

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.

J25/474

(Turn Over)

(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.

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
