

**Bachelor of Science (B.Sc.) Semester—III (C.B.S.) Examination**

**ZOOLOGY**

**(Genetics)**

**Paper—II**

Time : Three Hours]

[Maximum Marks : 50

**N.B. :—** (1) **ALL** questions are compulsory.

(2) All questions carry equal marks.

(3) Illustrate your answers with suitable diagrams wherever necessary.

1. What is extra-cellular genome ? Describe presence and function of Mitochondrial DNA. 10

**OR**

Write notes on :

(A) Law of Dominance. 5

(B) Outbreeding. 5

2. Describe the haemoglobin disorders in detail. 10

**OR**

Write notes on :

(A)  $\text{CO}_2$  sensitivity in *Drosophila*. 5

(B) Linkage. 5

3. What is sex determination ? Explain genic balance theory in detail. 10

**OR**

Write notes on :

(A) Frame shift mutation. 5

(B) Turner's syndrome. 5

4. Give an account on Hardy-Weinberg's Law of equilibrium and its significance. 10

**OR**

Write notes on :

(A) Lethal genes. 5

(B) Sperm banking. 5

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

(i) Alleles

(ii) Law of segregation

(iii) Plasmid

(iv) Recon

(v) Milk factor in Mice

(vi) Crossing over

(vii) Spontaneous mutation

(viii) Gynandromorph

(ix) 47 XXY

(x) Amniocentesis

(xi) VNTR

(xii) Restriction enzymes. 10