23126237

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Reg. No.....

Name.....

M.Sc. DEGREE (C.S.S.) EXAMINATION, AUGUST 2023

Second Semester

Faculty of Science

Branch VIII : Zoology

ZY2CT07——GENETICS AND BIOINFORMATICS

(2018, 2017 Admissions—Supplementary/2016, 2015 and 2014 Admissions—Mercy chance)

Time : Three Hours Maximum Weight : 30

Section I (Short Answer Type Questions)

Answer any ten out of twelve.
Weight 1.

1. Define co-dominance with a suitable example.
2. What is epistasis ?
3. Draw a neat labeled diagram of a metaphase chromosome.
4. What is genetic code?
5. Mention the alternate forms of DNA double helix.
6. What is the significance of pedigree analysis?
7. What are lethal genes? Give an example.
8. Define gene silencing.
9. What is phenotypic plasticity ?
10. Give the scope of bioinformatics.
11. Mention any two secondary databases.
12. What is sequence alignment ?

(10 × 1 = 10)

Turn over

Section II (Short Essay Type Questions)

Answer any **five** *out of eight.*
Weight of 2.

13. Differentiate genotype from phenotype.
14. What are polytene chromosomes ? Give examples.
15. Define wobble hypothesis.
16. Comment on the transposable elements in eukaryotes.
17. What is genetic mapping? Give its importance.
18. How does quantitative traits affect natural selection ?
19. What are biological databases ? Mention its types.
20. What is data mining with reference to proteomics ?

(5 × 2 = 10)

Section III (Long Essay Type Questions)

Answer any **two** *out of three.*
Weight of 5.

21. Write an essay on chromosomal banding techniques.
22. Write an explanatory note on linkage and recombination of genes.
23. Explain the methods of construction of phylogenetic traits.

(2 × 5 = 10)