Seat No.: _____ Enrolment No._____

# GUJARAT TECHNOLOGICAL UNIVERSITY

**BE – SEMESTER–VIII • EXAMINATION – SUMMER • 2014**

**Subject Code: 180402** **Date: 31-05-2014**

**Subject Name: Animal and Plant Biotechnology**

**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)** | Describe various advantages of plant tissue culture techniques. | **07** |
| | **(b)** | Describe various applications of animal tissue culture. | **07** |
| **Q.2** | **(a)** | Comment on the laboratory organization for animal tissue culture. | **07** |
| | **(b)** | Describe various sterilization techniques used in plant tissue culture. | **07** |
| | | **OR** | |
| | **(b)** | Describe various applications of plant tissue culture. | **07** |
| **Q.3** | **(a)** | Describe historical perspective of plant tissue culture. | **07** |
| | **(b)** | Describe historical perspective of animal tissue culture. | **07** |
| | | **OR** | |
| **Q.3** | **(a)** | Explain the principle and procedure involved in plant tissue culture. | **07** |
| | **(b)** | Explain the principle and procedure involved in animal tissue culture. | **07** |
| **Q.4** | **(a)** | What is organogenesis? Explain the importance of organogenesis for plant tissue culture technique. | **07** |
| | **(b)** | Comment on superovulation and embryo transfer technique. | **07** |
| | | **OR** | |
| **Q.4** | **(a)** | Describe the principle, procedure and importance of in vitro fertilization. | **07** |
| | **(b)** | Comment on development and use of artificial skin. | **07** |
| **Q.5** | **(a)** | Comment on the development and significance of transgenic mice. | **07** |
| | **(b)** | Comment on the implications of targeted gene transfer technique. | **07** |
| | | **OR** | |
| **Q.5** | **(a)** | Justify the development and use of transgenic crops. | **07** |
| | **(b)** | How will you develop salt-tolerant crop variety? | **07** |

**********