

Exam. Code : 107403

Subject Code : 1842

B.Sc. Biotechnology 3rd Semester

GENETICS

Paper—BT-6

Time Allowed—3 Hours]

[Maximum Marks—40

SECTION—A

All questions are compulsory.

1. Define and Explain the following :— $8 \times 1 = 8$

- (i) Eukaryotic chromosome.
- (ii) Euchromatin.
- (iii) Independent assortment.
- (iv) Test cross.
- (v) Incomplete linkage.
- (vi) Crossing over.
- (vii) Mutation
- (viii) Transformation.

SECTION—B

Attempt any FIVE questions; selecting ONE from each unit. $5 \times 4 = 20$

UNIT—I

2. What is satellite DNA ? Discuss.
3. What is Lampbrush chromosome ? Explain.

UNIT—II

4. Explain with example the back cross.
5. Explain the multiple allelism.

UNIT—III

6. Explain the factors affecting the chiasma formation.
7. Discuss the significance of linkage.

UNIT—IV

8. Discuss with example the role of physical mutagens.
9. Discuss the significance of mutation.

SECTION—C

Attempt any TWO questions. $2 \times 6 = 12$

10. Discuss the role and significance of telomere.
11. Discuss the trihybrid cross.
12. Discuss and explain the mechanisms of crossing over.
13. Diagrammatically discuss and explain the transformation.