

Code No: R050212304

Set No. 1

II B.Tech I Semester Regular Examinations, November 2006

**GENETICS
(Bio-Technology)**

Time: 3 hours

Max Marks: 80

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

1. Explain how bacteriophage is used for Hershey & Chase experiment. [16]
2. How is the genetic organization of Prokaryotes and Eukaryotes different? [16]
3. What is meant by recombination? What are the different ways by which it can occur? [16]
4. Describe a Two-point testcross in detail. [16]
5. What is the method used in karyotyping .Explain the importance of of karyotyping. [16]
6. Describe interrupted mating experiments in Bacteria. [16]
7. Differentiate between Autosomes and sex chromosomes. [16]
8. Write notes on:
 - (a) Variegated phenotype
 - (b) Mitochondrial inheritance. [8+8]

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Set No. 2

II B.Tech I Semester Regular Examinations, November 2006

GENETICS

(Bio-Technology)

Time: 3 hours

Max Marks: 80

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

1. Explain in detail about quantitative characters & their inheritance. [16]
2. How is the genetic organization of Prokaryotes and Eukaryotes different? [16]
3. Write short notes on:
 - (a) Competence factor in Transformation
 - (b) Abortive Transduction. [8+8]
4. How is a Two - point testcross used for recombination mapping? [16]
5. Write in detail about human karyotyping. [16]
6. Write notes on:
 - (a) Auxotrophs
 - (b) supplemented medium. [8+8]
7. What are sex linked traits? Explain with examples. [16]
8. Variation in *Mirabilis* is due to cytoplasmic inheritance-explain. [16]

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Set No. 3

II B.Tech I Semester Regular Examinations, November 2006

GENETICS

(Bio-Technology)

Time: 3 hours

Max Marks: 80

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

1. Using suitable examples explain how typical dihybrid ratios are altered due to gene interactions [16]
2. Write about the chemical composition of Eukaryotic chromosomes. [16]
3. What is meant by recombination? What are the different ways by which it can occur? [16]
4. Explain what is meant by mitotic crossing over? [16]
5. Write in detail about human karyotyping. [16]
6. Differentiate between conjugation of:
 - (a) F^+ and F^-
 - (b) Hfr and F^- . [8+8]
7. Write about x-linked and y linked characters in humans. [16]
8. Write in detail about chloroplast and mitochondrial inheritance. [16]

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Set No. 4

II B.Tech I Semester Regular Examinations, November 2006

GENETICS

(Bio-Technology)

Time: 3 hours

Max Marks: 80

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

1. Drawing Punnett squares explain:

(a) Trihybrid cross

(b) Dihybrid cross.

[8+8]

2. What is meant by "Chromatin"? Explain its components.

[16]

3. What are HFr strains? Discuss their importance in conjugation.

[16]

4. Describe a Two-point testcross in detail.

[16]

5. Describe the organization of Prokaryotic Genome.

[16]

6. Describe conjugation mating experiments.

[16]

7. Write about role of sex chromosomes in sex differentiation and development in Humans.

[16]

8. Mitochondrial inheritance mechanism differs from nuclear inheritance ?Explain.[16]
