

Cork Institute of Technology
Bachelor of Science in Applied BioSciences – Stage 2
(SBIOS_7_Y2)
Summer 2008
CELL BIOLOGY
(Time: 2 hours)

Answer Question 1 and two others
from section A

Examiners : Dr. H. O'Shea
Dr. T. Beresford

Use separate answer books for each section.

Q1. Compulsory

- (i) Write a brief note on the use of the haemocytometer.
- (ii) You have counted cells using a haemocytometer and have a total of 40 cells in 16 squares. In order to obtain this count, you diluted the cells by a factor of 20. 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) Discuss the cells involved in the specific immune response.
- (v) Draw a diagram of the cell cycle.
- (vi) What are Oncogenes?
- (vii) Outline, using a diagram, how HIV replicates.
- (viii) What are the three domains of life?
- (ix) Why are parasitic diseases important?
- (x) Discuss how antibodies are manufactured.

(Question 1 = 50 marks)

Section A (Cell Biology)

Answer at least 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. Discuss, using examples, parasitic diseases.

Q5. Write an essay on Biotechnology.