

PD-546
M.Sc. Biotechnology
1st Semester Examination, Dec.-2020
Paper-III
Genetics and Cytogenetics

Time: Three Hours]

[Maximum Marks: 80
[Minimum Pass Marks: 29

Note: Answer from **both** the sections as directed. The figures in the right-hand margin indicate marks

Section-A

1. **Answer the following questions:**

1X10

- (a) What is Test cross?
- (b) What is variation?
- (c) What is Aneuploidy?
- (d) What is duplication?
- (e) What is Heterosis?
- (f) What is the application of Ames test?
- (g) Write expand form of SOS.
- (h) What is "Ori" region in molecular biology.
- (i) Name any one RNA virus.
- (j) What is pilus?

2. **Answer the following questions:**

2X5

- (a) Write a note on trihybrid cross.
- (b) Write about Plasmogene.
- (c) Write a note on complex translocation.
- (d) Write about mutation frequency.
- (e) Write a note on Retrotransposon.

Section - B

Unit-I

Answer the following questions:

15X4

3 Write an essay on Autosomal and sex linked inheritance.

OR

Write an essay on Linkage.

Unit-II

4 Write an essay on chromosomal aberrations.

OR

Write an essay on Robertsonian and B-translocation.

Unit-III

5 Write an essay on Mutagens.

OR

Write an essay on population genetics.

Unit-IV

6 Explain in detail on Genetic mapping.

OR

Write an essay on Genetic system of Yeast and Neurospora.
