

K22P 0179

Reg. No. :

Name :

II Semester M.Sc. Degree (C.B.S.S. – Reg/Supple/Imp.) Examination, April 2022
(2018 Admission Onwards)

BIOTECHNOLOGY
BTG 2C 07 : Genetics

Time : 3 Hours

Max. Marks : 40

SECTION – A

Write about **each** of the following in **2 or 3** sentences. **Each** question carries one mark.

(1×10=10)

1. ✓ What is chromosome theory of inheritance ?
2. ✓ What is pleiotropy ? Give an example.
3. ✓ What is sex influenced traits ? Give one example.
4. ✓ What are composite transposons ?
5. ✓ What is genomic imprinting ? Give an example.
6. ✓ What are Robertsonian translocations ?
7. ✓ What is the role of *cI* repressor protein in lambda life cycle ?
8. ✓ What are frame shift mutations ?
9. ✓ What is meant by gene pool ?
10. ✓ State modern synthesis theory.

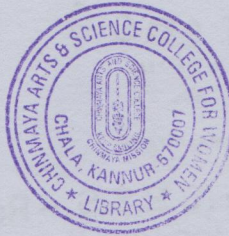
SECTION – B

Write notes on or discuss **any four** of the following. **Each** question carries 5 marks.

(4×5=20)

11. ✓ State Mendelian Laws of inheritance. Why is linkage considered to be an exception to law of independent assortment ?
12. Explain the inheritance of leaf colour in *Mirabilis*.

P.T.O.



K22P 0179



13. What are the steps in constructing a linkage map ? //
14. What are the different aberrations in chromosomes number ? //
15. Explain the genic balance theory of sex determination.
16. What are the gene transfer mechanisms in bacteria ? //

SECTION - C

Write an essay on any one of the following. Each question carries 10 marks. (1×10=10)

17. Explain in detail the factors affecting Hardy Weinberg equilibrium. What is the effect of inbreeding on genotype and allele frequencies ?
18. Explain in detail the different non allelic gene interactions.