

CORK INSTITUTE OF TECHNOLOGY
INSTITIÚID TEICNEOLAÍOCHTA CHORCAÍ

Semester 1 Examinations 2009/10

Fundamentals of Microbiology I

Module Code: BIOM6007

School: School of Science

Programme Title: Bachelor of Science in Applied Biosciences & Biotechnology

Programme Code: SBIOS_7_Y2

External Examiner(s): Dr. D. Faller
Internal Examiner(s): Ms. C. Dawson

Instructions: Answer **4** Questions. All questions carry equal marks

Duration: 2 Hours

Sitting: Winter 2009

Requirements for this examination: Calculator

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.

Section A
Answer any 3 questions

- Q1. Write an essay on the history of microbiology. In your answer, give specific examples of individual scientists who have made a major contribution to the field.
- Q2. Compare and contrast a prokaryotic and eukaryotic cell.
- Q3. Outline the process of DNA replication with the aid of a diagram. Name and describe the function of each of the enzymes involved in the process.
- Q4. Describe how the prokaryotic cell regulates the activity of pre-existing enzymes.
- Q5. Scientists are concerned that bacteria will be resistant to all antibiotics within the next decade. Using your knowledge of genetics, describe one method by which bacterial populations can acquire drug resistance.

Section B
Answer 1 of the following questions

- Q6. Outline three chemical and three physical means which can be employed to control microbial growth.
- Q7. Write a short note on any two of the following:
- a. Bacterial growth curve
 - b. Transcription
 - c. Binary fission