



LJ-512

M.Sc. Botany

1st Semester Examination, July-Dec., 2020

Paper - II

Genetics

Time : Three Hours]

[*Maximum Marks* : 80

[*Minimum Pass Marks* : 16

Note : Answer from **all** the Units and Question Number 1 is compulsory. All questions carry equal marks.

1. Write short notes on the following :
 - (a) Molecular basis of chromosome pairing
 - (b) Recombination in phase genetic
 - (c) Genetic mapping
 - (d) Chromosome segment

(2)

Unit-I

2. Describe the specialized types of chromosomes.

OR

Write short notes on the following :

- (a) Chromatin organization
- (b) Heterochromatin

Unit-II

3. Describe the transformation and transduction in bacteria.

OR

Write notes on the following :

- (a) Phage Phenotype
- (b) Bacteriophage genome

Unit-III

4. Describe the mechanism of crossing over.

OR

Write notes on the following :

- (a) Genetic marker
- (b) Linkage

(3)

Unit-IV

5. Describe the Alien gene transfer in wheat.

OR

Write notes on the following :

- (a) Detecting alien chromatin
- (b) Transfer of individual chromosome