

Bs/BCC-7

2025

(FYUGP)

(4th Semester)

BOTANY

(MAJOR)

Paper : BCC-7

(Genetics)

Full Marks : 75

Pass Marks : 40%

Time : 3 hours

*The figures in the margin indicate full marks
for the questions*

1. Write a note on chromosome theory of inheritance. Explain multiple alleles and epistasis with suitable examples. 5+10=15

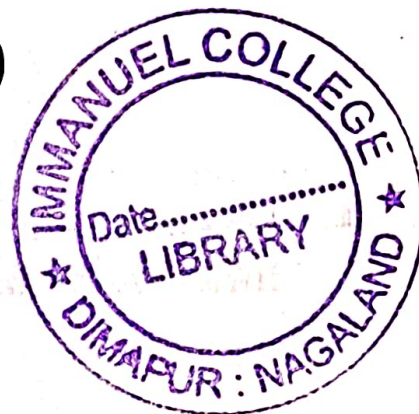
Or

2. Write notes on the following : 5×3=15

- (a) Penetrance and expressivity
- (b) Principles of inheritance
- (c) Lethal alleles

L25/420

(Turn Over)



(2)

3. What is infective heredity? Explain infective heredity of Kappa particles in *Paramecium*.
2+13=15

Or

4. Discuss in detail the mitochondrial inheritance in yeast. 15

5. What is crossing over? Discuss the cytological basis of crossing over. 2+13=15

Or

6. Write notes on the following : 5×3=15

- (a) Recombination frequency
- (b) Linkage
- (c) Interference

7. Give an account on *cis-trans* complementation test for functional allelism. 15

Or

8. Write a detailed note on chromosomal aberrations. 15

L25/420

(Continued)

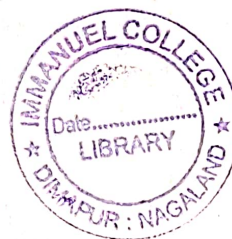
(3)

9. Elaborate on genetic variation and speciation. 15

Or

10. Write notes on the following : $7\frac{1}{2} \times 2 = 15$

- (a) Allele frequencies and genotype frequencies
- (b) Hardy-Weinberg law



L25—200/420

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