

Total No. of Questions : 8]

SEAT No. :

[Total No. of Pages : 2

P1651

[5129]-308

M.Sc.-II

BOTANY

**BO - 3.45 : Advanced Plant Biotechnology
(2013 Pattern) (Semester - III) (Credit System) (Special Paper)**

Time : 3 Hours]

[Max. Marks : 50

Instructions to the candidates:

- 1) Attempt any Five questions.*
- 2) All questions carry equal marks.*
- 3) Draw neat labelled diagram wherever necessary.*

- Q1)** a) Explain the technique of “DNA Microarray”. [4]
b) Describe different methods of PCR. [4]
c) Write any two strategies to obtain virus resistant plants. [2]
- Q2)** a) Mention use of restriction endonucleases in recombinant DNA technology? [4]
b) What is reverse hybridization? Write its use. [4]
c) Differentiate between biotic & abiotic elicitors with examples. [2]
- Q3)** a) Discuss about pathway engineering. Mention successful examples. [4]
b) Comment on selection of recombinant phage vectors. [4]
c) Enlist the genes to obtain insect resistance. [2]
- Q4)** a) Write the steps in antisense technology of gene silencing. [4]
b) Explain working of “Gene Synthesis Machine”. [4]
c) What are promoter & enhancer traps? [2]

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- Q5)** a) Discuss the steps in construction & Screening of DNA libraries. [5]
b) Explain “Site Directed Mutagenesis”. [5]
- Q6)** a) Give an account of chromosome walking & jumping. [5]
b) What are different approaches for obtaining drought resistant transgenics. [5]
- Q7)** a) Write an account of “Transgenics for fungal resistance”. [5]
b) Describe the types of culture systems for secondary metabolite production. [5]
- Q8)** a) Give the concept of cosuppression in gene silencing. [5]
b) Explain technique of screening & selection of high secondary metabolite producing cell lines. [5]

