

[This question paper contains 4 printed pages.]

1453

Your Roll No.

B.Sc. (Hons.) / II

A

MICROBIOLOGY – Paper IX

(MICROBIAL ECOLOGY)

(Admissions of 2004 & onwards)

Time : 3 Hours

Maximum Marks : 60

*(Write your Roll No. on the top immediately
on receipt of this question paper.)*

*Attempt Five questions in all, selecting
at least two questions from each Section.*

Attempt Section A and B on separate answer-books.

All questions carry equal marks.

SECTION – A

1. Write the ecological significance of the following microorganisms, with examples :
 - (a) Nematophagous fungi
 - (b) Bioluminescent bacteria
 - (c) Ectomycorrhizal fungi
 - (d) Normal microbial flora present on human skin

P.T.O.

1453

2

(e) N_2 fixing cyanobacteria

(f) Rumen bacteria

(2×6=12)

2. (a) Write short notes on the following :

(i) Amensalism

(ii) Oxidative phase of S-cycle

(4×2=8)

(b) Explain the following terms :-

(i) Ecological pyramids

(ii) Eutrophication

(2×2=4)

3. (a) Fill in the blanks :

(i) The black zone present in Winogradsky column represents the growth of _____ bacteria.

(ii) _____ is a part of normal microbial flora of phyllosphere.

(iii) _____ is an example of VAM fungi.

(iv) In soil profile, zone of leaching is also called _____.

(v) _____ bacteria shows hyperparasitism.

(vi) _____ and _____ are examples of white rot fungi. (1×6=6)

1453

3

- (b) Discuss with the help of examples, "The study of microbial ecology helps in the understanding of other fields of microbiology and their application." (6)

SECTION – B

4. Write short notes on **any three** of the following :-

(a) Sanitary Landfills

(b) Septic tank

(c) Activated sludge process

(d) Biodeterioration of leather (4×3=12)

5. (a) Define the following terms :-

(i) Bioaugmentation

(ii) Biostimulation

(iii) Biomagnification

(iv) B.O.D. (1×4=4)

(b) What is film-mulching technique ? (2)

(c) Why does foaming of water bodies occur ? How can it be controlled ? (3)

(d) What are man-holes ? What is their function in the sewerage system ? (3)

P.T.O.

1453

4

6. (a) Comment upon the biodegradability of propanil in the environment. (4)
- (b) What is the fate of an oil spill in marine ecosystems? (4)
- (c) What is sewage? What is its microbial composition? (4)

www.FirstRanker.com