

**U.G. 3rd Semester Examination - 2021**

**MICROBIOLOGY**

**[HONOURS]**

**Course Code : 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 any **five** of the following questions:

2×5=10

- i) What do you mean by genome species?
- ii) What is polyphasic taxonomy?
- iii) Write certain characteristic features of fungi which are also found in animal.
- iv) Write the difference between Phenetic and Phylogenetic classification.
- v) Write briefly on actinomycete cell wall types.
- vi) Why biological species concept is not applicable to species concept of prokaryotic organisms?

vii) What do you mean by viral capsid symmetry?

viii) What is Eclipse phase in viral life cycle?

2. Answer any **two** of the following: 5×2=10

- i) What do you mean by bacterial cell envelope? Differentiate Gram positive and Gram negative bacteria. 2+3
- ii) Write briefly about viral classification.
- iii) What do you mean by plasmodial fungi? Write briefly on different asexual spores of fungi. 1+4
- iv) What is a phylogenetic tree? Write the drawbacks of five kingdom classification. Write the basis of domain classification. 2+2+1

3. Answer any **two** of the following: 10×2=20

- i) Briefly describe the sexual reproduction of algae and different types of alternation of generations. Give examples of various reserve food of algae. 8+2
- ii) a) Briefly describe the life cycle of *Giardia*.  
b) What are ascospore, basidiospore, and zygospore? 5+5

iii) Write short notes:  $2\frac{1}{2} \times 4$

- a) Prion
- b) Heterocyst
- c) Retrovirus
- d) Agar-agar

iv) Write the difference between different approaches of classification of bacteria and protozoa. What are attributes considered for bacterial classification?  $5+5$

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