[This question paper contains 4 printed pages.]

Your Roll No.....

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Sr. No. of Question Paper : 1072

Unique Paper Code : 2232011103

Name of the Paper : DSC-3, Concepts of Ecology

Name of the Course : B.Sc. (Hon) Zoology

Semester : I UGCF

Duration : 2 Hours Maximum Marks : 60

Instructions for Candidates

1. Write your Roll No. on the top immediately on receipt of this question paper.
2. Attempt four questions in all.
3. Question no. 1 is compulsory.

1. (a) Define the following: (4)

(i) Guilds

P.T.O.

(ii) Ecosystem

(iii) Ecological efficiency

(iv) Keystone species

(b) Distinguish between the following: (6)

(i) Grazing and detritus food chain

(ii) Amensalism and Commensalism

(iii) Autogenic and Allogenic succession

(c) Fill in the blanks: (2)

(a) _____ is a type of biological interaction where one species causes harm to another organism without any harm or benefits to itself.

(b) _____ life tables are the most accurate types of life tables.

(d) Name the scientists associated with the following terms: (3)

(i) Competitive exclusion principle

(ii) Ecology

(iii) Life Table

2. (a) Describe density dependent regulation of a population. (7)

(b) Briefly describe Shelford's Law of Tolerance with the help of suitable examples. (4)

(c) Elaborate the differences between autecology and synecology (4)

3. (a) Describe various possible outcomes of inter-specific competition with graphical representation and equations. (9)

(b) Differentiate between r-selected and k-selected species. (6)

4. (a) Define ecological succession? Give the differences between pioneer and climax community. (6)

(b) Explain the phenomenon of primary succession in a community with an example. (9)

5. (a) What are Biogeochemical cycles? Explain the role of micro-organisms in Nitrogen cycle. Along with a neat labelled diagram of Nitrogen cycle (10)

P.T.O.

(b) Define Food chain. Explain the difference between Linear and Y-shaped food chain, with examples. (5)

6. Write short notes on **any three** of the following: (3 × 5

(a) Light as a limiting factor

(b) Ecological Pyramids

(c) Types of species interactions

(d) Survivorship curves

(e) Ecotone and edge effect

(f) Vertical stratification in forests