Your Roll No. ....

8293 **JS**

B.Sc. Prog./II

ES- 201—CONCEPTS IN ECOLOGY

(Admissions of 2008 & onwards)

Time : 3 *Hours* *Maximum Marks* : 75

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

Use separate sheets for each Sections A & B.

Section A (38 Marks)

(Plants)

Attempt *three* questions in all. including

Q. No. 1, which is compulsory.

1. Define the following (any eight) : 1 × 8 = 8

   (a) Mor humus   (f) Phytograph

   (b) Ecesis   (g) Phenology

   (c) Sciophyte   (h) Environment

   (d) Succession   (i) Endemics

   (e) Capillary water   (j) Phytogeography

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

                                    5 × 3 = 15

   (a) Climax Vegetation

   (b) Classification of Life-forms

(c) Liebig's Law of minima

(d) Atmospheric temperature inversion

(e) Indicator plants

3. Differentiate between any *three* of the following :

$$5 \times 3 = 15$$

(a) Autotrophic and Heterotrophic Succession

(b) Residual and Transported Soil

(c) Tropical Rain-forest and Temperate Rain-forest

(d) Heliophyte and Sciophyte

4. (a) Explain the cation exchange capacity of the soil and discuss its importance. $5 + 2$

(b) Briefly describe the various stages of Xerosere and explain the characters of any climax vegetation.

$$5 + 3$$

Section B

(Animals)

[Units 1, 4, 5, 7, 8[part], 9[part]] **(37 Marks)**

Attempt three questions in all.

Q. No. 1 is compulsory.

1. (a) Define the following : 5

(i) Population ecology

(ii) Age structure

    (iii)   Cohort

    (iv)   Life tables

    (V)   Symbiosis

  (b) Distinguish between   4

    (i)   Mutualism and Commensalisms

    (ii)   Decomposers and Transformers

  (c) Describe with the help of labelled diagrams the nitrogen cycle.   4

2. What is ecology ? Give an account of scope and relevance of ecology concept in development of India.   1 + 6 + 5

3. Define a population. Give a concise account of characteristics of a Population. Describe in brief the various factors that regulate the population growth.   1 + 5 + 6

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

                                    4 + 4 + 4

    (i)   Crude and Ecological Density

    (ii)   Wallace's Divisions

    (iii) Environmental influenced diseases

    (iv) Y-shaped energy flow model.