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SUBJECT CODE NO: - Y-2056
FACULTY OF SCIENCE AND TECHNOLOGY
B.Sc. T.Y Sem-VI
Examination March / April - 2023
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 Describe interaction of genes. Explain in detail dominant epistatic genes or dominant epistasis? 20

OR

Describe in detail sex determination and mechanism of sex determination in man and Drosophila?

Q2 What is genetic engineering? Describe in detail techniques of genetic engineering 20

OR

Write short notes on any four

- a) Test cross
- b) Holandric genes
- c) Law of dominance
- d) Phenylketonuria
- e) Gene cloning
- f) Introduction of G.J.Mendel

Q3 Multiple choice question 10

- 1) Law of segregation is also called as -----
 - a) Law of dominance
 - b) Back cross
 - c) Test cross
 - d) Law of purity of gameles
- 2) Unit of inheritance is called -----
 - a) Genotype
 - b) phenotype
 - c) gene
 - d) chromosome
- 3) A cross between F_1 individuals with either of its parents is called -----
 - a) Recessive
 - b) Back cross
 - c) Dominant
 - d) None of these
- 4) Sex determination in birds is of -----type
 - a) xx-yy
 - b) xx-xo
 - c) zz-zw
 - d) None of these

- 5) Haemophilic male if marries with normal female gives birth to all -----sons.
a) Normal b) Haemophilic c) carrier d) both a and c
- 6) Genetic diseases occurs due to ----genes.
a) Dominant b) recessive c) complementary d) supplementary
- 7) In Drosophila ---eye colour is a mutant character
a) Red b) white c) Blue d) none of these
- 8) -----enzymes are useful to join the cut ends of DNA molecule
a) RNA polymerase b) Ligase c) DNA polymerase d) All of these
- 9) Restriction enzymes were discovered by -----
a) Watson and crick b) Paul Berg c) Beedle and Tatum d) Nathan Arber
- 10) The most common plasmid vector used in genetic engineering is -----
a) P^{BR325} b) P^{BR322} c) P^{BR328} d) None of these