C 80144 (Pages : 2) Name.....

Reg. No.....

SIXTH SEMESTER B.Sc. DEGREE EXAMINATION, MARCH/APRIL 2015

(UG–CCSS)

Core Course—Biotechnology

BT6 B01—PLANT BIOTECHNOLOGY

Time : Three Hours Maximum : 30 Weightage

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

1 The plasmid present in Agrobacterium rhizogenes is :

(a) Ti plasmid. (b) R plasmid.

(c) Ri plasmid. (d) Col plasmid.

2 Most commonly used carbon source in plant tissue culture :

(a) Sorbitol. (b) Glucose.

(c) Fructose. (d) Sucrose.

3 The technology used to develop FLAVR SAVR Tometo :

(a) Antisense RNA. (b) Ribozyme.

(c) Si RNA. (d) Micro RNA.

4 The enzyme used for isolation of protoplast :

(a) Macerozyme. (b) Proteases.

(c) Lipases. (d) Amycases.

5 Which among is a surface sterilant ?

(a) Calcium chloride. (b) Sodium sulphate.

(c) Sodium hypochorite. (d) Calcium sulphate.

6 Which one is natural cytokinins ?

(a) BAP. (b) IAA.

(c) IBA. (d) Zeatin.

State True *or* False :

7 IAA is a natural auxin used for root induction.

8 The most commonly used plant vector is Baculovirus.

9 Colchicine is used for chromosome doubling.

10 Fusion of plant protoplast sucrose is used as fusogen.

11 Pomato is a somatic hybridization of potato and tomato.

12 Skoog is known as father of plant tissue culture.

(12 × ¼ = 3 weightage)

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

13 Chemostate.

14 Artificial seed.

15 Cytokinins.

16 P. Maheshwari.

17 Histogenesis.

18 Endosperm culture.

19 Embryo rescue.

20 Methods to test viability of protoplasm.

21 Macerozyme.

(9 × 1 = 9 weightage)

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

22 Give an account on application of cultured protoplast.

23 Explain different methods to develop homozygous diploid.

24 Give a note on plant tissue culture in industry.

25 Explain the technology of transgenic tomato.

26 Discuss about germ plasm conservation.

27 What is somatic embryo ? Explain different stages of somatic embryo.

28 Micropropagation is a cloned propagation. Justify your answer.

(5 × 2 = 10 weightage)

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

29 Write an essay on different gene transfer mechanisms in plant.

30 Discuss about transgenic plants in crop improvement.

31 Describe briefly various types of in vitro plant cultures.

(2 × 4 = 8 weightage)