

NATIONAL UNIVERSITY OF IRELAND, GALWAY
OLLSCOIL NA hÉIREANN, GAILLIMH

SUMMER EXAMINATIONS 2001

HIGHER DIPLOMA IN APPLIED SCIENCE
(MICROBIOLOGY)

PAPER 2

EXTERN EXAMINER: PROFESSOR C M BROWN
INTERNAL EXAMINER : Internal Examiners

TIME ALLOWED : 3 HOURS

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

ANSWER FIVE QUESTIONS

- Q.1 Write an essay on quality costs. In your answer give details of the four areas that impact on the costs of quality.
- Q.2 Write an essay on cheese manufacture using the conventional batch process.
- Q.3 Using a process flow diagram, describe how lager is manufactured. Outline the major adjuncts that may be added to beer giving details of the properties that impact to each particular type of beer.
- Q.4 There is a growing interest in the application of fungi or fungal enzymes for the bioremediation of soils and sediments contaminated by recalcitrant aromatic pollutants. Discuss the feasibility and the advantages and disadvantages of the use of fungi for bioremediation purposes.
- Q.5 Critically discuss the options available for re-use, recycle, treatment or disposal of municipal solid waste (MSW).
- Q.6 Outline your interpretation of ISO 14000 and the role it has to planning in Industry. Discuss any similarities it has to ISO 9000.
- Q 7. Answer A and B.
- (A) List the media, incubation temperature and time of incubation for each of the following ;
Salmonella, E.coli, Enterobacteriaceae, Total viable counts.
- (B) Describe the procedure for isolation and confirmation thermotolerant E.coli from a sample of mussel tissue
- Q.8. Discuss the relationship between robustness and precision in method validation
- Q.9. Describe the essential stages of Hazard Analysis and Critical Control Point (HACCP) procedures that need to be identified and implemented for standard and formal in-house inspection in the food production industry.