

5. What are "Transgenic plants" ? Discuss different methods for vectorless transgenesis.
6. Give a detailed account of production of secondary metabolites using cell culture techniques. Give at least one example.
7. Give a detailed account of "Terminator technology".
8. Write notes on any *two* of following :
 - (a) Plant Banks
 - (b) Cryobiology
 - (c) Terminator technology.

Exam. Code : 210004
Subject Code : 4933

M.Sc. Botany 4th Semester
PLANT TISSUE CULTURE AND BIOTECHNOLOGY
Paper : BOTC-623

Time Allowed—2 Hours] [Maximum Marks—50

Note :— There are *eight* questions of equal marks.
Candidates are required to attempt any *four* questions.

1. Write notes on any *two* of following :
 - (a) Stages of micropropagation
 - (b) Callus culture
 - (c) Anther culture.
2. Give a detailed account of somatic embryogenesis. Discuss its usefulness in crop improvement.
3. What do you understand by "Somaclonal variations" ? With the help of suitable example, discuss isolation of useful mutants at cellular level.
4. What do you understand by "Artificial seeds" ? Discuss in detail method of their production and applications.