



The Figures in the margin indicate full marks.
Candidate are required to give their answers in their own words as far as practicable

Group-A (Very Short Answer Type Question)

1. Answer any ten of the following :

[1 x 10 = 10]

- (i) Genetic codes are _____
- (ii) Name the inhibition where end products of biosynthesis pathway inhibit the activity of the first enzyme?
- (iii) In which portion of the growth curve bacteria shows rapid growth is observed?
- (iv) What is the basic unit of classification?
- (v) Which disorder is also called the Royal disease?
- (vi) Are the polysaccharides sweet like sugars?
- (vii) How many base pairs are found in one turn of DNA helix?
- (viii) The reason behind the anti-parallel strand of DNA is _____
- (ix) How many molecules of acetyl CoA are generated by a single molecule of glucose which enters the Krebs cycle.
- (x) Which microscope is used to visualize living cells?
- (xi) If a plant with genotype AaBb is self-fertilized, the probability of getting AABB genotype will be (A and B are not linked)
- (xii) Distance between two adjacent nitrogen bases of DNA is _____

Group-B (Short Answer Type Question)

Answer any three of the following

[5 x 3 = 15]

2. Explain the following terms with example

- i) Co-dominance
- ii) Incomplete dominance

[5]

3. i) How peptide bond formation takes place? give the structure.

ii) "Amino acids exist as zwitterions". Give its structure and why is it formed?

[5]

4. Explain the concept of taxonomic hierarchy.

[5]

5. Define and design a test-cross.

[5]

6. When a cross is made between tall plant with yellow seeds (TtYy) and tall plant with green seed (Tt yy), what proportions of phenotype in the offspring could be expected to be (a) tall and green and (b) dwarf and green.

[5]

Group-C (Long Answer Type Question)

Answer any three of the following

[15 x 3 = 45]

7. (a) Why did Mendel choose pea plant for his experiment?

(b) How is human sex determined?

(c) Give differences between mitosis and meiosis

[5+5+5]

8. (a) What is glycogen? How is it different from starch?

(b) What are essential and non-essential amino acids? Give two examples of each type.

[5]

(c) Write a short note on monosaccharides.

[5]

9. (a) How do Mendel's experiments show that traits are inherited independently?

(b) Explain how colour blindness is passed in children?

[5]

[10+5]

10. Write a note on thalassaemia?

[15]

11. (a) Briefly describe the Clover leaf model of tRNA

[10]

(b) Write a short note on Central dogma

[5]