

Total No. of Questions : 8]

SEAT No. :

P3223

[5032]-37

[Total No. of Pages : 2

M.Sc. - II

BOTANY

**BO - 3.35 : Genetics, Molecular Biology and Plant Breeding - I
(Special Paper - I) (2008 Pattern) (Semester - III)**

Time : 3 Hours]

[Max. Marks : 80

Instructions to the candidates:

- 1) *Answer any five questions, atleast Two questions from each section.*
- 2) *Answers to the sections should be written in separate answer books.*
- 3) *All questions carry equal marks.*
- 4) *Neat diagrams must be drawn wherever necessary.*

SECTION - I

Q1) Give an account on morphology of eukaryotic chromosome.

Q2) a) Comment on fine structure of rII locus in T₄ phage.

b) Write an account of karyotype evolution.

Q3) a) What is extranuclear inheritance. Give its characteristics.

b) Give an account of applications of haploids in cytogenetics & plant breeding.

Q4) Write notes on any two:

a) Null Hypothesis.

b) Accessory chromosomes.

c) Autopolyploids.

P.T.O.

SECTION - II

Q5) Discuss the production of hybrid seed using cytoplasmic genetic male sterility.

Q6) a) Explain the procedure of pure line selection and its applications in plant breeding.

b) Discuss the mutation treatment methods.

Q7) a) Give an account on objectives of plant breeding.

b) Describe clonal selection method.

Q8) Write notes on any two of the following:

a) Latin square design.

b) Applications of multiple correlations in crop improvement.

c) Recurrent selection.

