UNIVERSITY COLLEGE LONDON

University of London

EXAMINATION FOR INTERNAL STUDENTS

For The Following Qualification:-

M.Sc.

Biochem Eng G24: Integrated Biochemical Engineering Design

COURSE CODE	:	**BENGEG24**
DATE	:	**03-MAY-05**
TIME	:	**10.00**
TIME ALLOWED	:	**3 Hours**

TURN OVER

*Answer **TWO QUESTIONS** from **PART A**, and the question in **PART B**.*

Part A

1.

What are the financial 'exit routes' available to refund venture capitalists financing a company in the life sciences in the UK and the U.S. Explain the advantages and the disadvantages of each. [25]

2.

What are the major factors influencing the healthcare market worldwide? Give reasons and illustrate your answer with examples. [25]

3.

Give details of development pathway and regulatory hurdles for a biological therapeutic drug, including timescales, in the UK. [25]

Part B

1.

How would you evolve a suitable specification for a repeat high dose protein derived from *E.coli*? [15]

How would the process sequence used to deliver this product differ to one for the same product but now derived from a mammalian cell source? [15]

How might you contemplate using scale-down and modelling tools to assist in arriving at your final design solution? [20]

(You might care to take a couple of unit operations as examples to demonstrate your understanding of the concepts here.)

END OF PAPER