Ollscoil na hÉireann, Gaillimh
National University of Ireland, Galway

GX 2272

Semester II Examinations, 2003/2004

Exam Code(s)	3BS9
Exam(s)	3rd Year Science Examination
Module Code(s)	MI317
Module(s)	Molecular and Cellular Microbiology
Paper No.	1
Repeat Paper	Special Paper
External Examiner(s)	Professor C. M. Brown
Internal Examiner(s)	Professor E. Colleran
	Dr. T. Barry
Instructions:	**Answer 5 Questions**
	Please indicate clearly the numbers of the questions answered on the first page of your answer book
Duration	3 hrs
No. of Answer books	1 1/2
Requirements:	
Handout	
MCQ	
Statistical Tables	
Graph Paper	
Log Graph Paper	
Other Material	
No. of Pages	2
Department(s)	

Q1. Write an essay entitled "Cell-mediated immunity: importance and functions".

Q2. Write brief descriptive notes on <u>two</u> of the following antibody-based tests:

(a) Immunoelectrophoresis.
(b) Radioimmunoassay.
(c) Enzyme-linked immunosorbent assay.

Q3. Write an essay on "The mechanisms of Gene Regulation in Bacteria".

Q4. Discuss the procedures you would use to map a gene in *E.coli.*

Q5. Describe, with examples, how quiescent proto-oncogenes within the cells of animals can be activated to produce active c-oncogenes by mechanisms other than those involving viral infection.

Q6. Describe the mechanisms which allow anaerobic Clostridial species to grow on amino acids as a sole carbon source.

Q7. Discuss the functions of anaplerotic pathways in metabolism.

Q8. "The structure of DNA provides the basis of genetic engineering techniques". Discuss.