

2022

Microbiology

[HONOURS]

(CBCS)

(B.Sc. First Semester End Examination-2022)

PAPER-CC2T

Full Marks: 40

Time: 02 Hrs

The figures in the right hand margin indicate marks

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

Illustrate the answers wherever necessary

Bacteriology

Group-A

Answer any five questions of the following:

5x2=10

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|--|-----|
| 1. What are glycocalyx and slime layers? | 1+1 |
| 2. What are protoplast and spheroplast? | 1+1 |
| 3. Write down the structure of Archaeobacterial cell wall. | 2 |
| 4. What is pure culture? | 2 |
| 5. Write down the differences between SEM and TEM. | 2 |
| 6. What is phycobilisomes? | 2 |
| 7. Write down the name of causative agent of Rocky Mountain spotted fever. Mention two symptoms of the disorder. | 1+1 |
| 8. What is binomial taxonomy? | 2 |

(2)

Group-B

Answer any four questions of the following: 4x5 = 20

1. a) What is meant by G+C content?
b) State its impact on microbial taxonomy analysis. 2+3
2. State briefly i) DNA-DNA hybridization
ii) Phase contrast microscope 2.5+2.5
3. a) Briefly describe about preservation techniques of bacterial pure culture.
b) What are meant by unculturable bacteria
c) What is negative staining? 2+1+2
4. Write down the general characteristics of actinobacteria.
Describe the structure of flagella of gram negative bacteria. 2+3
5. a) Write short note on batch culture growth system.
b) What is generation time.
c) State the mathematical derivation of number of generations. 3+1+1
6. a) What are chemolithotropic bacteria? Give example.
b) Differ between prototroph and Aukotroph. 2+1+2

Group -C

Answer any one question: 1x10 = 10

1. a) What are the different types of radiation used to control microbes?
b) Compare bacterial and archeal cell membrane structures.

(3)

- c) What are endospores?
d) Define selective media and differential media with suitable example.

What is disinfectant

Write down the mode of action of antibiotic penicillin.

2+2+1+2+1+2

2. a) Write down the economic and ecological importance of a cyanobacteria.
b) What is bacterial capsule? Write its function
c) What is thermophiles? 4+(3+2)+1
