

BACHELOR OF SCIENCE (BIOTECHNOLOGY) (CBCS - 2015 COURSE)
F.Y.B.Sc. (Biotech) Sem-II : WINTER :- 2021
SUBJECT: GENETICS

Day : Monday
Date 7/2/2022

W-13220-2021

Time : 02:00 PM-05:00 PM
Max. Marks: 60

N.B.

- 1) **Q. No. 1 and Q. No. 5** are **COMPULSORY**.
- 2) Attempt **ANY TWO** questions from remaining three in each section.
- 3) Answers to both the sections should be written in **SEPARATE** answer books.

SECTION - I

- Q.1** Answers any **FIVE** of the following (10)
- a) What is plasmid?
 - b) Define FISH
 - c) What are transposons?
 - d) What is pseudodominance?
 - e) What is dosage compensation?
 - f) Write the law of independent assortment of alleles.
- Q.2** Discuss in detail with suitable example (10)
- a) Multiple alleles
 - b) Prenatal diagnosis
- Q.3** Explain the following (10)
- a) Horizontal gene transfer
 - b) Co-operative Gene interaction in plants.
- Q.4** Write short notes on any **TWO** of the following (10)
- a) Genetic map
 - b) Karyotyping
 - c) Lampbrush Chromosomes

SECTION - II

- Q.5** Explain the importance of following in Genetics (10)
- a) Yeast
 - b) Arabidopsis
- Q.6** Answer the following (10)
- a) Explain the Genic balance system of sex determination.
 - b) Explain sex determination in birds.
- Q.7** Write short notes on (10)
- a) Structural chromosomal aberration
 - b) Gene mutation
- Q.8** Answer the following (10)
- a) State and explain Hardy – Weinberg equilibrium.
 - b) Explain Modern evolutionary synthesis.