# NATIONAL UNIVERSITY OF SCIENCE AND TECHNOLOGY

DEPARTMENT OF APPLIED BIOLOGY AND BIOCHEMISTRY

BACHELOR OF SCIENCE HONOURS DEGREE

**Advanced Molecular Cell Biology SBB4204**

AUGUST 2009
3 HOURS (100 MARKS)

**INSTRUCTIONS**

Answer Four (4) Questions. Each question carries 25 marks. Where a question contains subdivisions, the mark value for each subdivision is given in brackets. Illustrate your answer where appropriate with large, clearly labelled diagrams

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1. Discuss the origin of stem cells and their possible therapeutic applications.

2. Explain how cancer can be caused by a named virus.

3. Compare the cellular composition, structure and function of four types of tissues that most animals are made of.

4. Explain how cyclin-dependent kinases and their complex control the progression of the cell cycle.

5. Discuss a named cell signal transduction pathway.

6. Discuss the scope and applications of tissue engineering.

**END OF EXAMINATION**