

This question paper contains 4 printed pages]

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S. No. of Question Paper : 8701

Unique Paper Code : 253101

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

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

Semester : I

Duration : 3 Hours

Maximum Marks : 75

*(Write your Roll No. on the top immediately on receipt of this question paper.)*

Attempt any *Five* questions in all.

*All* questions carry equal marks.

1. (a) Fill in the blanks : 12×1/2=6

- (i) The first vaccine was developed by ..... against the disease ..... and was tried on a boy named .....
- (ii) ..... was the first antibiotic discovered by .....
- (iii) Nature of Man and ..... books were authored by ..... who discovered the process of ..... and received Nobel Prize in 1908
- (iv) ..... a free living nitrogen fixing bacteria was isolated by .....
- (v) Archaea was classified as a new kingdom by ..... using ..... as a phylogenetic tool.

P.T.O.

- (b) Discuss the contributions made by the following scientists (any *three*): 3×3=9
- (i) Sergei N Winogradsky
  - (ii) Paul Ehrlich
  - (iii) Antony von Leeuwenhoek
  - (iv) Ananda Mohan Chakraborty
2. Write short notes on the following (any *five*): 5×3=15
- (i) Algal flagella
  - (ii) Locomotion in protozoa
  - (iii) Algal blooms
  - (iv) Prions
  - (v) Fungal cell wall
  - (vi) Whittaker's five kingdom classification
- 3 (a) Differentiate between the following (any *five*): 5×2=10
- (i) Chlamydo spores and Zoospores
  - (ii) Arthrospores and Blastospores
  - (iii) Sporangiospores and Conidia
  - (iv) Isogamy and Anisogamy
  - (v) Diplohaplontic and Haplobiontic life cycles
  - (vi) Fission and Fragmentation
  - (vii) Gram +ve and Gram -ve cell wall

(b) How did Louis Pasteur resolve the issue of French wine industry? 2

(c) Describe the various steps in experiments of Robert Koch to prove that *Mycobacterium tuberculosis* is associated with the disease tuberculosis. 3

4. (a) Give one example of each of the following (any eleven): 11×1=11

(i) Coenobium in algae

(ii) Antibiotic producing bacterium

(iii) RNA virus

(iv) A coccus in bunches

(v) Agar-agar producing alga

(vi) Alga rich in vitamin B

(vii) Edible Alga

(viii) Heterotrichous Alga

(ix) Plant pathogenic fungus

(x) Enveloped helical virus

(xi) Causative agent of kala azar

(xii) Amylase producing fungus

(b) Explain lysogeny with the help of a diagram. 4

5. Draw well labelled diagrams of the following :

3×5=15

(i) *Giardia*

(ii) TMV

(iii) *Aspergillus*

6. (a) Give a detailed account of sexual reproduction in *Chlamydomonas*.

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(b) Describe heterothallism and parasexual cycle.

5

(c) With the help of diagrams explain sexual reproduction in *Rhizopus*.

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