

CORK INSTITUTE OF TECHNOLOGY
INSTITIÚID TEICNEOLAÍOCHTA CHORCAÍ

Semester 1 Examinations 2011/12

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 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: Winter 2011

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 Write an essay on the strategies used by industry to achieve sterile manufacture, and discuss how an industrial microbiologist may assist in achieving the standards required.
- Q2. (a) Discuss whether there is a need for diversity of culture media in microbiology.
(b) Outline the importance of quality control of culture media, and
(c) Describe the methods currently used both to prepare culture media, and
(d) To certify fitness for purpose.

(All parts of Question 2 carry equal marks)

Section B

- Q3. Describe with the aid of a clearly labelled figure, an algorithm for (a) the differentiation of streptococci from staphylococci and (b) the identification of these organisms to species level.

Include microscopic and macroscopic characteristics in your answer.

- Q4. Discuss the methods currently used for the:
- (a) Isolation
 - (b) Detection
 - (c) Identification of verotoxigenic *E. coli*, and
 - (d) Indicate why this organism is considered significant

(All parts of Question 4 carry equal marks)