

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.

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(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) Chlamydospores 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

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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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