

CODE NO: RR 21306

**2006 JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY**

**II B.TECH I SEMESTER REGULAR EXAMINATIONS**

**GENETICS**

**(BIO-TECHNOLOGY)**

NOVE 2006

TIME:3 HOUR  
MARK:80

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**ANSWER ANY FIVE QUESTIONS ALL QUESTIONS CARRY EQUAL MARKS**

1. List all possible genotypes for the A, B, AB and O phenotypes. Is the mode of inheritance of ABO blood types representative of dominance? If YES/NO ? Explain?
2. The function ascribed to the genetic material are replication, expression, storage, and mutation. What does each of these terms mean?
3. What is the significance of genetic recombination to process of evolution?
4. Distinguish among the three modes of recombination in bacteria.
5. What are nucleosomes? Focus light on their structural organization.
6. Describe the general approach utilized in site-directed mutagenesis?
7. Write a note on Y-chromosome and male development.
8. Describe the types of evidence that could be gathered to determine whether a trait in E.coli is controlled by chromosomal or plasmid genes. Explain about cytoplasmic inheritance.