

**CORK INSTITUTE OF TECHNOLOGY
INSTITIÚID TEICNEOLAÍOCHTA CHORCAÍ**

Autumn Examinations 2011

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| Module Title: | Introductory Cell Biology (CA) |
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Module Code: **BIOL 6023**

School: Biological Science

Programme Title: Bachelor of Science in Applied Bioscience & Biotechnology – Year 2

Programme Code: **SBIOS_7_ Y2**

External Examiner(s): **Dr Don Faller**

Internal Examiner(s): **Dr Helen O Shea**

Instructions: **Answer 3 Questions. Question 1 is compulsory. Answer any 2 questions form section A**

Duration: 2 Hours

Sitting: Autumn 2011

Requirements for this examination:

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| <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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Answer **All** of Question 1 and **two** others from section A

- Q1. (i) Write a brief note on the use of the haemocytometer.
- (ii) You have counted cells using a haemocytometer and have an average of 20 cells in 16 squares. In order to obtain this count, you diluted the cells by a factor of 10. The conversion factor for your counting chamber is 10^4 . The total volume of cell suspension is 40 mls.
Calculate:
- (a) The number of cells per ml.
- (b) The total number of cells in the cell suspension.
- (iii) Discuss the components used to make 'BHK medium'.
- (iv) What are Oncogenes?
- (v) What is Immunological Memory?
- (vi) What are endoparasites?
- (vii) What are tumour suppressor genes?
- (viii) Outline, using a diagram, how HIV replicates.
- (ix) Why are parasitic diseases important?
- (x) What is PCR?

(Question 1 = 50 Marks)

Section A

Answer two questions from this section. Each question carries 25 marks.

- Q2. Discuss, with the aid of diagrams, Immunoglobulin molecules.
- Q3. Discuss, using diagrams, the cell cycle.
- Q4. Write an essay on AIDS.
- Q5. Discuss polyclonal and monoclonal antibody production.