

Spring Examinations, 2003/2004

Exam Code(s)	3BV1
Exam(s)	3 <sup>rd</sup> Year Engineering (Environmental)
Module Code(s)	MI402
Module(s)	Advanced Sanitary Microbiology
Paper No.	No. 1
Repeat Paper	Special Paper
External Examiner(s)	Professor C.M. Brown
Internal Examiner(s)	Professor E. Colleran
	Dr. V. O'Flaherty

**Instructions:**

Answer 5 Questions.  
Indicate clearly the questions answered on the first page of  
your answer book.

Duration	3 hrs
No. of Answer books	2

**Requirements:**

Handout	
MCQ	
Statistical Tables	
Graph Paper	
Log Graph Paper	
Other Material	

No. of Pages	2
Department(s)	

- Q1. Describe bacterial indicator organisms and the different methods used for the detection of these organisms in water.
- Q2. Write an essay on "The chemistry of chlorine disinfection".
- Q3. Discuss the microbiological problems that can arise in the activated sludge wastewater treatment process.
- Q4. Write notes on **TWO** of the following:
- Drinking water regulations
  - Landfill gas exploitation
  - Fluoridation of potable water
- Q5. Write notes on **TWO** of the following:
- Biological treatment of MSW
  - Aerobic versus Anaerobic waste treatment
  - Ozonation
- Q6. Write an essay on "Water-Borne Diseases"
- Q7. Write notes on **TWO** of the following:
- Trickling filters
  - Categories of waste arisings
  - RBC's
- Q8. Describe the microbiology of anaerobic digestion and its application for the biological treatment of agricultural wastes.