

Sr.No.3045

Exam Code: 103202  
Subject Code : 1252

B.A./B.Sc. - 2nd Semester  
(2721)

Paper : Botany Paper-II B (Genetics)

Time allowed: 2 hrs.

Max. Marks: 35

Note: There are EIGHT questions of equal marks. Candidates are required to attempt any FOUR questions.

### Section-A

1. Describe the structure of deoxyribonucleic acid with the help of diagrams.
2. Write short note on:
  - a) Repetitive DNA
  - b) DNA polymerases

### Section-B

3. What do you understand by Gene interaction? Differentiate between epistasis and dominance with the help of examples.
4. Explain briefly:
  - a) Linkage analysis
  - b) Penetrance
  - c) Lethal alleles
  - d) Meiosis

### Section-C

5. How is gene expression regulated in Prokaryotes?
6. How do the functions of rRNA, mRNA and tRNA differ during the process of protein synthesis?

### Section-D

7. Discuss in detail about the different types of induced mutations?
8. Describe and compare the repair mechanisms for the repair of DNA damage in *E.coli*.

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