

[This question paper contains 4 printed pages.]

Your Roll No.....

Sr. No. of Question Paper : 1364

I

Unique Paper Code : 2532011101

Name of the Paper : Introduction to The Microbial
World

Name of the Course : **B.Sc. (Hons.) Microbiology**

Semester : I (Part-I,)

Duration : 3 Hours

Maximum Marks : 90

Instructions for Candidates

1. Write your Roll No. on the top immediately on receipt of this question paper.
2. Attempt any **five** questions.
3. **All** questions carry equal marks.
4. Attempt **all** parts of the question together.

P.T.O.

1. (a) Write the contributions of the following scientists
(**any five**) : (2×5=10)

(i) Anton Van Leeuwenhoek

(ii) Louis Pasteur

(iii) Stanley Prusiner

(iv) Anand Mohan Chakraborty

(v) Ronald Ross

(vi) Paul Ehrlich

- (b) Define the following terms (**any four**) : (2×4=8)

Capsid, Coenocytic hyphae, Plaque, Pyrenoids,
Eyespot

2. (a) Differentiate between the following (**any three**) :
(4×3=12)

(i) Biofertilizers and Biopesticides

(ii) Lytic and lysogenic phages

(iii) Acellular and cellular slime molds

(iv) Viroids and Prions

- (b) What are the various types of viral capsid symmetry. Explain with suitable diagram and example. (6)
3. (a) What is single cell protein ? Discuss its production, sources and significance. (3)
- (b) Discuss the structure, lifecycle and economic importance of *Aspergillus*. (6)
- (c) Draw the morphology and discuss the significance of *Entamoeba histolytica* OR *Tetrahymena*. (5)
- (d) Write a note on algal pigments. (4)
4. Write a short note on the following (**any four**) : (4×4=16)
- (i) Current Developments in Space Microbiology
- (ii) Economic Importance of algae
- (iii) Waste management
- (iv) Phage therapy
- (v) Human microbiome
- (b) Discuss bioleaching with suitable example. (2)

5. (a) Diagrammatically explain the structure and reproduction in *Chlamydomonas*. (5)
- (b) Write a note on various types of vaccines. (5)
- (c) What are Probiotics? Discuss the health benefits conferred by them. (4)
- (d) Discuss any two fermented foods. (4)
6. (a) Name the microorganism associated with the following (any eight) : (1×8=8)
- (i) Citric acid
 - (ii) Penicillin
 - (iii) Yogurt
 - (iv) Ethanol
 - (v) AIDS
 - (vi) Giardiasis
 - (vii) Enveloped virus
 - (viii) Malaria
 - (ix) CJD
- (b) Discuss the germ theory of the disease. (4)
- (c) Who gave the three domain classification system? Write its basis and significance. (6)