



QP CODE: 25047403



Reg No :

Name :

M.Sc DEGREE (CSS) EXAMINATION, NOVEMBER 2025

Third Semester

M Sc MOLECULAR BIOLOGY AND GENETIC ENGINEERING

Core Course - BS030303 - GENOMICS & PROTEOMICS

2019 ADMISSION ONWARDS

61AC01E6

Time: 3 Hours

Weightage: 30

Part A (Short Answer Questions)

*Answer any **eight** questions.*

Weight 1 each.

1. If A & B are two mutually exclusive events, then which rule is applicable for probability rule?
2. Give the relationship between mean, median and mode in the case of a symmetrical (normal) distribution.
3. What is the degree of freedom?
4. What is meant by perfect positive correlation?
5. What is HGP?
6. How SNPs leads to functional mutation?
7. What is TCP/IP?
8. Write the names of any 2 biological databases.
9. Expand HMM.
10. What is Rasmol?

(8×1=8 weightage)

Part B (Short Essay/Problems)

*Answer any **six** questions.*

Weight 2 each.

11. What is poisson distribution? Explain briefly?
12. What is the role of error analysis in hypothesis testing? Evaluate your commend?
13. The genetic theory states that the children having one parent of blood type M and the other blood type N will always be one of the three types of M, MN, N and the proportion will be 1:2:1. A report states that among 300 children 30% is in M, 45 % in MN and remaining is in N. Test the hypothesis by means of chi square test?





14. Explain Shotgun sequencing .
15. Discuss in detail on Pfam and Prints.
16. Write in detail on FASTA file format.
17. Explain FAST PCR protocol for primer designing.
18. Comment on the various uses and applications of protein docking.

(6×2=12 weightage)

Part C (Essay Type Questions)

*Answer any **two** questions.*

*Weight **5** each.*

19. Create a table for the analysis of one way ANOVA with example and explain.
20. Explain different approaches of HGP.
21. Discuss on the Needleman-Wunsch algorithm.
22. Write an account of the various secondary structure elements in 3-D conformation of proteins.

(2×5=10 weightage)

