

M. Sc. DEGREE I SEMESTER EXAMINATION IN
ENVIRONMENTAL TECHNOLOGY
DECEMBER 2003

ENV 2104 ENVIRONMENTAL MICROBIOLOGY

Time : 3 Hours

Maximum Marks: 50

PART - A

(Answer **ANY TWENTY** questions)

(All questions carry **EQUAL** marks)

(20 x 1 = 20)

- I. 1. What is prion?
2. What is a scanning electron microscope?
3. What is wet sterilization?
4. Principle of laminar flow systems.
5. Simple method for separation of bacteria from virus.
6. What are microaerophilic bacteria?
7. What is radioautography?
8. What is an antigenic determinant?
9. Mode of action of UV rays on bacteria.
10. What is a bacterial biofilm?
11. What is DNA hybridization?
12. What is an interferon?
13. What is a peptidoglycan?
14. General composition of animal cell culture medium.
15. What is $TCID_{50}$ of virus?
16. What is a transformed animal cell?
17. What are asymptomatic animal virus carriers?
18. What are retroviruses?
19. Latent infection of virus.
20. What is resolution of a microscope?
21. What is a recombinant DNA vaccine?
22. What is a RT-PCR?
23. What is a gradient ultra centrifugation?
24. What is a bacterial endotoxin?
25. Advantages and disadvantages of autotrophic food production in water.

(Turn Over)

PART - B(Answer **ANY TEN** questions)(All questions carry **EQUAL** marks)

(10 x 2 = 20)

- II. (a) Negative staining of virus.
(b) Principle of SDS-PAGE.
(c) Mode of action of penicillin on bacteria.
(d) Methods for quantitation of animal viruses.
(e) Effect of virus infection on animal cell.
(f) Koch's postulate.
(g) Kinds of mutation in animal viruses.
(h) Preparation of cDNA.
(i) Application of cell lines in virology.
(j) Cell wall of gram negative bacteria.
(k) Causative agent of EUS.
(l) Common shrimp viruses of penaeid shrimps.
(m) Liquid scintillation counting.
(n) ELISA.
(o) Virus replication can not be controlled by antibiotics-justify.

PART - C(Answer **ANY TWO** questions)(All questions carry **EQUAL** marks)

(2 x 5 = 10)

- III. Antibiotic resistance in bacteria.
IV. DNA sequencing methods.
V. Methods for determination of microbial productivity in water.
VI. Physical and chemical methods for inactivation of viruses.