QP CODE: 24019422

24019422

Reg No : .....

Name : .....

B.Sc DEGREE (CBCS) REGULAR / IMPROVEMENT / REAPPEARANCE EXAMINATIONS, MAY 2024

Second Semester

B.Sc Microbiology Model III

Complementary Course - BT2CMT02 - BIOTECHNOLOGY - GENETICS

2017 ADMISSION ONWARDS

1B454421

Time: 3 Hours Max. Marks : 60

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Part A

*Answer any **ten** questions.*

*Each question carries **1** mark.*

1. Define wild type and mutant type allele.
2. Define homologous chromosome.
3. What is the importance of monohybrid cross?
4. Define law of independent assortment.
5. What is quantitative inheritance?
6. Distinguish between autosomes and allosomes.
7. What is sex reversal?
8. What is a linked gene?
9. What is criss cross inheritance?
10. Define acrocentric chromosome.
11. Define euploidy.
12. What is the difference between deletion and insertion of chromosomes?

(10×1=10)

Part B

*Answer any **six** questions.*

*Each question carries **5** marks.*

13. What was the contribution of T.H.Morgan in genetics?

14. Differentiate between homozygous and heterozygous alleles.

15. Comment on the factors which led to the success of Mendel's experiment.

16. Explain the lethal genes with examples.

17. Explain dosage compensation.

18. Describe the different kinds of crossing over.

19. Explain Giant chromosomes.

20. Describe extrachromosomal inheritance with respect to mitochondria.

21. Explain the characteristic features of Turner's syndrome.

(6×5=30)

Part C

*Answer any **two** questions.*

*Each question carries **10** marks.*

22. Discuss on the importance of codominance and semidominance.

23. Explain allelic and non allelic gene interaction.

24. What is chromosome? Illustrate the structure of chromosome.

25. Explain how polyploidy can lead to speciation in plants.

(2×10=20)