

Enrollment No: _____ Exam Seat No: _____

C.U.SHAH UNIVERSITY

Summer Examination-2018

Subject Name: Environmental Microbiology

Subject Code: 4SC04ENM1

Branch: B.Sc. (Microbiology)

Semester: 4

Date: 26/04/2018

Time: 10:30 To 01:30

Marks: 70

Instructions:

- (1) Use of Programmable calculator & any other electronic instrument is prohibited.
 - (2) Instructions written on main answer book are strictly to be obeyed.
 - (3) Draw neat diagrams and figures (if necessary) at right places.
 - (4) Assume suitable data if needed.
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Q-1 Attempt the following questions: (14)

- a) Define ecosystem.
- b) Define cellulose.
- c) Name any two bacteria which is free living nitrogen fixing.
- d) Define climax.
- e) Define lichen.
- f) Expand the COD.
- g) Define BOD.
- h) Who is father of modern ecology?
- i) Define biosurfactants.
- j) Define barophile.
- k) Define denitrification.
- l) Define mycorrhizza.
- m) Define humus.
- n) Define duff.

Attempt any four questions from Q-2 to Q-8

Q-2 Attempt all questions (14)

- a) Write short note on nitrogen cycle. (7)
- b) Explain the different type of horizon of soil with the help of diagram. (7)

Q-3 Attempt all questions (14)

- a) Explain the zonation characteristics of ocean with the help of diagram. (7)
- b) Define: (7)
 - i) Extremophiles
 - ii) Halophiles
 - iii) Xerophiles
 - iv) Psychrophiles

Q-4 Attempt all questions (14)

- a) Explain the various processes involved in the treatment of sewage. Add a note on (7)



the significance of microorganism.

- b) Write a short note on Phosphate immobilization and solubilisation (7)

Q-5 Attempt all questions (14)

- a) Write a short note on solid waste management (7)
b) What is microbial succession? Differentiate between primary and secondary succession. (7)

Q-6 Attempt all questions (14)

- a) Write a short note on plant microbe interaction. (7)
b) Write advantages and disadvantages of various methods of bioremediation (7)

Q-7 Attempt all questions (14)

- a) Explain the procedure to perform the presumptive test to estimate the MPN of water, highlight the importance of MPN test in drinking water. (7)
b) Define: (7)
i) Food Chain
ii) Food Web
iii) Ecosystem
iv) Synecology

Q-8 Attempt all questions (14)

- a) What is bioremediation? Briefly explain various type of bioremediation. (7)
b) Define: (7)
i) Mutualism
ii) Symbiosis
iii) Commensalism
iv) Ammensalism

