

## MICROBIOLOGY - IV

Time : Three Hours]

[Maximum Marks : 52

Note : Attempt any *two* questions from each Section A and B and the entire Section C.

### Section - A

- |    |  |   |
|----|--|---|
| 1. | Write recent development and application of microbiology.                            | 8 |
| 2. | Describe principle, construction and operation of SEM.                               | 8 |
| 3. | Give an outline on classification of microbes.                                       | 8 |
| 4. | Give a detailed account on molecular techniques used for identification of microbes. | 8 |

### Section - B

- |    |  |   |
|----|--|---|
| 5. | Describe structure and reproduction in bacteria.                     | 8 |
| 6. | Give a brief account on structure and multiplication of slime mold.  | 8 |
| 7. | Discuss in detail the structure and reproduction in plant viruses.   | 8 |
| 8. | Describe the role of microorganisms in phosphorus and sulphur cycle. | 8 |

### Section - C

9. Give answer in short :
- (a) Define Archaeobacteria.
  - (b) What do you mean by Cyanophage ?
  - (c) Briefly explain Mycoplasma.
  - (d) Name four microbes used in dairy industry.
  - (e) Give names of four diseases causing bacteria.
  - (f) Explain Gram Staining.
  - (g) Write principle of TEM.
  - (h) Draw well-labelled cell structure of T<sub>2</sub> bacteriophage.
  - (i) Define Binary fission.
  - (j) Name two animal virus.

(10×2=20)