PART A

1. Write short notes on any four of the following: (4×5=20)
   (a) Laws of Heredity
   (b) Significance of linkage and cross over in recombination breeding
   (c) Classes of improved seed
   (d) Genetically modified food
   (e) Apomixis

2. Write short notes on any four of the following: (4×5=20)
   (a) Heritability
   (b) Self incompatibility
   (c) Chromosomal aberrations
   (d) Sex linked characters
   (e) Cytoplasmic inheritance

3. Write short notes on the following: (4×5=20)
   (a) PPVFRA
   (b) DNA fingerprinting
   (c) Cartagena protocol on Biosafety
   (d) Certified seed and truthful labelled seed

4. Discuss the difference between C3, C4 and CAM mechanism of photosynthesis with examples. (20)
PART B

5. (a) What do you understand by protected cultivation and high-tech horticulture? Discuss various approaches for the same. (10)
   (b) Discuss the role of fruits and vegetables in human nutrition. (10)

6. What are the broad principles of disease and pest control? Describe integrated pest and disease management. (20)

7. Write short notes on the following: (4×5=20)
   (a) Targeted Public Distribution System in Mizoram
   (b) National Food Security Mission (NFSM)
   (c) Status of food processing industries in Mizoram
   (d) Bamboo Flowering and Famine Combat Schemes (BAFFACOS)

8. Write short notes on the following: (4×5=20)
   (a) BPL population
   (b) National dietary guidelines
   (c) Protein energy malnutrition
   (d) Food processing constraints

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