1. Discuss any two of the following: (2×10=20)
   (a) Structure and functions of mitochondria
   (b) Fluid mosaic model of plasma membrane
   (c) Polytene chromosome

2. Write notes on any two of the following: (2×10=20)
   (a) Multiple alleles
   (b) Cytoplasmic inheritance
   (c) Molecular basis of mutation

3. Discuss any two of the following: (2×10=20)
   (a) Ecological pyramids
   (b) Sources of water pollution and its control
   (c) Afforestation in Mizoram

4. Write notes on any two of the following: (2×10=20)
   (a) Botanical regions of North-Eastern India
   (b) Endemism
   (c) Biodiversity and its conservation
PART B

5. Write short notes on any two of the following: (2×10=20)
   (a) Describe the procedure of hybridization in self-pollinated crops
   (b) Molecular markers in plant breeding
   (c) Sanger method of DNA sequencing

6. Write short notes on any two of the following: (2×10=20)
   (a) Standard deviation
   (b) t-test
   (c) Poisson distribution

7. Write short notes on any two of the following: (2×10=20)
   (a) Photoperiodism
   (b) Different types of plant movements
   (c) Auxins and their physiological effects

8. Write short notes on any two of the following: (2×10=20)
   (a) Regulation of enzyme activity
   (b) Fermentation
   (c) Nitrogen assimilation in plants

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