A (Printed Pages 4)

(20222) Roll No.

M.Sc.(Bio-Tech.)-III Sem.

NP-3338 (CV-III)

M.Sc. (Bio-Tech.) Examination, Dec.-2021

Microbial, Industrial and Environmental Bio-Technology

(H-301)

M.Sc. (Bio-Tech)

Time : 1½ Hours] *[Maximum Marks : 50*

Note : Attempt **all** the Sections as per instructions.

Section - A

(Very Short Answer Questions)

Note : Attempt any **two** questions. Each question carries 5 marks. Very short answer is required not exceeding 75 words. 2×5=10

1. What are biofertilizers? Compare them with chemical fertilizers.

P.T.O.

2. Name three useful micro-organisms and write their important characteristics.
3. Explain SCP and write about its sources.
4. Draw a typical bacterial growth curve and label various phases.
5. Name microorganisms used for commercial production of citric acid, lactic acid and gluconic acid.

Section - B

(Short Answer Questions)

Note : Attempt any **one** questions out of the following 3 questions. Each question carries 10 marks. Short answer is required not exceeding 200 words. 1×10=10

6. Name three foods that are prepared by microbial fermentations. Describe the role of microorganisms in each example.
7. Differentiate between generalized transduction and specialized transduction.

8. Discuss the industrial production of amylase enzyme using microorganisms.

Section - C

(Detailed Answer Questions)

Note : Attempt any **two** questions out of the following 5 questions. Each question carries 15 marks. Answer is required in detail. 2×15=30

9. Write a critical account of role of microbes in bioconversions of waste for fuel and energy.

10. What are transposons? How does transposition usually occur in bacteria, and what happens to the target site?

11. Describe in detail about the commercial production of penicillin.

12. What is Lac Operon and Tryptophan Operon? Explain the mechanism of regulation of enzyme synthesis in bacteria.

13. Write in detail about commercial production of amino acids using microbes.