

**I B. Tech II Semester Regular Examinations, June, 2015**  
**Fundamentals of Biology-II**  
**(Bio Technology)**

Time: 3 hours

Max Marks: 70

**PART – A**

Answer ALL questions. All questions carry equal marks

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10 \* 2 Marks = 20 Marks

- 1). a What is the structural difference between Glucose and Fructose with their structures? [2]
- b Give Sulfur containing Amino Acid with structure. [2]
- c Name two Basic/Alkaline Amino Acids. [2]
- d What are the main structures of Chloroplasts? [2]
- e What do ATP and ADP mean? What are the roles of these molecules for the cellular energetic metabolism? [2]
- f Write any two differences between A DNA and Z DNA. [2]
- g Define Plasmid and Cosmid. [2]
- h Name any two sticky end cut restriction Enzymes. [2]
- i Define Biosensor with example. [2]
- j Write the classification of Enzymes. [2]

**PART – B**

Answer any FIVE questions. All questions carry equal marks.

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5 \* 10 Marks = 50 Marks

2. a) Explain Watson and Crick's Model of DNA. [10]  
b) Write about the types of RNA.
3. Explain the process of Photosynthesis. [10]  
a) Hills Reaction  
b) Dark Reaction
4. Explain the classification of Carbohydrates with structures and examples. [10]
5. Define Monoclonal Antibodies their types and applications. [10]
6. Explain about Transgenic Plants and Animals with examples. [10]
7. Write the importance of Biofuels, Bio Fertilizers, Bio Pesticides, Bio Indicators and Biosensors. [10]
8. Explain the Ultra Structure of Chloroplast and Mitochondria with their functions and well labelled diagrams. [10]

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