

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

**Winter Examinations 2011**

**Module Title: Food and Healthcare Microbiology**

**Module Code:** BIOM 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

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

**External Examiner(s):**  
**Internal Examiner(s):** Dr Helena Stack

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

**Duration:** 2 Hours

**Sitting:** Winter, 2011

**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 a short note on three laboratory methods used to measure bacterial growth.

(6 marks)

(b) Explain how you would calculate the following:

- a. Colony forming units (2 marks)
- b. Number of generations (2 marks)
- c. Generation time/doubling time (2 marks)
- d. Growth rate (2 marks)

(c) Write a short note on: Oxygen an intrinsic parameter affecting microbial growth.

(6 marks)

**Q2.** List ten different processes used to preserve food. Discuss any five.

(20 marks)

**Q3.** *Listeria* is among the top five pathogens contributing to domestically acquired foodborne illness resulting in death (Centre for Disease Control). Discuss.

(20 marks)

**Q4.** Protozoan organisms are important food pathogens. Discuss this in relation to one protozoan organism you have studied.

(20 marks)