

**CORK INSTITUTE OF TECHNOLOGY
INSTITIÚID TEICNEOLAÍOCHTA CHORCAÍ**

Semester 1 Repeat Examinations 2010

Module Title Fundamentals of Microbiology I

Module Code: BIOM 6007

School: Science

Programme Title: BSc Applied Biosciences
Programme Code: CR_SBIOS_7_Y2

External Examiner(s): Professor Gary Walsh
Internal Examiner(s): Ms. Catherine Dawson

Instructions: Answer **3 Questions from Section A** and **1 Question** from Section B

Duration: 2 hours

Sitting: Autumn 2010

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.

Section A – Answer any 3 questions

1. Write an essay on the history of Microbiology. In your answer, name individual scientists and describe contribution to the field of Microbiology. (25 marks)
2. Outline the physical and chemical means which can be employed to control microbial growth. (25 marks)
3. Describe the process of conjugation and its significance with regard to rising incidence of antibiotic resistance in bacteria. (25 marks)
4. Protein synthesis can be divided into the processes of transcription and translation. Describe these processes using diagrams where necessary and highlight any notable differences between eukaryotic and prokaryotic protein synthesis. (25 marks)
5. Compare and contrast the prokaryotic and eukaryotic cell structure. (25 marks)

Section B – Answer 1 of the following questions

6. Using a diagram outline the process of DNA replication. Name and give the role of each of the enzymes involved. (25 marks)
7. Write a short note on any two of the following:
 - a. Binary fission
 - b. Transformation
 - c. Transduction. (25 marks)