

SIXTH SEMESTER B.Sc. DEGREE EXAMINATION, MARCH 2013

(CCSS)

Biotechnology

BT6 B01—PLANT BIOTECHNOLOGY

Maximum : 30 Weightage

Time : Three Hours

I. Objective Type Questions. Answer *all* questions :

- 1 The culture technique used for obtaining virus free plant :
(a) Callus culture. (b) **Meristem** culture.
(c) Anther culture. (d) Embryo culture.
- 2 The embryo found on callus culture :
(a) Zygotic embryo. (b) **Androgenic** embryo.
(c) Somatic embryo. (d) **Parthenogenic** embryo.
- 3 The chemical used for **diploidization** of haploid :
(a) **5-bromouracil**. (b) **Colchicina**.
(c) **Formalin**. (d) Ethylene.
- 4 Edible vaccine for foot and mouth disease :
(a) Banana. (b) Tomato.
(c) Sugar beet. (d) Apple.
- 5 The culture technique used for haploid production :
(a) Embryo culture. (b) Anther culture.
(c) Callus culture. (d) **Meristem** culture.
- 6 Relative humidity required in a tissue culture room :
(c) 60 – 70 %. (d) 70 – 80 %.

State True or False :

- 7 Fusion of **enucleated** and nucleated cell is known as hybrid.
- 8 Nurse culture is a single cell culture technique.
- 9 **Chlorella** is a **transgenic** plant which produce **PHB**.
- 10 **Zeatin** is a heat **laible** hormone.
- 11 Hydrogen peroxide is a disinfectant.
- 12 Ovule culture is developed by P. **Mahaeshwari**.

(12 X $\frac{1}{4}$ = 3 weightage)

Turn over

II. Short Answer Type Questions. Answer *all nine questions* :

- 13 Cyto differentiation.
- 14 Meristemoids.
- 15 Embryo culture.
- 16 Micro chamber technique.
- 17 Chemofusion.
- 18 Intergeneric hybrid.
- 19 Ti plasmid.
- 20 Bt. cotton.
- 21 Flavr savr tomato.

III. Short Essay. Answer any *five* questions :

x 1 = 9 weightage)

- 22 Somaclonal variation and its application in plant breeding.
- 23 Micropropagation is a clonal propagation. Explain.
- 24 Somatic embryogenesis and application of artificial seed.
- 25 Use of protoplast for genetic transformation.
- 26 Explain direct gene transfer methods in plant cell.
- 27 Explain different methods used for protoplast fusion.
- 28 Brief account on plant cell suspension culture.

IV. Long Essay. Answer any *two* questions :

(5 x 2 = 10 weightage)

- 29 Discuss about different types of plant tissue culture.
- 30 Discuss about transgenesis and crop improvement.
- 31 Describe isolation and fusion of protoplast.

(2 x 4 = 8 weightage)