

GUJARAT TECHNOLOGICAL UNIVERSITY
B. E. - SEMESTER – III • EXAMINATION – WINTER 2012

Subject code: 130401**Date: 07-01-2013****Subject Name: Introductory Biology****Time: 10.30 am – 01.00 pm****Total Marks: 70****Instructions:**

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

- Q.1** (a) Explain the process of non cyclic photophosphorylation with a neat diagram. **07**
(b) Write an explanatory note on biological nitrogen fixation. **07**
- Q.2** (a) Explain the mechanism of respiration in humans. **07**
(b) Draw neat diagram of human heart with all the labellings. **07**
- OR**
- (b) Draw neat diagram of human alimentary canal with all the labellings. **07**
- Q.3** (a) What do you understand by 'control experiment'? Explain how control experiment helped Louis Pasteur to put the concept of spontaneous origin of life to rest. **07**
(b) Define the terms macronutrient, micronutrient. **04**
(c) Explain any three disorders arising due to deficiency of vitamins. **03**
- OR**
- Q.3** (a) Write about any three career-options in biology according to your order of preference. **07**
(b) Define the terms aerobic respiration, anaerobic respiration. **04**
(c) Differentiate between autotrophic and heterotrophic nutrition. **03**
- Q.4** (a) Explain the Miller's Experiment to prove the origin of life in the simulated primeval atmosphere. **07**
(b) Discuss Lamarck's theory of evolution and state its various propositions. **07**
- OR**
- Q.4** (a) Discuss the role of migration in evolution. **07**
(b) Explain Replica plating technique and its utility. **07**
- Q.5** (a) Comment on the regions of roots in flowering plants. **07**
(b) How is the study of plant anatomy useful to us? **07**
- OR**
- Q.5** (a) Describe various types of epithelial tissues in animals. **07**
(b) Mention briefly about the circulatory system of earthworm. **07**
