

Roll No.....

Total No. of Units : 04

Total No. of Printed Pages : 03

Code No. : B03/404

Third Semester Examination, January 2022

M.Sc. BOTANY

Paper - IV

MICROBIAL ECOLOGY - I

Time : 3 Hrs.

Max. Marks : 80

- Part A and B of each question in each unit consist of very short answer type questions which are to be answered in one or two sentences.  
Part C (Short answer type) of each question will be answered in 200-250 words.  
Part D (Long answer type) of each question should be answered within the word limit 400-450.

**Unit - I**

Q.1 A. Define about Media. (2)

Q.1 B. Write main function of hot air oven. (2)

Q.1 C. Write short notes on laminar air flow. (4)

**OR**

Write about physical method of sterilization.

Q.1 D. Write detail account of structure and principle of phase contrast microscopy. (12)

**OR**

Write in detail about pure culture techniques with suitable diagrams.

**P.T.O.**

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**Unit - II**

Q.2 A. Write two examples of destructive association. (2)

Q.2 B. Define predation with example. (2)

Q.2 C. Write a note on Ammensalism. (4)

**OR**

Write a note on Mycorrhiza.

Q.2 D. Describe the bacterial symbiosis with suitable diagrams and example. (12)

**OR**

Describe the structure and mechanism of ruminant symbiosis.

**Unit - III**

Q.3 A. Define Acidophilus with 2 examples. (2)

Q.3 B. What is PGPR? (2)

Q.3 C. Write a note on significance and advantages of Nitrogen fixing biofertilizers. (4)

**OR**

Write a note on Actinomycetes.

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Q.3 D. Describe the microbes in Agriculture. (12)

**OR**

Write in detail about microbes in industries.

**Unit - IV**

Q.4 A. Write main function of soil water. (2)

Q.4 B. Define the process of Ammonification. (2)

Q.4 C. Write a note of Rhizosphere. (4)

**OR**

Write about Nitrogen cycle.

Q.4 D. Describe in detail about physico-chemical properties of Soil. (12)

**OR**

What is biogeochemical cycle? Describe carbon and phosphorous cycle.

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