

U.G. 3rd Semester Examination - 2020

MICROBIOLOGY

[HONOURS]

Paper : MB-H-CC-L-05

(Microbial Diversity and Systematics)

Full Marks : 40

Time : 2½ Hours

The figures in the right-hand margin indicate marks.

Candidates are required to give their answers in their own words as far as practicable.

1. Answer the following questions: 1×10=10
- i) What is a biological species?
 - ii) Write a similarity between mitochondrial and bacterial genome.
 - iii) Write a bacterial feature of cyanobacteria.
 - iv) Write a name of reserve food material found in algae.
 - v) Write a name of fungal spore.
 - vi) What is a prion?

- vii) Write a name of virus whose genome is segmented.
 - viii) What is a prophage?
 - ix) Write a characteristic difference between Archaea and Bacteria.
 - x) Why fungal body is known as thallus?
2. Answer any **five** of the following: 2×5=10
- i) Differentiate monophyletic and polyphyletic classification.
 - ii) Differentiate Monera and Protista.
 - iii) Write the characteristic features of Spirochetes.
 - iv) Write down the characters of Chlorophyta.
 - v) Write the name of different groups of photosynthetic bacteria.
 - vi) What do you mean by icosahedral viral capsid?
 - vii) What is chemotaxonomy?
3. Answer any **four** of the following: 5×4=20
- i) Write the five criteria on which basis Whittaker classified the organisms. What do you mean by molecular taxonomy? 3+2

- ii) Briefly describe the salient feature of lysogenic cycle. What is Eclipse phase?
4+1
 - iii) What do you mean by bacterial cell envelope? Differentiate Gram positive and Gram negative bacteria.
2+3
 - iv) Write briefly about five classes of proteobacteria.
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 - v) Write briefly about the agricultural importance of algae. What do you mean by eye spot of algae?
3+2
 - vi) Give an example of blood and intestinal protozoa. What are ascospore, basidiospore, and zygosporangium?
2+3
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