



ED-332

M.Sc. 1st Semester
Examination, March-April 2021

BIOTECHNOLOGY

Paper - II

Genetics

Time : Three Hours] [Maximum Marks : 80
[Minimum Pass Marks : 16

Note : Answer **all** questions. All questions carry equal marks.

1. Write short notes on the following :
 - (a) Modern concept of gene
 - (b) DNA methylation
 - (c) X-Chromosome lyonization
 - (d) Transformation
2. Describe Mendel's laws of genetics with the experiments performed.

OR

Write short notes on the following :

- (a) Prokaryotic and eukaryotic chromosomal organization
- (ii) Multigene phenomenon

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(Turn Over)

(2)

3. Describe the regulation strategies of a eukaryotic genetic system.

OR

Write short notes on the following :

- (a) Mutational assay system
- (b) Genetic polymorphism : Causes and screening

4. What is Quantitative trait locus analysis ?
How polygenic traits are inherited ?

OR

Write notes on the following :

- (a) Maternal and paternal inheritance
- (b) Sickle cell anaemia and Huntington's disease

Unit-IV

5. Describe the genetic system of yeast and neurospora.

OR

Write short notes on the following :

- (a) Bacterial conjugation
- (b) Retrovirus life cycle