

**F. Y. B. SC. (BIOTECHNOLOGY) SEM – II (CBCS - 2015
COURSE) : WINTER - 2017**

SUBJECT: GENETICS

Day: Tuesday
Date: 31/10/2017

Time: 10.00 AM TO 01.00 PM
Max Marks. 60

W-2017-0938

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 Karyotyping?
 - b) What are giant chromosomes?
 - c) What are multiple alleles?
 - d) Write law of dominance.
 - e) What is back cross
 - f) What is prenatal diagnosis?
- Q.2** Discuss in detail with suitable example **(10)**
- a) Independent assortment of alleles
 - b) X-linked inheritance in human.
- Q.3** Explain the following **(10)**
- a) Cytoplasmic inheritance in plants
 - b) Gene interactions.
- Q.4** Write short notes on any **TWO** of the following **(10)**
- a) FISH
 - b) Plasmid
 - c) Linkage

SECTION - II

- Q.5** Explain the importance of following in Genetics **(10)**
- a) Drosophila
 - b) Mice
- Q.6** Answer the following **(10)**
- a) Write the importance of SRY Gene.
 - b) What is dosage compensation? Explain the concept with suitable example.
- Q.7** Write short notes on **(10)**
- a) Genetic variation
 - b) Aneuploidy in human
- Q.8** Answer the following **(10)**
- a) Explain Darwin's theory of natural selection.
 - b) Explain any two models of speciation