

Roll No. :

Total No. of Questions : 11]

[Total No. of Printed Pages : 3

BPG–1088

M.Sc. (Previous) Examination, 2021

ZOOLOGY

Paper - IV

**(Evolution, Statistical Methods and Computer
Application in Biology)**

Time : 1½ Hours]

[Maximum Marks : 75

Section–A

(Marks : 2 × 10 = 20)

Note :- Answer all *ten* questions (Answer limit **50** words). Each question carries **2** marks.

Section–B

(Marks : 5 × 5 = 25)

Note :- Answer all *five* questions. Each question has internal choice (Answer limit **200** words). Each question carries **5** marks.

Section–C

(Marks : 10 × 3 = 30)

Note :- Answer any *three* questions out of five (Answer limit **500** words). Each question carries **10** marks.

Section–A

2 each

1. (i) Define Gene pool.

(ii) In which respect Darwin agree with Lamarck ?

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(1)

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- (iii) What is germinal variations ?
- (iv) Define Gene Flow.
- (v) Define protective mimicry.
- (vi) Explain how the artificial selection is beneficial ?
- (vii) What is Median ?
- (viii) Give formula of calculating standard deviation.
- (ix) What is image analysis ?
- (x) What is binomial probability distribution ?

Section-B

5 each

2. Write details of Hardy Weinberg Law and Equation.

Or

What is the effect of mutation pressure on evolution ?

3. Write note on chromosomal variations.

Or

Explain physiological isolating mechanism of evolution.

4. Write note on alluring mimicry.

Or

Explain survival of the fittest.

5. The spots on fish scale is as follows :

28, 30, 21, 19, 37, 30, 39, 13, 19, 30, 41, 31, 20, 21

Calculate the Median.

Or

Calculate Standard Deviation from the following data :

Marks of Students	Number of Students
140	7
145	3
150	8
155	6
160	4
165	2

6. Explain different types of Statistical Models.

Or

Explain Sensitivity Analysis.

Section–C

10 each

7. Give detailed account of effect of genetic drift on evolution with suitable diagram.
8. Give detailed account of Migration.
9. What is modern concept of natural selection ? Give detailed account.
10. Explain different types of Correlation.
11. How ANOVA is used in data analysis ? Explain.