

**CORK INSTITUTE OF TECHNOLOGY**  
**INSTITIÚID TEICNEOLAÍOCHTA CHORCAÍ**

**Autumn Examinations 2010/11**

<b>Module Title:     Molecular Biotechnology (CA)</b>
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**Module Code:**        **BIOT8001**

**School:**                Science

**Programme Title:**    Bachelor of Science (Honours) Applied Biosciences (ACCS) – Award  
Bachelor of Science (Honours) Applied Biosciences – Award

**Programme Code:**    **SBIOE\_8\_Y4**  
                              **SBIOS\_8\_Y4**

**External Examiner(s):**    **Dr Don Faller, Dr Jerry Bird**  
**Internal Examiner(s):**    **Dr James Carroll**

**Instructions:**         Answer **any 3** questions below. All questions carry equal marks.

**Duration:**             **2 Hours**

**Sitting:**                **Autumn 2011**

**Requirements for this examination:**        N/A

<p><b>Note to Candidates:</b> 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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- Q1. Discuss the relevance of “blockbuster drugs” to a biotechnology company, particularly in relation to cost & profit potential, typical application of the drugs, and the significance of competing brands.
- Q2. Describe in detail your understanding of the term “protein engineering”, and indicate specific examples where the technique has been used to good effect.
- Q3. Describe in detail the role of monoclonal antibodies as a viable 21<sup>st</sup> century drug therapy. Use specific examples to support your answer.
- Q4. Outline and explain how you might optimise and implement a high throughput screening assay as part of a new anti-microbial discovery programme. Use specific examples to illustrate your answer.
- Q5. Write detailed notes on 3 the following:
- Real-time PCR
  - Microarray
  - Mass spectrophotometry
  - High Throughput Screening
  - Bio-informatics