

**GUJARAT TECHNOLOGICAL UNIVERSITY**  
**BE - SEMESTER- III (NEW) EXAMINATION. Winter 2015**

**Subject Code: 2130401****Date: 21/12/2015****Subject Name: Introductory Biology****Time: 02.30 to 05.00****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>	<b>Short Questions</b>	<b>14</b>
	1 Define the term "Adaptation"	1
	2 Name any two plant hormones	1
	3 C-3 cycle is also known as _____.	1
	4 Name accessory glands of digestion process.	1
	5 _____protects inner lining of stomach from HCl.	1
	6 During respiration, exchange of gases takes place in_____.	1
	7 Name the valves found in human heart.	1
	8 What is main function of root system in plants?	1
	9 Define the term stipule	1
	10 What is calyx?	1
	11 Give one point of difference between monocot and dicot seed.	1
	12 What is contribution of Darwin in evolution?	1
	13 Define the term speciation	1
	14 Where does dark reaction take place?	1
<b>Q.2</b>	(a) What is contribution of Aristotle?	<b>03</b>
	(b) Metabolism is the total of chemical reactions. Justify the statement.	<b>04</b>
	(c) Define the term evolution. Differentiate between cosmic and organic evolution.	<b>07</b>
	<b>OR</b>	
	(c) Discuss different theories related to origin of life.	<b>07</b>
<b>Q.3</b>	(a) What is venation? Explain different type of venation in leaves with diagram.	<b>03</b>
	(b) Write a short note on dispersal of seeds.	<b>04</b>
	(c) Explain different parts of flowers with a neat diagram.	<b>07</b>
	<b>OR</b>	
<b>Q.3</b>	(a) What is macro and micronutrient? Enlist them.	<b>03</b>
	(b) What is transpiration? Explain different factors affecting the process of transpiration.	<b>04</b>
	(c) What are different types of roots? Explain them with a neat diagram.	<b>07</b>
<b>Q.4</b>	(a) Explain the process of nodule formation in leguminous plants.	<b>03</b>
	(b) How does absorption of water takes place by roots?	<b>04</b>
	(c) Explain light reaction with a proper diagram.	<b>07</b>
	<b>OR</b>	

- Q.4** (a) Write a short note on digestive disorders. **03**  
(b) Differentiate between arteries and veins. **04**  
(c) Draw a neat diagram of neuron and explain it in detail. **07**
- Q.5** (a) Name simple tissues found in plants and explain them in brief. **03**  
(b) Draw a neat diagram of Human heart. **04**  
(c) Draw a neat diagram of endocrine gland and explain any two glands in detail. **07**
- OR**
- Q.5** (a) Name different tissues found in animals and explain any one in detail. **03**  
(b) Draw a neat diagram of respiratory tract of humans. **04**  
(c) Explain the process of digestion in humans with labeled diagram of alimentary canal. **07**

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