

**2024/FYUG/ODD/SEM/
BOTDSC-101T/072**

FYUG Odd Semester Exam., 2024

BOTANY

(1st Semester)

Course No. : BOTDSC-101T

(Microbiology)

Full Marks : 70

Pass Marks : 28

Time : 3 hours

*The figures in the margin indicate full marks
for the questions*

UNIT—I

1. Answer any *two* from the following : $2 \times 2 = 4$

- (a) Write a note on PDA media.
- (b) Give a brief account on the discovery of first antibiotic.
- (c) Differentiate between photolitho-autotrophs and chemolithoautotrophs.

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(2)

2. Answer any one of the following : 10
- (a) What is sterilization? Give an account of the different methods of sterilization of microbiology laboratory equipments, culture media and chemicals. 2+8=10
- (b) Describe the method of preparation of a culture media for bacteria/fungi culture.

UNIT—II

3. Answer any two from the following : 2×2=4
- (a) Write a note on T-phages.
- (b) Write a brief note on the wall structure of gram-positive bacteria.
- (c) Write a brief note on *Rhizobium*.
4. Answer any one of the following : 10
- (a) Give an account on replications of viruses.
- (b) Describe economic importance of bacteria.

UNIT—III

5. Answer any two from the following : 2×2=4
- (a) Differentiate between rhizosphere and phyllosphere.

(3)

- (b) Write a note on nitrifying bacteria.
- (c) State the economic importance of mycorrhiza.
6. Answer any one of the following : 10
- (a) Define nitrogen cycle. Write an illustrated note on the role of microorganisms in nitrogen cycle in nature. 2+8=10
- (b) Define mycorrhiza. Give an account on the types of mycorrhiza along with suitable diagrams. 2+8=10

UNIT—IV

7. Answer any two from the following : 2×2=4
- (a) Name four industrially produced enzymes along with the microorganisms involved in their production.
- (b) What is pasteurization?
- (c) Write the uses of lactic acid.
8. Answer any one of the following : 10
- (a) What is fermentation? Describe different types of fermentation. 2+8=10
- (b) Give an account on the industrial method of production of ethanol.

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(4)

UNIT—V

9. Answer any *two* from the following : $2 \times 2 = 4$

- (a) Name two sexually transmitted microbial diseases along with the causal organisms.
- (b) State the functions of septic tanks.
- (c) Name some chemical agents used to control airborne microorganisms.

10. Answer any *one* of the following : 10

- (a) What are coliforms? Describe the multiple-tube fermentation test technique along with suitable diagrams.
 $2 + 8 = 10$
- (b) Write notes on the following : $2 \frac{1}{2} \times 4 = 10$
 - (i) Probiotics
 - (ii) Aspergillosis
 - (iii) Tuberculosis
 - (iv) Bioremediation

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