

Seat No.: \_\_\_\_\_

Enrolment No. \_\_\_\_\_

## GUJARAT TECHNOLOGICAL UNIVERSITY

B.E. Sem-III (Biotechnology) Examination December 2009

Subject code: 130401

Subject Name: Introductory Biology

Date: 17 / 12 / 2009

Time: 11.00 am - 1.30 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) Comment on the “levels of biological organization”. **07**  
(b) Describe the basic characteristics of living organisms and briefly explain the biological significance of death. **07**
- Q.2** (a) Summarize Miller’s experiment for organic synthesis. **07**  
(b) Explain Oparin-Haldane hypothesis about primeval earth’s conditions. **07**
- OR**
- (b) Write a note on use and misuse of biology. **07**
- Q.3** (a) “Flower is a modified shoot” justify the statement. **07**  
(b) Describe the various parts of a typical angiospermic plant with a well-labelled diagram. **07**
- OR**
- Q.3** (a) Describe the role of various agents in the dispersal of fruits and seeds. **07**  
(b) Describe structure, location and functions of connective tissue with suitable diagrams. **07**
- Q.4** (a) Describe the importance of transpiration in plant and briefly explain any four factors that affect transpiration. **07**  
(b) Discuss the cohesion-tension theory for uptake of water in plants. **07**
- OR**
- Q.4** (a) Explain the mechanism of photosynthesis in plants. **07**  
(b) What are macronutrients? Give the functions and deficiency symptoms of important macronutrients. **07**
- Q.5** (a) Discuss the nutritional deficiencies and disorders with the remedy available if any. **07**  
(b) Describe the functions of various components of human nervous system. **07**
- OR**
- Q.5** (a) What are endocrine glands? Discuss the basics of human endocrine system. **07**  
(b) Explain the hormonal control of digestion in human. **07**

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