

Code No: 121AM**JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY, HYDERABAD****B.Tech I Year Examinations, August/ September – 2016****FUNDAMENTALS OF BIOLOGY****(Biotechnology)****Time: 3 hours****Max. Marks: 75****Note:** This question paper contains two parts A and B.

Part A is compulsory which carries 25 marks. Answer all questions in Part A.

Part B consists of 5 Units. Answer any one full question from each unit. Each question carries 10 marks and may have a, b, c as sub questions.

PART- A**(25 Marks)**

- 1.a) Mention five domains of five kingdom classification. [2]
- b) Describe useful applications of fungi. [3]
- c) Describe about photosynthetic reaction centres. [2]
- d) Enumerate various classes of Plant growth regulators. [3]
- e) Give three examples of muscular tissues. [2]
- f) Describe important components of endocrine system with their significance. [3]
- g) Discuss the mode of DNA replication in human. [2]
- h) Write about different stages of Protein synthesis. [3]
- i) Give two examples of Drugs of plant origin. [2]
- j) Define single cell protein with two examples. [3]

PART-B**(50 Marks)**

2. Give a detailed account of prokaryotic and eukaryotic cells with their similarities and differences. [10]

OR

3. Give an overview of industrial applications of viruses. [10]

- 4.a) Describe cyclic and non cyclic photophosphorylation.
- b) Enumerate economic importance of plants also providing relevant examples. [5+5]

OR

- 5.a) Compare oxygenic and anoxygenic photosynthesis.
- b) Describe different types of meristems in plants with their significance. [5+5]

6. Describe various tissue types in animals with their respective functions. [10]

OR

- 7.a) Describe the role of electrolytes and body fluids.
- b) Write a note on visual receptors. [5+5]

8. Discuss Gene regulation in bacteria for the production of an active gene product. [10]

OR

9.a) Describe gene regulation in prokaryotes at different levels.

b) Write a note on recombinant DNA technology with its two applications. [5+5]

10. Write detailed notes on:

a) Biosensors

b) Biopesticides.

[5+5]

OR

11. Write detailed notes on:

a) Biofertilizers

b) Monoclonal antibodies.

[5+5]

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