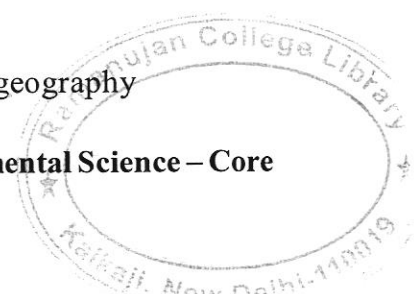


[This question paper contains 2 printed pages.]

Your Roll No.....

Sr. No. of Question Paper : 4525 E
Unique Paper Code : 32181401
Name of the Paper : Systematics & Biogeography
Name of the Course : **B.Sc. (H) Environmental Science – Core**
Semester : IV
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 **any five** questions.
3. **All questions** carry equal marks

1. What are the possible implications of misclassification at any taxonomic level on understanding biodiversity and other related fields? Discuss the potential influence of anthropogenic activities on generating ecological variations across geographical regions. (15)

2. Write explanatory notes on the following (any three): (5×3=15)

- (i) Role of herbarium and museum in taxonomic studies
- (ii) DNA Barcoding
- (iii) Continental drift
- (iv) Angiosperm Phylogeny Group (APG III)

P.T.O.

3. Write down the difference between the following (any three): (5×3=15)
- (i) Botanic garden and Zoological Park
 - (ii) Allopatric species and Sympatric species
 - (iii) Gloger's rule and Bergmann's rule
 - (iv) Protected area and Biosphere reserve
4. Describe different means of dispersal and explain different barriers to dispersal. Discuss its relevance in the process of speciation and extinction with suitable examples. (15)
5. (a) Elaborate upon the process of speciation in the background of ecological diversification. (8)
- (b) In what way does understanding the Earth's history explain the current and future trends of biodiversity? (7)
6. How can understanding biogeographical rules help us predict the impact of climate change on different species? Explain your answer with the help current impact of climate change on biodiversity and ecosystems. (15)
7. How does our understanding of different concepts of species concepts help evolve conservation strategies? Analyze the relevance of databases in studies on taxonomy and biological diversity. (15)
8. How might the concept of homology and analogy improve our understanding of evolution? Explain the significance of these concepts with suitable examples. (15)