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5 SEM TDC DSE BOT (CBCS) 4 (H)

2022

(Nov/Dec)

BOTANY

(Discipline Specific Elective)

(For Honours)

Paper : DSE-4

(Industrial and Environmental Microbiology)

Full Marks : 53

Pass Marks : 21

Time : 3 hours

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

1. Answer very briefly : 1×5=5

- (a) What is batch fermentation?
- (b) Who discovered streptomycin?
- (c) Define eutrophication.
- (d) Name the organic acid used to prepare vinegar.
- (e) Name one GMO used to reduce oil pollution.

(2)

2. Answer briefly : $2 \times 4 = 8$

- (a) Mention about the use of acetic acid.
- (b) What is lyophilization?
- (c) What is the necessity of determination of BOD?
- (d) Mention about the role of leghaemoglobin in nitrogen-fixing prokaryotes.

3. Write short notes on any three of the following : $3 \times 3 = 9$

- (a) Ultrafiltration
- (b) Solid-state fermentation
- (c) Economic importance of Mycorrhizae
- (d) Pilot scale fermentation

4. Answer any three of the following : $5 \times 3 = 15$

- (a) Mention about the advantages of enzyme immobilization.
- (b) Write about cellulose hydrolysis test for screening different types of microorganism.

(3)

(c) Write an account on different methods for isolation of microorganism from water.

(d) Describe some measures to control sewage pollution.

5. Describe about the role of microorganism as the indicator of water quality. 6

Or

Write a brief note on point and non-point sources of water pollution. 6

6. Explain about different stages for production of amylase. Mention some uses of amylase enzyme. $7+3=10$

Or

With example, mention about the scope and uses of microbes in industry. $5+5=10$
