

Code No. : B02/105

Roll No..... Total No. of Printed Pages : 4

Second Semester Online Examination, May-June, 2022

Code No. : B02/105

M. Sc. ZOOLOGY

Paper I

[Population Genetics and Evolution]

Time : Three Hours]

[Maximum Marks : 80

Note : Part A and B of each question in each unit consist of 'very short answer type question' which are to be answered in one or two sentences. Part C 'Short answer type' and D 'Long answer type' of each question should be answered within the word limit mentioned.

UNIT-I

1. (A) Define Segregation load. 2
- (B) Write the concept of canalization. 2
- (C) Explain loss of genetic variation.
(word limit 200-250) 4

OR

What is Mutation selection balance.

- (D) Explain in detail the optimum phenotypes and selection pressure.
(word limit 400-450) 12

P.T.O.

OR

Write an article on genetic homeostasis and balancing selection.

UNIT-II

2. (A) Define post zygotic Isolation. 2
- (B) Define parapatric speciation. 2
- (C) Explain genotype environment interactions. (word limit 200-250) 4

OR

Write about the pattern of reproductive isolation.

- (D) Discuss in detail the quantitative traits and natural selection. (word limit 400-450) 12

OR

Explain how to estimate Narrow sense and broad sense heritability.

UNIT-III

3. (A) Define 'Molecular clock'. 2
- (B) Give the concept of 'Neural theory of Evolution'. 2

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- (C) Explain limitations of Hardy-Weinberg law of genetic equilibrium.

(word limit 200-250) 4

OR

Write a note on Darwin's theory of Evolution.

- (D) Discuss in detail emergence of Neo-Darwinism and neutral theory of Evolution.

(word limit 400-450) 12

OR

Explain the process of Micro evolution with examples.

UNIT-IV

4. (A) What is gene evolution. 2
(B) Define Molecular drive. 2
(C) Write a note on gene mutation.

(word limit 200-250) 4

OR

Write a note on genetic drift.

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- (D) Write an account on evolution of horse and its pedigree. *(word limit 400-450)* 12

OR

Explain concept of gene families.

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