

M.Sc. DEGREE I SEMESTER EXAMINATION IN ENVIRONMENTAL TECHNOLOGY,  
DECEMBER 2005

ENB 2104 ENVIRONMENTAL MICROBIOLOGY

Time : 3 Hours

Maximum Marks : 50

**SECTION - A**

(Answer **any ten** questions)  
(All questions carry **equal** marks)

(10 x 1 = 10)

- I.
- (1) Define Microbiology.
  - (2) Who invented microscope?
  - (3) What is synthetic media?
  - (4) Principle of Electrophoresis.
  - (5) What is PCR?
  - (6) What is Gene Sequence?
  - (7) Name two aerobic and anaerobic bacteria.
  - (8) Define Environment.
  - (9) Name two exo and endo bacterial enzymes.
  - (10) Name four antibacterial agents.
  - (11) Mention the stages in lytic cycles of Bacteriophages.
  - (12) Antiviral agents.
  - (13) Name four soil pathogens.
  - (14) Name four microbial human pathogens.
  - (15) Define succession.

**SECTION - B**

(Answer **any five** questions)  
(All questions carry **equal** marks)

(5 x 2 = 10)

- II.
- (1) Modern concept of Microbial Taxonomy.
  - (2) Differentiate Prokaryote and Eukaryote.

***(Turn Over)***

- (3) Methods of sterilization.
- (4) Principle and application of spectrophotometry.
- (5) What are the factors influencing enzyme reaction rates?
- (6) Differentiate lytic and lysogenic cycle.
- (7) Classification of Protozoa.
- (8) Microbial interactions.

**SECTION - C**

(Answer ***any five*** questions)  
(All questions carry ***equal*** marks)

(5 x 3 = 15)

- III.
- (1) Concept of pure culture.
  - (2) Radioisotope technique used in environmental studies.
  - (3) Identification of bacteria on using various schemes.
  - (4) Effect of virus infection in host cell.
  - (5) Ecological groups of fungi.
  - (6) Diversity indices.
  - (7) Thymidine incorporation into DNA.
  - (8) Chemical control of bacteria.

**SECTION - D**

(Answer ***any three*** questions)  
(All questions carry ***equal*** marks)

(3 x 5 = 15)

- IV.
- (1) Life cycle of lytic bacteriophages in detail.
  - (2) Bring out the role of microbial involvement in Biogeochemical cycle. Explain ***any one*** in detail.
  - (3) Energy yielding mechanism (Autotrophic and heterotrophic metabolism) in living cells.
  - (4) Write in detail principle and application of chromatography.
  - (5) Describe the Isolation and cultivation of viruses – Chick Embryo System.