Seat No.: _____ Enrolment No._____

# GUJARAT TECHNOLOGICAL UNIVERSITY

**BE - SEMESTER–III(New) • EXAMINATION – WINTER 2016**

**Subject Code:2130401** **Date:04/01/2017**

**Subject Name:Introductory Biology**

**Time:10:30 AM to 01:00 PM** **Total Marks: 70**

**Instructions:**

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

| | | | MARKS |
|---|---|---|---|
| **Q.1** | | **Short Questions** | **14** |
| | **1** | Define the term Adaptation. | **1** |
| | **2** | Give an example of plant with tap root system. | **1** |
| | **3** | What is function of stem system? | **1** |
| | **4** | Name accessory glands of digestive system. | **1** |
| | **5** | Where does C4 pathway take place? | **1** |
| | **6** | What is transpiration? | **1** |
| | **7** | What is water potential? | **1** |
| | **8** | What are components of central nervous system? | **1** |
| | **9** | Leaf is attached to the stem by_____. | **1** |
| | **10** | Stamen consists of _____and _____. | **1** |
| | **11** | Give function of xylem and phloem. | **1** |
| | **12** | Name the types of simple epithelium. | **1** |
| | **13** | Give function of tight junction. | **1** |
| | **14** | Give function of gap junction. | **1** |
| **Q.2** | **(a)** | Define the terms growth, development and reproduction. | **03** |
| | **(b)** | Write a brief note on biology in Ancient India. | **04** |
| | **(c)** | Write a note on use and misuse of biology. | **07** |
| | | **OR** | |
| | **(c)** | What is meaning of evolution? Explain different theories of evolution. | **07** |
| **Q.3** | **(a)** | Define the terms: calyx, corolla and style of flower. | **03** |
| | **(b)** | Explain structure of leaf with a neat diagram. | **04** |
| | **(c)** | Explain muscle tissue of animals. | **07** |
| | | **OR** | |
| **Q.3** | **(a)** | Write a short note on parenchyma tissue. | **03** |
| | **(b)** | Explain structure of monocotyledon root with a neat diagram. | **04** |
| | **(c)** | Explain connective tissue of animals. | **07** |
| **Q.4** | **(a)** | What are micro and macronutrients? Enlist them. | **03** |
| | **(b)** | Define transpiration and explain factors affecting it. | **04** |
| | **(c)** | Derive the equation of water potential. | **07** |
| | | **OR** | |
| **Q.4** | **(a)** | Where does light and dark reaction take place? What are their end products? | **03** |
| | **(b)** | Enlist factors affecting photosynthesis. Explain any one. | **04** |
| | **(c)** | Explain Calvin cycle in detail. | **07** |
| **Q.5** | **(a)** | Draw a neat diagram of human body showing all endocrine glands. | **03** |
| | **(b)** | Explain different modes of nutrition in animals. | **04** |
| | **(c)** | Explain the process of double circulation in humans with diagram. | **07** |

**OR**

| | | | |
|---|---|---|---|
| **Q.5** | **(a)** | Give basics of human nervous system. | **03** |
| | **(b)** | Explain the process of respiration in humans. | **04** |
| | **(c)** | Explain the process of digestion in humans. | **07** |

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