B.Sc. CBCS Pattern Semester-II
011B - Biotechnology Paper-II (Genetics)

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1. Explain the concept of incomplete dominance with suitable example. **10**

OR

a) Write a note on non allelic interaction. **2½**

b) Discuss law of dominance. **2½**

c) Discuss chromosome theory of inheritance. **2½**

d) Explain co-dominance of ABO blood group in humans. **2½**

2. Discuss molecular mechanism of crossing over in detail. **10**

OR

a) Discuss low nondisjunction proves chromosomal theory of inheritance. **2½**

b) Explain the Chiasmata formation and write its importance. **2½**

c) Write the mechanism of sex determination in plants. **2½**

d) Write a note on Sex linkage. **2½**

3. Explain numerical abnormality in detail. **10**

OR

a) Write a note on polyploidy. **2½**

b) Explain chromosomal aberrations in plants. **2½**

c) Write a note on Deletion Mutation. **2½**

d) How structural abnormalities are proved by inversions? **2½**

4. Explain the genetic drift and gene flow in detail. **10**

OR

a) What are genotype frequencies? **2½**

b) State characteristics features of Marfan syndrome. **2½**

	c)	Discuss male infertility.	**2½**
	d)	Explain X-linked recessive character.	**2½**
5.		Solve **any ten.**	**10**
	a)	State law of independent assortment.	
	b)	Define co-dominance.	
	c)	Define alleles.	
	d)	What is holiday junction?	
	e)	What is crossing over?	
	f)	What is sex linkage?	
	g)	What is transversion?	
	h)	Define aneuploidy.	
	i)	Define chromosomal abnormality.	
	j)	State principle of Hardy Weinberg equilibrium.	
	k)	What is Rett syndrome?	
	l)	What are genetic disorders?	

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