

GUJARAT TECHNOLOGICAL UNIVERSITY**BE SEM-VIII Examination May 2012****Subject code: 180402****Subject Name: Animal & Plant Biotechnology****Date: 12/05/2012****Time: 10.30 am – 01.00 pm****Total Marks: 70****Instructions:**

1. Attempt all questions.
2. Make suitable assumptions wherever necessary.
3. Figures to the right indicate full marks.

Q.1 (a) What is PTC? Describe the typical laboratory organization for PTC with a labeled diagram. **07**

(b) Discuss various kinds of sterilization techniques used during plant tissue culture. **07**

Q.2 (a) Define cytodifferentiation and organogenesis. Explain the importance of organogenic differentiation for PTC. **07**

(b) Discuss different kinds of PTC techniques. **07**

OR

(b) Describe the applications of embryo culture, callus culture and organ culture. **07**

Q.3 (a) What is animal tissue culture? Describe the advantages and disadvantages of ATC. **07**

(b) Write a note on the history and scope of ATC. **07**

OR

Q.3 (a) Explain the principle of animal tissue culture and describe the procedure involved in ATC. **07**

(b) Write a note on artificial skin and artificial cartilage. **07**

Q.4 (a) Describe the procedure adopted in IVF in humans. **07**

(b) Comment on the superovulation and ET. **07**

OR

Q.4 (a) Explain the principle and procedure of targeted gene transfer technique. **07**

(b) How can you produce a transgenic mice and a transgenic cow? Discuss its implications. **07**

Q.5 (a) What are resistance genes? How they can be identified and isolated from microorganisms? **07**

(b) How can you develop a virus-resistant plant variety? **07**

OR

Q.5 (a) Comment on the “terminator gene technology” used in hybrid seed production. **07**

(b) Comment on the commercial transgenic crops. **07**
