9. Write short notes on the following : (5×3=15)

(a) Equilibrium Theory of Insular Biogeography

(b) Convergent and Parallel Evolution

(c) Species-area relationships

[This question paper contains 4 printed pages.]

Your Roll No.....

Sr. No. of Question Paper : 1145 **A**

Unique Paper Code : 32181401

Name of the Paper : System atics &.Biogeography

Name of the Course : **B.Sc. Hons. Environmental Sciences – Core**

Semester : IV

Duration : 3½ Hours Maximum Marks : 75

Instructions for Candidates

1. Write your Roll No. on the top immediately on receipt of this question paper.
2. Answer any **four** questions.
3. **All** questions carry equal marks.

1. Differentiate between the following : (5×3=15)

(a) Endemic and Exotic species

(b) Taxonomic and Phylogenetic species concept

(c) Parallelism and Convergence

2. Write short notes on the following : (5×3=15)

   (a) Preparation of herbarium

   (b) Taxonomy databases

   (c) Concept of species

3. (a) The Earth has witnessed major episodes of species diversification and extinction in its history. Elaborate this statement with the help of suitable examples and paleo records. (7½)

   (b) What are the different means and barriers to species dispersal? (7½)

4. (a) Define ecological niche and its different types. What role does ecological niche play in the evolution of biogeographic patterns of a region? (7½)

   (b) What is Taxonomic Hierarchy? Explain with suitable examples. (7½)

5. (a) What effects does the formation of the land bridge have on the evolution of biodiversity of a region. Explain with suitable examples. (7½)

   (b) Why do tropics have more species than poles on the Earth? (7½)

6. Briefly explain the role of the following abiotic factors in determining the biodiversity patterns of a given region: temperature, precipitation, slope, aspect, physiography, soil, and wind. (15)

7. What are the different biogeographic realms of the world? Explain the major characteristics of each of the biogeographic realms. (15)

8. Differentiate between the following : (5×3=15)

   (a) Phenogram and Cladogram

   (b) Genus and Species

   (c) Rapoport's rule and Mid-Domain Effect