

**2024/FYUG/ODD/SEM/
BTCDDSC-102T/239**

FYUG Odd Semester Exam., 2024

BIOTECHNOLOGY

(1st Semester)

Course No. : BTCDDSC-102T

(Environmental Biotechnology)

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 : 2×2=4

(a) Write a note on microbial hydrogen production.

(b) Give a short account of coal.

(c) Define modern fuel.

2. Give a detailed account of role of methanogenic bacteria in the production of biogas. Draw a typical biogas plant. Point out the significance of biogas. 6+2+2=10

OR

3. Describe conventional fuel and its environmental impact. 10

(2)

UNIT—II

4. Answer any *two* from the following : $2 \times 2 = 4$
(a) Write a note on vermicomposting.
(b) Define sewage. What is its composition? $1 + 1 = 2$
(c) Give a short account of composting.

5. Describe the treatment of municipal waste and industrial effluents. $5 + 5 = 10$

OR

6. Give an illustrated account of waste management and energy production. $6 + 4 = 10$

UNIT—III

7. Answer any *two* from the following : $2 \times 2 = 4$
(a) Write a note on bioremediation.
(b) Write about degradation of cellulose using microbes.
(c) What is phytoremediation?

8. Describe degradation of pesticides by micro-organisms. 10

OR

9. Give a detailed account of biostimulation. Add a note on bioaugmentation. $6 + 4 = 10$

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(Continued)

(3)

UNIT—IV

10. Answer any *two* from the following : $2 \times 2 = 4$
(a) Write about IPM.
(b) Give a brief account of VAM.
(c) Write a note on nitrogen fixers.

11. Define biofertilizers. Describe various types of biofertilizers. Point out their significance. $2 + 6 + 2 = 10$

OR

12. Define biopesticides. Give a detailed account of biocontrol agents. $3 + 7 = 10$

UNIT—V

13. Answer any *two* from the following : $2 \times 2 = 4$
(a) Write a note on biosensors.
(b) Give a short account of bioleaching.
(c) Write about microbial enrichment of gold.

14. Describe remote sensing and GIS for environmental analysis. 10

OR

15. Give an illustrated account of the principle and applications of nanotechnology. 10

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