

GUJARAT TECHNOLOGICAL UNIVERSITY**BE - SEMESTER-V • EXAMINATION – WINTER • 2014****Subject Code: 150405****Date: 08-12-2014****Subject Name: The Science of Life****Time: 10.30 am - 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.

- Q.1** (a) Differentiate between prokaryotes and eukaryotes. **07**
(b) How monosaccharides are classified? Explain it in detail. **07**
- Q.2** (a) Give a detail note on physical properties of amino acids. **07**
(b) Write the mechanism of transcription in prokaryotes. **07**
- OR**
- (b) With biological significances write in detail about structure of lipids. **07**
- Q.3** (a) Classify the proteins based on its structural complexity. **07**
(b) Discuss in detail enzymes involved in DNA replication in eukaryotes. **07**
- OR**
- Q.3** (a) Define post translational modification. Explain it in detail. **07**
(b) What are the basic components of nucleic acid, explain with suitable example and explanation. **07**
- Q.4** (a) Give detail account on genetic code. **07**
(b) Define the following terms: (any seven) **07**
Antigen, antibody, humoral immunity, cellular immunity, immunogen, phagocyte, pathogen, allergy, asthma, immunity
- OR**
- Q.4** (a) Describe in detail process of hematopoiesis. **07**
(b) Differentiate between innate and adaptive immunity & active and passive immunity. **07**
- Q.5** (a) Give basic structure of Antibody with different class. **07**
(b) Define primary lymphoid organ. Discuss it in detail. **07**
- OR**
- Q.5** (a) Give an overview of protein synthesis in prokaryotes. **07**
(b) Draw a labeled diagram of plant and animal cell. **07**
