

MAHARASHTRA AGRICULTURAL UNIVERSITIES EXAMINATION BOARD, PUNE
SEMESTER END EXAMINATION

B.B.A. (Agri.)

Semester : I (New)	Term : I	Academic Year : 2016-17
Course No. : BOT 111	Title : Principles of Plant Biotechnology	
Credits : 2(1+1)	Time : 10.00 to 12.00	Total Marks : 40
Day & Date : Friday, 16.12.2016		

- Note:**
1. Solve ANY EIGHT questions from SECTION "A".
 2. All questions from SECTION "B" are compulsory.
 3. All questions carry equal marks.
 4. Draw neat diagrams wherever necessary.

SECTION "A"

- Q.1 Define plant biotechnology. Enlist its main objectives.
- Q.2 What is somatic hybridization? Briefly describe the various steps in somatic hybridization.
- Q.3 Enlist different hybridization techniques. Explain Western blotting with suitable examples.
- Q.4 Define genetic engineering. Enlist different methods of gene transfer and explain particle gun method in detail with suitable diagram.
- Q.5 What is a somaclonal variation? Give its applications, advantages and limitations.
- Q.6 Enlist different culture techniques. Describe in detail any one.
- Q.7 Write short notes (Any two).
- 1) Molecular markers
 - 2) Application of transgenic plant.
 - 3) Synthetic seed.
- Q.8 What is Nutrient Media? Enlist and explain the different components of Media.
- Q.9 Define cryopreservation. Describe briefly the procedure of cryopreservation of plant cell.
- Q.10 Define Micropropagation. Describe in short various approaches for micropropagation with their advantages and disadvantages.

SECTION "B"

- Q.11 Define the following terms.
- 1) Protoplast
 - 2) Cell culture
 - 3) Callus
 - 4) Genetic Engineering
- Q.12 Give the contribution of the following.
- 1) Murashige and Skoog
 - 2) Guha and Maheshwari
 - 3) Haberlandt
 - 4) Morel and Martin

