

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

**Autumn Examinations 2011/12**

**Module Title:      Fundamentals of Microbiology 2**

**Module Code:**      BIOM6006

**School:**      Science

**Programme Title:**

Bachelor of Science in Applied Biosciences & Biotechnology – Year 2

Bachelor of Science (Honours) in Pharmaceutical Biotechnology – Year 2

Bachelor of Science (Honours) in Nutrition and Health Science – Year 2

**Programme Code:**

SBIOS\_7\_Y2

SPHBI\_8\_Y2

SNHSC\_8\_Y2

**External Examiner(s):**      Dr J. Bird, Dr A. Gallagher, Dr A. Nelson

**Internal Examiner(s):**      Dr A. Coffey

**Instructions:** Answer three questions. All questions carry equal marks.

**Duration:**      2 hours

**Sitting:**      Autumn 2012

**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.

- Q1. Write an essay on protozoa with reference to three significant protozoa, which are pathogenic for humans. (100 marks).
- Q2. (a) Write an account of the general properties and importance of *Salmonella*. 10 marks  
(b) Using examples, give an account of the naming system in *Salmonella* with respect to species, subspecies and serovars. (20 marks)  
(c) Give a detailed account of the two types of infection caused by *Salmonella* with reference to illnesses caused, sources and pathogenesis. (50 marks)  
(d) Give an account of the foods typically associated with *Salmonella* and an agar medium used for its detection. (20 marks)
- Q3. (a) Write an account of the general properties and importance of *E.coli*. (30 marks)  
(b) Give an account of the principal gastroenteritis-causing *E. coli* groups. (20 marks)  
(c) Give a detailed account *E.coli* O157 with reference to sources, pathogenesis and detection. (50 marks)
- Q4. Discuss *Cronobacter sakzarii*. (30 marks)  
Write a note on the genus *Proteus*. (15 marks)  
Give an account of the O antigen and its use in typing bacteria. (25 marks)  
Discuss the importance of the O antigen in pharmaceutical products and the method used to detect its presence. (30 marks)