

2005 JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY

**IV B.TECH I SEMESTER REGULAR EXAMINATIONS
METABOLIC ENGINEERING
(BIO-TECHNOLOGY)**

NOVEMBER 2005

**TIME: 3 HOURS
MAX MARKS: 80**

**Answer any FIVE Questions
All Questions carry equal marks**

PART A (5*16)

1. Write short notes on:

(a) Strain selection

(b) Isozymes.

2. How can Metabolic pathways be genetically controlled with examples.

3. What is Bioconversion and describe the factors involved in Bioconversion?

4. Describe:

(a) Concerted feed back regulation

(b) Amino acid regulation.

5. Describe the factors contributing to catalytic efficiency of an enzyme.

6. Define Mutation and various modes of generating mutations in improving industrial biotechnology of an organism?

7. Compare and contrast direct and indirect fermentations citing amino acid synthesis as example?

8. Describe

(a) Precursor effects in biosynthesis of secondary metabolites.

(b) Producers of secondary metabolites.