

**CORK INSTITUTE OF TECHNOLOGY
INSTITIÚID TEICNEOLAÍOCHTA CHORCAÍ**

Autumn Examinations 2015

Module Title: Food and Healthcare Microbiology

Module Code: BIOM7003

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): Prof. Torres Sweeney, Prof. Olivia Corcoran
Internal Examiner(s): Dr Helena Stack

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

Duration: 2 Hours

Sitting: Autumn 2015

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 each of the following:

- (i) EMB agar (5 marks)
- (ii) XLD agar (5 marks)
- (iii) Viable cell count (5 marks)
- (iv) Colony forming units (Spread plate; give example) (5 marks)

Q2. Write short notes on each of the following:

- (i) The use of bacteriocins in food (5 marks)
- (ii) Symbiotic growth (5 marks)
- (iii) Synergistic growth (5 marks)
- (iv) Diauxic growth (5 marks)

Q3. Write short notes on each of the following:

- (i) Hemolytic uremic syndrome (HUS) (5 marks)
- (ii) *T. gondii* asexual cycle (5 marks)
- (iii) Pathogenicity island (5 marks)
- (iv) Food intoxication (5 marks)

Q4. *Campylobacter* is among the top five pathogens contributing to domestically acquired foodborne illness resulting in death (Centre for Disease Control).

Discuss under the following headings: (include headings in your answer)

- (i) Metabolism (3 marks)
- (ii) Growth and Survival (3 marks)
- (iii) Pathophysiology (8 marks)
- (iv) One disease complication resulting from Campylobacteriosis (6 marks)