

**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 : 1×3=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

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(Continued)

(3)

- OR**
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

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(Turn Over)

(4)

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'?

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(Continued)

(5)

(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

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