

Total No. of Questions :8]

SEAT No. :

[Total No. of Pages :2

P2235

[4932] - 37

M.Sc. - II

BOTANY

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

Time : 3 Hours]

[Max. Marks :80

Instructions to the candidates:

- 1) Answer any five questions, taking atleast TWO questions from each section.*
- 2) Answer to the TWO 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) What are artificial chromosomes. Explain any two types of artificial chromosomes with their applications.

Q2) a) Comment on the importance of gene mapping in somatic cell genetics.
b) Explain origin and production of autopolyploids.

Q3) a) Give the mechanism of site - specific recombination.
b) Write on chi - square method with more than one degree of freedom.
c) Explain characterization and utility of alien addition and substitution lines.

Q4) Write notes on any two of the following:

- a) Chi - square test
- b) Allopolyploids
- c) Gene disruption

P.T.O.

SECTION - II

Q5) What are inbreds? Discuss method of development and isolation of inbreds.

Q6) What is bulk method? Give an account of procedure, merits and demerits of bulk method of plant breeding.

Q7) a) Explain the importance of correlation in plant breeding.

b) Write an account of the structure of nucleosome and its importance.

Q8) Write notes on any two of the following:

a) Population genetics and its importance.

b) Germplasm and its types.

c) Procedure of mutagenic treatment method.

