

MASTER OF SCIENCE (MICROBIOLOGY) (CBCS - 2018 COURSE)

M.Sc. (Microbiology) Sem-I : WINTER- 2022

SUBJECT : MICROBIAL ECOLOGY

Day : Wednesday

Time : 02:00 PM-05:00 PM

Date : 11/1/2023

W-18586-2022

Max. Marks : 60

N. B. :

- 1) All questions are **COMPULSORY**.
 - 2) Figures to the right indicate **FULL** marks.
 - 3) Draw neat and labelled diagrams **WHEREVER** necessary.
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Q. 1 Explain microbial communities and ecosystem in detail. Describe risk of introducing genetically modified microorganisms. (15)

OR

What is plant pathogenesis ? Discuss the management of plant diseases in detail.

Q. 2 a) What is a quantitative ecology? Explain the sample collection and processing in quantitative ecology. (08)

b) Comment on the effect of extreme pH and temperature on microbial growth. (07)

OR

a) What is bioleaching? Explain bioleaching of copper and gold. (08)

b) Explain the concept of biodeterioration. Comment on the control of biodeterioration. (07)

Q. 3 Attempt **ANY THREE** of the following: (15)

- a)** Explain the mechanism of petroleum recovery.
- b)** Describe the extreme environment with a suitable example.
- c)** Explain different methods and steps to preserve biodiversity.
- d)** Explain different routes for entry of plant pathogens.

Q. 4 Write short notes on **ANY THREE** of the following: (15)

- a)** Production of biofuels
- b)** Biodeterioration of paper and textile
- c)** Arsenic biotransformation
- d)** Biofilms

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