

Total No. of Questions : 8]

SEAT No. :

P3232

[5032]-47

[Total No. of Pages :2

M.Sc. - II

BOTANY

**Bo - 4.45 : Genetics, Molecular Biology and Plant Breeding - II
(2008 Pattern) (Special Paper - II) (Semester - IV)**

Time : 3 Hours]

[Max. Marks :80

Instructions to the candidates:

- 1) *Attempt any five questions, with at least two questions from each section.*
- 2) *Answer to the two sections should be written in separate answer books.*
- 3) *Draw neat labelled diagrams wherever necessary.*
- 4) *All questions carry equal marks.*

SECTION - I

Q1) Explain the procedure of southern hybridization. Add a note on its applications. [16]

Q2) a) Give an account of nucleic acid purification and analysis. [8]

b) Describe the procedure of DNA amplification by PCR. [8]

Q3) a) Describe the procedure of colony and plaque hybridization. [8]

b) Write on construction and screening of genomic libraries. [8]

Q4) Write in brief on Any Two of the following: [16]

a) DNA sequencing.

b) Nucleic acid labeling.

c) Genome size.

P.T.O.

SECTION - II

Q5) What is abiotic stress? Explain the mechanism of drought resistance in plants. [16]

Q6) a) Explain the mechanism of genetic control of Nutritional traits. [8]

b) Comment on the effects of drought on plant growth and development. [8]

Q7) a) Discuss the important considerations in breeding for improved quality. [8]

b) Write biotechnological approaches used in breeding for quality oil. [8]

Q8) Write in brief on any two of the followings: [16]

a) Organoleptic traits.

b) Antinutritional factors.

c) Dehydration tolerance.

