

SHRIMATHI DEVKUNVAR NANALAL BHATT VAISHNAV COLLEGE FOR WOMEN
(AUTONOMOUS)

(Affiliated to the University of Madras and Re-accredited with 'A+' Grade by NAAC)
Chromepet, Chennai — 600 044.

M.Sc.(Bio-Statistics) END SEMESTER EXAMINATIONS APRIL - 2023
SEMESTER - I

20PBSET1001 - Statistical Genetics

Total Duration : 2 Hrs. 30 Mins.

Total Marks : 60

Section B

Answer any **SIX** questions ($6 \times 5 = 30$ Marks)

1. Explain the following:
(i) Genotype and (ii) Phenotype.
2. Describe Random mapping with suitable examples.
3. Write a note on multiple gene inheritance.
4. Describe in detail aspects relating to mating method.
5. Explain the law of segregation with an example.
6. State the types of sex-linked inheritance.
7. Explain in detail about ABO blood group.
8. Distinguish between Qualitative and Quantitative Genetics.

Section C

I - Answer any **TWO** questions ($2 \times 10 = 20$ Marks)

9. Describe the types of Chromosomes and Genes.
10. In an anti-malarial campaign in a certain area. Quinine was administered to 812 persons out of a population of 3,248. The number of fever cases is shown below:

Treatment	Fever	No Fever	Total
Quinine	20	792	812
No Quinine	220	2216	2436
Total	240	3008	3248

Analyse the data and interpret the results.

11. Explain Hardy - Weinberg law of equilibrium and its evaluation.
12. Define Genetic Algorithm and state the steps involved in GA.

II - Compulsory question ($1 \times 10 = 10$ Marks)

13. Explain in detail the different aspects of gene action.
