

Cork Institute of Technology

Bachelor of Science in Applied Biosciences & Biotechnology - Award

(SBIBI_7_Y3)

Spring 2008

Biotechnology

(Time: 3 Hours)

Answer **FIVE** questions in total.
Answer **TWO** questions from Section A and
THREE questions from Section B.
Use separate answer books for each Section

Examiners: Dr. Roy Slater
Ms. Margaret Lane
Dr. Tom Beresford

Section A

- Q1. Write an essay on the biotechnological applications of *E. coli*. (20 marks)
- Q2. Define the term cleaning in place (CIP) and outline the different systems currently in use. (20 marks)
- Q3. Write an essay on the different methods used for the preservation of starter cultures. (20 marks)

Section B

- Q4. Write a detailed account of Downstream processing in the production of Biotechnological products. (20 marks)
- Q5 (a) Write an account of the various Fermenters and Bioreactors used in biotechnological fermentations. (8 marks)
- (b) Discuss the advantages and disadvantages of each of the following;
- Continuous Process
 - Fed Batch Process
 - Batch Process
- (12 marks)
- Q6. Write a detailed account of how recombinant DNA techniques have benefited the Biotechnology Industry.
Use specific examples to illustrate your answer. (20 marks)
- Q7. Write a descriptive account of the industrial production of Amino acids. (20 marks)