

Ollscoil na hÉireann, Gailimh
The National University of Ireland, Galway

SPRING EXAMINATIONS 2000

THIRD YEAR SCIENCE EXAMINATIONS

IMMUNOTECHNOLOGY BI307

External Examiners: Professor N.C. Price & Professor J. Smith

Time allowed: *Three* hours

Write on *five* of the following topics.

1. 'The nature of the pathogen often determines the nature of the immune response'. Discuss.
2. What is the immunoglobulin fold? Show how it underpins to the structures of antibodies, and contributes to their binding sites.
3. Explain how the diversity of antibody binding specificity is generated.
4. Describe antigen recognition by T cells, including diagrams to illustrate your answer.
5. Write an essay on the functions of complement, describing the pathways involved and the consequences of relevant complement deficiencies.

OR

Describe potential sources of V-domain diversity for phage display of antibodies.

6. Describe how you would raise large quantities of a polyclonal antibody against a pure antigen that is readily available.
7. What are the important features of vaccines? Describe the preparation, safety and clinical importance of vaccines.
8. List and describe with the aid of diagrams a major application of antibodies. Why are antibodies frequently used in preference to other binding proteins?