

**2024/FYUG/ODD/SEM/
BTCSEC-101T/241**

FYUG Odd Semester Exam., 2024

BIOTECHNOLOGY

(1st Semester)

Course No. : BTCSEC-101T

(Microbiology)

Full Marks : 50

Pass Marks : 20

Time : 2 hours

The figures in the margin indicate full marks
for the questions

UNIT—I

1. Answer any *three* from the following : $1 \times 3 = 3$

(a) Define archaebacteria.

(b) What is the cell wall of fungi composed of?

(c) Name the reserve food found in brown algae.

(d) Give an example of ascomycetous fungi.

(2)

2. Write about nature of viruses. 2

OR

3. Point out the features of protozoa. 2

4. What are the criteria for grouping microorganisms? Write the major taxonomic groups of microbes. 3+2=5

OR

5. Write a note on the forms of bacteria. Point out the features of red algae. 3+2=5

UNIT—II

6. Answer any three from the following : 1×3=3

- (a) What is lag phase?
- (b) Define transduction.
- (c) What is binary fission?
- (d) Define autotrophs.

7. Write a note on conjugation. 2

OR

8. Describe briefly the factors affecting growth of bacteria. 2

9. Write about bacterial growth curve. Add a note on generation time. 3+2=5

((3))

UNIT—III

10. Give a detailed account of bacterial transformation. 5

UNIT—III

11. Answer any three from the following : 1×3=3

- (a) Define inoculation.
- (b) What is pasteurization?
- (c) What is PDA medium?
- (d) Name one culture medium for growing bacteria.

12. Write a brief note on pure culture. 2

OR

13. Write about culture media. 2

14. Describe chemical methods of sterilization in detail. 5

OR

15. Give an account of physical methods of sterilization. 5

UNIT—IV

16. Answer any *three* from the following : 1×3=3

- (a) Define nitrification.
- (b) What is ammonification?
- (c) Give an example of sedimentary type of biogeochemical cycle.
- (d) What is Bt?

17. Write a note on plant growth promoting bacteria. 2

OR

18. Give a brief account of legume-Rhizobia interaction. 2

19. Give a detailed account of microbial production of antibiotics. 5

OR

20. Describe the role of microbes in the regulation of nitrogen cycle. 5

UNIT—V

21. Answer any *three* from the following : 1×3=3

- (a) What is the scientific name of yeast?
- (b) What is 'Koji'?

(c) Define fermentation.

(d) Name the organism for commercial production of citric acid.

22. Write about food preservation. 2

OR

23. Give a brief account of probiotics. 2

24. Give an illustrated account of fermented foods. 5

OR

25. Describe major food-borne infections with examples. 5
