

B.Sc. 2nd Semester (Latest)

Examination, May-2023

BIO-TECHNOLOGY

Paper -BT-203

Genetics

Time allowed : 3 hours]

[Maximum marks : 40

Note : Attempt five questions in all, selecting one question from each unit. Question no. 1 is compulsory. All questions carry equal marks.

1. Write notes on the following: 8×1=8
- (a) Genetic code
 - (b) Heterochromatin
 - (c) Back Cross
 - (d) Barr-Body
 - (e) Linkage
 - (f) Segregation
 - (g) Frame shift mutation
 - (h) Who is father of Genetics?

Unit-I

2. Describe with example concept of incomplete dominance. 8
3. What is Genetics? Describe the various experiments done by Mendel in genetics and reasons for his success. 8

Unit-II

4. Write note on any two: 2×4=8
- (a) Epistasis
 - (b) Chromosomal structure
 - (c) Inhibitory and duplicate gene
5. Explain: 2×4=8
- (a) Complementary gene
 - (b) One gene one peptide hypothesis

Unit-III

6. Write note on: 2×4=8
- (a) Chromosomal aberrations
 - (b) Mechanism of sex determination
7. What is Mutation? Describe its causes, type and cure in detail. 8

Unit-IV

8. What do you mean by extra nuclear inheritance? Write down its criteria in detail. 8
9. Write note on any two: 2×4=8
- (a) Hardy Weinberg law of assumption
 - (b) Natural selection
 - (c) Evolutionary genetics.