

- All questions are compulsory.
- Draw diagram wherever necessary.
- Figures to the right indicate marks.

**Q. I ANSWER THE FOLLOWING: (ANY TWO)****(20)**

1. Describe Fluid Mosaic Model of Plasma membrane with suitable diagram.
2. List the models of plasma membrane. Explain 2 models proposed by Robertson.
3. Give detailed account of Endoplasmic Reticulum.
4. Explain ultrastructure of chloroplast and list the role of any 3 components.

**Q. II EXPLAIN THE FOLLOWING: (ANY TWO)****(20)**

1. Tropical rain forest.
2. Desert Ecosystem.
3. Fresh water Ecosystem.
4. Energy flow in an ecosystem.

**Q. III ANSWER THE FOLLOWING: (ANY TWO)****(20)**

1. Explain dominant epistasis with an example.
2. What is an allele? Explain multiple alleles with an example.
3. Illustratively explain gene interaction without modification of Mendelian ratio.
4. A true breeding homozygous violet flowers and yellow seeds plant was cross with a true breeding homozygous white flowers and green seeds plant. All the plants were with violet flowers and yellow seeds in the F<sub>1</sub> generation compute the phenotypic and genotypic ratio for the F<sub>2</sub> generation.

**Q. IV WRITE A SHORT NOTE ON (ANY THREE)****(15)**

1. Cell wall.
2. Components of plasma membrane.
3. Structure of ecosystem.
4. Parasitic food chain.
5. Monohybrid Cross.
6. Explain the terms: - Gene, Phenotype, Genotype, Haploid, and Dominant trait.

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