write an essay on three types of bioreactors used in fermentation processes.

(20 marks)

Q3. Write an essay on recombinant insulin production.

(20 marks)

Q4. Write detailed notes on each of the following:

- (a) Microbial biomass (5 marks)
- (b) Biotechnology and patents (5 marks)
- (c) Recombinant L-ascorbic acid biosynthesis (5 marks)
- (d) Gene cloning (5 marks)