

5406

M.Sc. (Previous)

Zoology-VI

M.Sc. (Previous) Examination, 2023

(Faculty of Science)

ZOOLOGY

Paper-VI

(Biostatistics and Population Genetics)

Time Allowed : Three Hours]

[Maximum Marks : 100

- Note: (i) No supplementary answer-book will be given to any candidate. Hence the candidate should write the answers precisely in the main answer-book only.
- (ii) All the parts of one question should be answered at one place in the answer-book. One complete question should not be answered at different places in the answer-book.
- (iii) The question number 1 is **compulsory** having 20 very short answer type questions of 1 mark each.
- (iv) The question numbers 2 and 3 consist only short answer type questions having internal choice and each question has 4 sub-divisions of 5 marks.
- (v) The question number 4 and 5 are long answer type questions with internal choice.

1. Answer the following questions in very short :

[1×20=20]

- (i) What is ANOVA?
- (ii) Define exclusive data series.
- (iii) What is Pictogram?
- (iv) What is regression line?
- (v) Formula of Spearman's correlation coefficient.
- (vi) Define the mode in statistics.
- (vii) Name of writer of book "Origin of Species by Natural Selection".
- (viii) What is survival of fittest?
- (ix) Example of industrial melanism.
- (x) Define genetic drift.
- (xi) Two examples of Lamarckism..
- (xii) What is monosomic?
- (xiii) Define Allopatric speciation?
- (xiv) Who coined the term Isolating Mechanism?
- (xv) Which period is called "The Age of Fishes"?
- (xvi) Define the directional selection.
- (xvii) What is Gene pool?
- (xviii) Define species.
- (xix) Define heterosis.
- (xx) Name of modern man.

2. Write short notes on the following :

[5×4=20]

- (a) Coefficient of variation
- (b) Student test
- (c) Neo-Darwinism
- (d) Modes of speciation

OR

Write short notes on the following :

- ~~(a)~~ Molecular clocks
- (b) Phylogenetic tree
- ~~(c)~~ Micro & Macro evolution
- ~~(d)~~ Reproductive isolation

3. Write short notes on the following :

[4×5=20]

- (a) Chi square test
- (b) Analysis of variance
- (c) Scope and application of biostatistics
- (d) Find the median for the following data :

Class boundaries :	15-25	25-35	35-45	45-55	55-65	65-75
Frequency:	10	3	7	0	8	12

OR

Write short notes on the following :

- (a) Genetic drift

(b) Gene duplication and divergence

(c) Natural selection

(d) Genotype environment interaction

4. Describe the Quantitative Traits and Natural Selection. [20]

OR

Write an essay on Molecular Evolution.

5. Describe the Darwinism with suitable example. [20]

OR

Write an essay on method of determining correlation.

—x—

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