

GUJARAT TECHNOLOGICAL UNIVERSITY**BE- IIIrd SEMESTER–EXAMINATION – MAY - 2012****Subject code: 130401****Date: 11/05/2012****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) Define: biology, botany, zoology, biotechnology, evolution, adaptation and microbiology. **07**
- (b) Describe important applications of biology and biotechnology. **07**
- Q.2** (a) Describe the development of biology in ancient India in terms of health science, food, agriculture, medicine and fermentation. **07**
- (b) What is Darwinism? Explain the principle of Natural Selection. Describe the evolution of species on the basis of Darwinism. **07**
- OR**
- (b) Draw a well labeled diagram of *Dicot* stem and give brief description of the components. **07**
- Q.3** (a) Describe the contributions of Aristotle in the field of science. **07**
- (b) Describe the unified and basic characteristics of living organisms. **07**
- OR**
- Q.3** (a) Explain the dark reaction of photosynthesis and briefly describe the factors affecting photosynthesis. **07**
- (b) Comment on the modes of nutrition in animals and briefly describe nutritional deficiency disorders. **07**
- Q.4** (a) Comment on the energy transfer devices of life with respect to metabolism. **07**
- (b) Enlist micronutrients and macronutrients of plant. Briefly describe the significance of each nutrient. **07**
- OR**
- Q.4** (a) What is respiration? Differentiate internal and external respiration. Comment on the mechanism of cellular respiration. **07**
- (b) What is digestion? Comment on the digestive system of human. **07**
- Q.5** (a) Comment on growth, reproduction and development in the living organisms. **07**
- (b) Describe different types of adaptations. Explain the factors that affect adaptation. **07**
- OR**
- Q.5** (a) Describe the morphology of flowering plants in terms of flower. **07**
- (b) Comment on the dispersal of fruits and seeds. **07**
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