

SF-17012

(553) M.Sc. Zoology (Third Semester)
Examination, Dec.-2023

Compulsory / Optional

POPULATION GENETICS & EVOLUTION
Paper - IV

Time : Three Hours] Maximum Marks : 080

Note : Answer From both the Section as Directed. The figures in the right-hand margin indicate marks.

Section- A

1. Answer the following very short not type questions: $1 \times 10 = 10$

(a) Mutation by radiation was first experimentally demonstrated by ...

(b) Species diversification represents ...

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(Turn Over)

(2)

- (c) First man originated in age.
- (d) Genetic improvement of human race is called
- (e) What is Analogous organ?
- (f) The Term gene was given by
- (g) What is vestigial organ?
- (h) Allopatric species are
- (i) What is genetic drift?
- (j) Give example of any two Migratory bird?

Answer the following questions: $2 \times 5 = 10$

- (a) Write two mendel's Law?
- (b) Explain Metapopulation?
- (c) Define Nucleotide?
- (d) What is parapatric speciation?
- (e) What is gene Mutation?

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(Continued)

(3)

Section- B

Answer the following questions: $15 \times 4 = 60$

3. Explain Hardy-Weinberg Law of genetic equilibrium?

OR

Write short notes on :

(a) Meiotic drive

(b) Mutation

4. What is Isolation, Explain pattern and mechanisms of reproductive Isolation?

OR

Write short notes on :

(a) Inbreeding depression.

(b) Difference between Allopatric and sympatric.

5. What is phylogenetic trees and explain How to construct phylogenetic trees?

(4)

OR

Write short notes on :

(a) Molecular clock.

(b) Gene evolution.

6. Short notes on :

(a) Phenotypic variation.

(b) Metapopulation.

OR

Explain Genetic structures of Natural population?