

Reg. No. :

Name :

Second Semester B.Sc. Degree Examination, September 2022

Career Related First Degree Programme under CBCSS

Group 2(a) : Biochemistry and Industrial Microbiology

Foundation Course II

IM 1222 : MICROBIAL TAXONOMY AND PHYSIOLOGY

(2020 Admission Onwards)

Time : 3 Hours

Max. Marks : 80

- I. Answer the following in **one** or **two** sentences. All questions are compulsory.
1. Asexual spores
 2. Chemoorganotrophs.
 3. Bacterial photosynthetic pigment
 4. Uniport transport
 5. Phycocyanin
 6. Unicellular fungus
 7. Strain
 8. Stromatolites

P.T.O.

9. Carl Linnaeus

10. Kingdom

(10 × 1 = 10 Marks)

II. Write a short paragraph on any **eight** of the following :

11. Passive transport

12. Practical values of taxonomy

13. Three kingdom classification

14. Synchronous growth

15. Generation time

16. Write examples for basidiomycetes.

17. Nitrogenase system

18. Ecological characteristics used for classification

19. Siderophores

20. Stationary phase

21. Sexual spore of fungi

22. IMViC test

23. Distinguish fission and budding

24. Different modes of bacterial reproduction

25. Phylogenetics

26. 16S sequencing

(8 × 2 = 16 Marks)

III. Answer in **one** or **two** pages on any **six** of the following.

27. Briefly explain the Bergy's manual classification system.
28. Details of numerical taxonomy and matching coefficient.
29. What are the nutritional characteristics used for classification of microbes?
30. Notes on ascomycota and basidiomycota.
31. Explain the bacterial growth curve with diagram.
32. Briefly explain the process symbiotic nitrogen fixation.
33. Notes on five kingdom classification system.
34. What are the applications of bioluminescence with example?
35. Notes on facilitated diffusion and active transport.
36. Discuss the factors which affect the bacterial growth.
37. Notes on zycomycetes and deuteromycetes.
38. Explain the process of group translocation and iron uptake mechanism.

(6 × 4 = 24 Marks)

IV. Write essay in not less than **four** pages on any **two** of the following.

39. What are the different criteria used for the classification of microbes with example?
40. Give a detailed account on classification of protozoa with suitable examples.
41. Explain about the different types of culturing systems with diagram and examples.

42. Discuss about the process of different types of bacterial photosynthesis.
- 43.. Write notes on biosynthesis of bacterial cell wall in detailed manner.
44. Give a detailed account on classification of algae with suitable examples.

(2 × 15 = 30 Marks)

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