

GUJARAT TECHNOLOGICAL UNIVERSITY**BE - SEMESTER-III • EXAMINATION – SUMMER • 2014****Subject Code: 130401****Date: 30-05-2014****Subject Name: Introductory Biology****Time: 02:30 pm – 05:00 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 the relation between observation and hypothesis? Write the basic characteristics of Organisms. **07**
- (b)** Discuss biology of respiration in humans. **07**
- Q.2 (a)** Write down the hypothesis of Oparin and Haldane discussing primeval earth condition and its significance. **07**
- (b)** Discuss Lamarck's theory of evolution and state its various propositions **07**
- OR**
- (b)** Write a note on: Use and Misuse of Biology. **07**
- Q.3 (a)** Explain the terms: [1] Plant nutrients [2] Plant-water relations **07**
- (b)** Enlist basic characteristics of animal tissues. **07**
- OR**
- Q.3 (a)** What is natural selection in modern terms? Elucidate the three different effects of natural selection on variation. **07**
- (b)** Explain the terms: [1] Development and Reproduction [2] Metabolism **07**
- Q.4 (a)** Give the functions of various types of animal tissues with the help of labeled diagrams. **07**
- (b)** Discuss defensive mechanisms in plants. **07**
- OR**
- Q.4 (a)** Write a note on the morphology of flowering plants. **07**
- (b)** With a diagram, discuss human nervous system. **07**
- Q.5 (a)** Elaborate on the major theories on origin of life. **07**
- (b)** Write a note on: light reaction and dark reaction in plants. **07**
- OR**
- Q.5 (a)** Discuss the biology of locomotion in animals. **07**
- (b)** Give an account of nutritional disorders. **07**
