

Total No. of Printed Pages: 2

**SUBJECT CODE NO: - Y-2179**  
**FACULTY OF SCIENCE AND TECHNOLOGY**  
**B.Sc. (PATTERN-2013) (T.Y SEM VI)**  
**Examination April / May - 2024**  
**Botany Paper- XIX (Genetics and Biotechnology)**

[Time: 1:30 Hours]

[Max. Marks:50]

Please check whether you have got the right question paper.

- N. B
- 1) Attempt all questions.
  - 2) Draw neat and well labelled diagram wherever necessary.

**Q1** What is Epistasis? Explain in detail Duplicate dominant epistasis with suitable Example. 20

OR

Give an account of fine structure of gene. Explain in detail phenylketonuria and Alkaptonuria. 20

**Q2** Describe the concept of genetic engineering & its role in agriculture field. 20

OR

write shorts notes on (any four) 20

- a) Test cross
- b) Genic balance theory in Drosophila
- c) Holandric gene
- d) Genetic counselling
- e) Properties of restriction endonuclease
- f) Gene cloning



**Q3** Multiple choice question. 10

- 1) Mendel proposed which of the following term for heredity units \_\_\_\_
  - a) Factor
  - b) Genome
  - c) Genetic particle
  - d) None of these
- 2) When cross is made between offspring and its one of the parents, it is known as \_\_\_\_
  - a) Back cross
  - b) Test cross
  - c) Reciprocal cross
  - d) All of these
- 3) The gene interaction when one gene of mask the effect of other gene such interaction called
  - a) Epistatic gene
  - b) Hypostatic
  - c) Both a and b
  - d) None of these

