[This question paper contains 4 printed pages.]

Sr. No. of Question Paper : 1799 **GC-3** **Your Roll No.....**

Unique Paper Code : 32231102

Name of the Paper : Perspectives in Ecology

Name of the Course : **B.Sc. (H) Zoology – CBCS**

Semester : I

Duration : 3 Hours Maximum Marks : 75

Instructions for Candidates

1. Write your Roll No. on the top immediately on receipt of this question paper.
2. Attempt **Five** question in all including Question No. **1**, which is compulsory.

1. (a) Define the following : (5)

   (i) Edge effect

   (ii) Saprophage

   (iii) Autecology

   (iv) Metapopulation

   (v) Key-stone species

   (b) Differentiate between : (12)

   (i) Primary succession and Secondary Succession

   (ii) National Park and Sanctuary

P.T.O.

(iii) Grazing and Detritus food chain

(iv) Sympatric and Allopatric species

(v) Commensalism and Amensalism

(vi) k-selected and r-selected species

(c) Name the scientists associated with the following terms : (5)

(i) Ecology

(ii) Logistic growth equation

(iii) Ecosystem

(iv) Life table

(v) Multidimensional niche

(d) Fill in the blanks : (5)

(i) The shape of the age pyramid in a stable population is a ..... .

(ii) The total dry weight or the caloric content of organisms present at any one time in an ecosystem is called ..... .

(iii) Herbivores are ..... consumers that feed on plants.

(iv) Pattern of dispersion most commonly observed in nature is ..... .

(v) Two components of species diversity are ..... and ..... .

2. (a) Describe the abiotic and biotic components of a pond ecosystem and draw a well-labeled diagram. (7)

   (b) Compare the universal and Y-shaped energy flow models with the help of a suitable diagram. (5)

3. (a) What is ecosystem development ? Describe the process of succession on an igneous rock ? (9)

   (b) Give differences between pioneer and climax community. (3)

4. (a) Analyze the role of different density dependent factors in population regulation. (8)

   (b) Define and explain different types of Survivorship curves. (4)

5. (a) Describe the various possible outcomes of competition between two species for resources predicted by Lotka-Volterra model. (7)

   (b) What are ecological pyramids ? Give the significance and limitations of these pyramids with examples. (5)

6. (a) What are the different threats to wild life ? (5)

   (b) Explain different strategies for the conservation of wildlife. (7)

7. Write short notes on any **three** of the following : (4,4,4)

   (i) Food web

(ii) Ecological efficiency

(iii) Role of micro-organisms in Nitrogen cycle

(iv) Zone of stress