

[This question paper contains 4 printed pages.]

Sr. No. of Question Paper : 6510

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Your Roll No.....

Unique Paper Code : 253101

Name of the Course : B.Sc. (Hons.) Microbiology. Part-I

Name of the Paper : Introduction to Microbial World (MIHT-101)

Semester : I

Duration : 3 Hours

Maximum Marks : 75

Instructions for Candidates

1. Write your Roll No. on the top immediately on receipt of this question paper.
2. Attempt Five questions in all.
3. All questions carry equal marks.

1. (a) Name the scientist who contributed to the following (any eight) :

- (i) Use of Agar in microbiological media
- (ii) Chicken Cholera vaccine
- (iii) Different shapes of bacteria
- (iv) Chemotherapy
- (v) Streptomycin
- (vi) Chemolithotrophs
- (vii) Penicillin
- (viii) Side-chain theory
- (ix) *Azotobacter*

(1x8=8)

(b) Describe heterothallism and parasexual cycle in fungi. (4)

(c) Explain one step multiplication curve of bacteriophages. (3)

P.T.O.

2. (a) Differentiate between (any five) :
- (i) Sporangiphore and Conidiophore
 - (ii) Chlamydo spores and Zygo spores
 - (iii) Sclerotium and Mycelial Cord
 - (iv) Fission and Fragmentation
 - (v) Diplobiontic and Haplontic
 - (vi) Prions and viroids (2×5=10)
- (b) Discuss the photoreceptive organelle in algae. (3)
- (c) Explain Dimorphism. (2)
3. (a) Write short notes on the following (any three) :
- (i) Carl Woese's system of classification
 - (ii) Algal pigments
 - (iii) Locomotion in Protozoa
 - (iv) Reproduction in *Aspergillus* (4×3=12)
- (b) Name three diseases caused by Protozoa and their causative agents. (3)
4. (a) Draw well labelled diagram of the following :
- (i) *Chlamydomonas*
 - (ii) *Rhizopus*
 - (iii) T₄ Phage (3×3=9)
- (b) Define the following (any six) :
- (i) Virion

- (ii) Haustoria
- (iii) Pellicle
- (iv) Heterokaryosis
- (v) Blastospores
- (vi) Capsid
- (vii) Budding (1×6=6)

5. Give an example of a microorganism for the following **(any fifteen)** :

- (i) Amylase producing fungus
- (ii) Mycotoxin producing microorganism
- (iii) Naked icosahedral virus
- (iv) ss RNA virus
- (v) Fungus used in ethanol production
- (vi) Alga present in algal bloom
- (vii) Halophilic bacteria
- (viii) Unicellular fungus
- (ix) Prion disease
- (x) Lysogenic phage
- (xi) Alga showing pseudobranching
- (xii) Algal biofertilizer
- (xiii) Poisonous mushroom
- (xiv) Alga involved in Lichen association
- (xv) Plant viral disease
- (xvi) Causative agent of Anthrax (1×15=15)

6. (a) What is Germ theory of disease ? Explain the historical developments that led to the Germ Theory of Disease outlining the Koch's postulates. (6)
- (b) Explain Louis Pasteur's role in developing the concept of fermentation. (5)
- (c) Differentiate between the prokaryotic and eukaryotic microorganisms. (4)