

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

ENVIRONMENTAL MICROBIOLOGY

Time : 3 Hours

Maximum Marks: 50

I. Answer ANY TWENTY of the following:-

(20 x 1 = 20)

1. What is an icosahedra virus?
2. What is a transmission electron microscope?
3. What is a clone?
4. What is EUS of fish?
5. What is a procaryote cell?
6. What is a viral plaque assay?
7. Advantages of heterotrophic food production in aquaculture ponds.
8. What is two step PCR?
9. Latent infection of virus.
10. What is resolution of a microscope?
11. What is a recombinant DNA vaccine?
12. What is DNA dotblot hybridisation?
13. What is a gradient ultracentrifugation?
14. What is a bacterial endotoxin?
15. What is autotrophic food production in water?
16. What are retroviruses?
17. Principle of laminar flow systems.
18. Simple method for separation of bacteria from virus.
19. What are micraerophilic bacteria?
20. What is flow cytometry?
21. What is an antigenic determinant?
22. Mode of action of UV rays on bacteria.
23. What is a bacterial biofilm?
24. What is a peptidoglycan?
25. General composition of animal cell culture medium.

(Turn Over)

II. Answer ANY TEN of the following:-

(10 x 2 = 20)

1. Mode of life of microsporidians.
2. Principle of Western blot.
3. Designing primers for PCR.
4. Important features of cell lines.
5. Whitespot virus of shrimp in India.
6. Viral infection cannot be controlled with antibiotics -justify.
7. Negative staining of bacteria.
8. Principle of SDS-PAGE.
9. Mode of action of penicillin on bacteria.
10. Methods for quantitation of animal viruses.
11. Effect of virus infection on animal cell.
12. Principle of affinity chromatography.
13. Microbial migration.
14. Modes of entry of animal viruses into a cell.
15. What are enveloped viruses?

III. Answer ANY TWO of the following:-

(2 x 5 = 10)

1. Mode of action of different antibiotics on bacteria.
2. Epizootic ulcerative syndrome of fish.
3. Chromatography in microbiology.
4. DNA sequencing methods.