

**Semester II Examinations, 2004/2005**

<b>Exam Code(s)</b>	1AM131
<b>Exam(s)</b>	Higher Diploma in Applied Science (Microbiology)
<b>Module Code(s)</b>	MI855
<b>Module(s)</b>	Microbiology
<b>Paper No.</b>	1
<b>Repeat Paper</b>	
<b>External Examiner(s)</b>	Professor C. M. Brown
<b>Internal Examiner(s)</b>	Professor J. A. Houghton
	Dr. C. Carroll
	Dr. G. Fleming

**Instructions:** Answer **Five** Questions

INDICATE CLEARLY THE QUESTIONS ANSWERED  
ON THE FIRST PAGE OF YOUR ANSWER BOOK

<b>Duration</b>	3 Hrs
<b>No. of Pages</b>	
<b>Department(s)</b>	Microbiology
<b>Course co-ordinator(s)</b>	Dr. Cyril Carroll

**Requirements:**

Handout	
MCQ	
Statistical Tables	
Graph Paper	
Log Graph Paper	
Other Material	3

- Q.1** ISO 9000 series provides a central role in a Quality Management System. Discuss.
- Q.2** (a) Discuss the properties of antigens, in particular describe their immunogenicity, epitope characteristics, and the importance of methods of antigen administration for the induction of antibodies.

**OR**

- (b) Describe the advantages of antibodies compared to other binding proteins in immunoassays and discuss their use in such assays, using an enzyme-linked immunosorbent assay as an example.
- Q.3** Describe the chief methods used to preserve and store bacterial cultures.
- Q.4** Describe in detail how the Biological Oxygen Demand (BOD) test is carried out on a water sample.
- Q.5** Write an essay on "Cheese Manufacture Using the Conventional Batch Process".
- Q.6** Discuss GMP in terms of a Quality Management System for the Pharmaceutical/Healthcare Manufacturing Industries. What requirements does it address in addition to ISO 9000.
- Q.7** Write an essay on "The MF (membrane filtration) Sterility Test". Compare and contrast its advantages and disadvantages, as compared with the DT (direct transfer) method.
- Q.8** Discuss sterilisation processes used for the production of parenterals and other sterile products, and their validation.
- Q.9** Write an essay on "The Problem of Pyrogens in Parenterals". How would you test for them and how might their presence be avoided?