

C.U.SHAH UNIVERSITY

Winter Examination-2018

Subject Name: Ecology & Evolutionary Biology

Subject Code: 4SC06EEB1

Branch: B.Sc. (Microbiology)

Semester: 6

Date: 19/10/2018

Time: 02:30 To 05:30

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 Ecology.
- b) Define biotic interaction.
- c) Define mutation.
- d) Define Ten percentage energy rule
- e) Define sympatric speciation.
- f) Give the name of 3 layer of earth.
- g) What is upright pyramid?
- h) Define mutualism?
- i) What is population density?
- j) Define Microsphere?
- k) Define producer.
- l) Define consumer.
- m) What is natural selection?
- n) Define vestigial organ?

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

Q-2 Attempt all questions (14)

- a) Explain the theory given by Lamarck to explain the concept of evolution (7)
- b) Explain the following environmental factors: topography and Edaphic. (7)

Q-3 Attempt all questions (14)

- a) Explain the concept of soil horizon. (7)
- b) Write a short note ecological pyramid. (7)

Q-4 Attempt all questions (14)

- a) What conclusions can be drawn from Darwinism theory (7)
- b) Write different methods of soil conservation. Explain any two methods in detail (7)

Q-5 Attempt all questions (14)

- a) Diagrammatically explain the concept of age pyramids and its importance in (7)



ecological studies.

- b) What do you understand by negative biotic interaction. (7)

Q-6 **Attempt all questions** (14)

- a) Mathematically explain the Hardy Weinberg's law of equilibrium. (7)
b) Explain the mortality with survivorship curve. (4)
c) Differentiate between micro evolution and macro evolution. (3)

Q-7 **Attempt all questions** (14)

- a) Explain the process of speciation. What factors are responsible for it? (7)
b) Explain the embryological evidences of organic evolution. (7)

Q-8 **Attempt all questions** (14)

- a) Explain chemosynthetic theory of origin of life. Write the drawbacks of this theory. (7)
b) Explain the zonation in ocean water with the help of diagram. (7)

