

**CORK INSTITUTE OF TECHNOLOGY
INSTITIÚID TEICNEOLAÍOCHTA CHORCAÍ**

Autumn Examinations 2012

Module Title: Analytical Microbiology
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Module Code: BIOM 7001

School: Science & Informatics

Programme Title: BSc in Applied Bioscience with Biotechnology – Stage 3
 BSc (Hons) in Pharmaceutical Biotechnology – Stage 3
 BSc in Analytical and Pharmaceutical Chemistry – Stage 3
 BSc (Hons) in Analytical Chemistry with Quality Assurance – Stage 3

Programme Code: SBIBI_7_Y3
 SPHBI_8_Y3
 SCHEM_7_Y3
 SCHQA_8_Y3

External Examiner(s): Dr Don Faller, Dr Jerry Bird

Internal Examiner(s): Dr Brigid Lucey

Instructions: Answer 3 questions, one from section A, one from Section B, and the remaining question from either A or B. Each question carries equal marks.

Duration: 2 Hours

Sitting: Autumn 2012

Requirements for this examination:

<p>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.</p>
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Section A

- Q1. Discuss **three** of the following topics with regard to cleanrooms. **Note:** Each part of this question carries equal marks.
- (a) Sterile glove box isolators
 - (b) The vane anemometer
 - (c) Unidirectional airflow
 - (d) Provision of cleanroom services
 - (e) Restricted access barrier systems
- (33 marks)
- Q2. (a) Discuss the aspects of cleanrooms that require regulations governing their operation. (21 marks)
- (b) Give a brief account of **three** international standards that apply to the use of cleanrooms. (12 marks)

Section B

- Q3. Answer **three** of the following questions. **Note:** each part of this question carries equal marks.
- (a) The use of the Stomacher in Microbiology
 - (b) The isolation and identification of *Campylobacter* spp.
 - (c) Use of the Dynabead® system in Microbiology
 - (d) The significance of *Bacillus cereus* to human health
 - (e) The use of *B. cepacia* for bioremediation
- (33 marks)
- Q4. Discuss the methods currently used for the
- (a) Isolation, and (13 marks)
 - (b) identification of *Staphylococcus aureus* and (12 marks)
 - (c) indicate why this organism is considered significant (8 marks)