Seat No.: _____ Enrolment No._____

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**

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