40529 **(Pages : 2)** **Name**.....

Reg. No.....

SIXTH SEMESTER B.Sc. DEGREE EXAMINATION, MARCH 2013

(CCSS)

Biotechnology

BT6 B01—PLANT BIOTECHNOLOGY

Time : Three Hours Maximum : 30 Weightage

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. Mahaeshswari.

(12 X ¼ = 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 protoplant 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)