

**GUJARAT TECHNOLOGICAL UNIVERSITY****BE - SEMESTER-III (NEW) EXAMINATION – SUMMER 2019****Subject Code: 2130401****Date: 07/06/2019****Subject Name: Introductory Biology****Time: 02:30 PM TO 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.

**MARKS**

- |            |   |           |
|------------|---|-----------|
| <b>Q.1</b> | (a) Explain the concept of speciation.  | <b>03</b> |
|            | (b) Write a note on use and misuse of biology.  | <b>04</b> |
|            | (c) Explain different modifications acquired by the roots with example.                                 | <b>07</b> |
| <b>Q.2</b> | (a) Define the term transpiration and water potential.  | <b>03</b> |
|            | (b) Explain the terms hypothesis and observation.   | <b>04</b> |
|            | (c) Explain morphology of a flower with a neat diagram  | <b>07</b> |
|            | <b>OR</b>   |           |
|            | (c) Draw neat diagram of human heart with proper annotation.  | <b>07</b> |
| <b>Q.3</b> | (a) What is macro and micro nutrient? Enlist them.  | <b>03</b> |
|            | (b) Draw a neat diagram of neuron.  | <b>04</b> |
|            | (c) Comment on the modes of nutrition in animals and briefly describe nutritional deficiency disorders. | <b>07</b> |
|            | <b>OR</b>   |           |
| <b>Q.3</b> | (a) Give classification of plant tissues and their function.  | <b>03</b> |
|            | (b) Draw a neat diagram of respiratory tract of humans.   | <b>04</b> |
|            | (c) Explain biology as the “science of life” and comment on the emergence of contemporary biology       | <b>07</b> |
| <b>Q.4</b> | (a) Comment on Darwinism.   | <b>03</b> |
|            | (b) Draw a neat diagram of monocot root with proper annotation.   | <b>04</b> |
|            | (c) Describe the process of absorption and movement of water in a plant tissue.                         | <b>07</b> |
|            | <b>OR</b>   |           |
| <b>Q.4</b> | (a) What is role of joints in movement?   | <b>03</b> |
|            | (b) Explain inflorescence.  | <b>04</b> |
|            | (c) What are endocrine glands? Discuss the basics of human Endocrine system.                            | <b>07</b> |
| <b>Q.5</b> | (a) What is adventitious root? Give example.  | <b>03</b> |
|            | (b) Enlist various factors affecting photosynthesis. Explain any two in detail.                         | <b>04</b> |
|            | (c) Explain Calvin cycle of photosynthesis.   | <b>07</b> |
|            | <b>OR</b>   |           |
| <b>Q.5</b> | (a) Where does light reaction take place? What are the products of light reaction?                      | <b>03</b> |
|            | (b) Explain skeletal and cardiac muscle tissue.   | <b>04</b> |
|            | (c) Explain epithelial tissue in detail.  | <b>07</b> |

\*\*\*\*\*