

**BA, BSc, BCOM DEGREE END SEMESTER EXAMINATION - OCTOBER 2025****UGP (HONS.) SEMESTER - 3: DISCIPLINE SPECIFIC COURSE****COURSE: 24UBOTDSC201: MICROBIOLOGY AND PHYCOLOGY***(For Regular 2024 Admission)*

Time: 1.5 Hours

Max. Marks: 50

**PART A****Answer any 10 questions. Each question carries 1 mark**

1. Which domain of life possesses circular genetic material with multiple origins of replication? (U, CO 1)
  2. Name process of genetic recombination in bacteria involves direct transfer of genetic material between two cells through a pilus? (R, CO 1)
  3. Give an example for a ssRNA virus. (U, CO 1)
  4. Expand PGPR. (R, CO 1)
  5. Which are the major pigments present in the class Myxophyceae? (R, CO 2)
  6. Name a motile colonial alga. (U, CO 2)
  7. The female sex organ of *Chara* is known as ..... (R, CO 2)
  8. Which algal class is known as jewels of the plant world? (U, CO 2)
  9. Name the reserve food seen in class Rhodophyceae. (R, CO 2)
  10. Give an example of a parasitic alga. (U, CO 3)
  11. Name a phycocolloid extracted from the members of class Phaeophyceae. (R, CO 3)
  12. Which renewable fuel consists mainly of fatty acid methyl esters (FAMES)? (R, CO3)
- (1 x 10 =10)**

**PART B****Answer any 10 questions. Each question carries 2 mark**

13. Draw the chemical structure NAM and NAG. (An, CO 1)
  14. Define a) Viroid, b) Prion. (R, CO 1)
  15. Differentiate between capsid and capsomere. (An, CO 1)
  16. Write any two applications of microbes in agricultural industry with suitable examples. (R, CO 1)
  17. What are endozoic algae? Give any one example. (U, CO 2)
  18. Differentiate between receptacle and conceptacle. (An, CO 2)
  19. Comment on any two asexual modes of reproduction in *Nostoc*. (R, CO 2)
  20. Differentiate between anisogamy and oogamy. (U, CO 2)
  21. Comment on the cell wall of class Bacillariophyceae. (U, CO 2)
  22. Write the systematic position of *Polysiphonia* according to Fritsch 1935. (R, CO 2)
  23. What are lichens? How they can be used as pollution indicators? (U, CO 3)
- (2 x 10 = 20)**

### PART C

**Answer any 4 questions. Each question carries 5 mark**

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| 24. Explain the classification of bacteria based on morphology.                                | (An,CO 1) |
| 25. What are the major differences between lytic and lysogenic life cycles of $\lambda$ phage. | (R,CO1)   |
| 26. Comment on applications of bacteria in food and medicine.                                  | (U,CO 1)  |
| 27. Write a short essay on asexual reproduction in algae.                                      | (R, CO 2) |
| 28. Explain the sexual reproduction in <i>Spirogyra</i> .                                      | (An,CO 2) |
| 29. Write a note on the useful aspects of algae with suitable examples.                        | (R,CO 3)  |
| <b>(5 x 4 = 20)</b>  |           |

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