

1523

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- (b) Allometry
- (c) Host-parasite interactions
- (d) Dispersion
- (e) Adaptive Radiation

[This question paper contains 4 printed pages.]

Your Roll No.....

Sr. No. of Question Paper : 1523

I

Unique Paper Code : 2232523501

Name of the Paper : DSC, Evolutionary Ecology

Name of the Course : **B.Sc. (P) Life Sciences**

Semester : V, NEP- 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) Niche

(ii) Mutualism

(1500)

P.T.O.

(iii) Fitness

(iv) Biological species concept

(b) Distinguish between the following : (8)

(i) Natural Selection and Artificial Selection

(ii) Autopolyploidy and Allopolyploidy

(iii) Type I and Type III survivorship curves

(iv) Keystone Species and Umbrella species

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

(i) Logistic Growth

(ii) Ecology

(iii) Genetic Drift

2. (a) Discuss the chemical origin of life and provide experimental proof for the same. (12)

(b) Elucidate the differences between autecology and synecology. (3)

3. (a) Define ecological succession. Describe the various steps involved in the successful establishment of a climax community. (8)

(b) Describe the main stages of succession in a Hydrosere? (7)

4. (a) What is a life table? Describe the types of life table. Using a hypothetical Life Table, describe the various components of life table and calculate their values. (12)

(b) Enumerate the various types of prezygotic Isolating mechanisms. (3)

5. (a) Define coevolution and give details of its various types. (8)

(b) How can macroecological data be used to predict the effects of climate change on biodiversity? (7)

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

(a) Lamarck's theory of Evolution