

Third Semester B. Sc. Examination

ZOOLOGY

Paper - II

(Genetics)

Time : Three Hours]

[Max. Marks : 50

- N. B. : (1) All questions are compulsory.
(2) All questions carry equal marks.
(3) Illustrate your answers with suitable diagrams.

1. Give an account of extracellular genome. 10

OR

Write notes on :—

(A) Out breeding. 5

(B) Incomplete dominance. 5

2. Define crossing over. State the types, mechanism and significance of crossing over. 10

OR

Write notes on :—

(A) CO₂ sensitivity in *Drosophila*. 5

(B) Genetic disorders of metabolism. 5



3. Describe the various syndromes related to chromosomal number. 10

OR

Write notes on :—

- (A) Environmental sex determination in *Bonellia*. 5
(B) Duplication. 5

4. Explain the process of DNA finger printing in detail. 10

OR

Write notes on :—

- (A) Lethal genes. 5
(B) Genetic counseling. 5

5. Write **four** or **five** lines on the following (any **ten**) :—

- (i) Epistasis.
- (ii) Law of segregation.
- (iii) Monohybrid cross.
- (iv) Sickle cell anaemia.
- (v) Mutation.
- (vi) Recombination.

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(vii) Silent mutation.

(viii) Gynandromorphs.

(ix) Mutagens.

(x) Hardy-Weinberg equation.

(xi) Gene frequency.

(xii) Gene pool.

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