

QP CODE: 20000767



Reg No :

Name :

MSc DEGREE (CSS) EXAMINATION , NOVEMBER 2020

Second Semester

M Sc BOTANY

CORE - BY010202 - CELL BIOLOGY, GENETICS AND PLANT BREEDING

2019 Admission Onwards

88C984B6

Time: 3 Hours

Weightage: 30

Part A (Short Answer Questions)

Answer any **eight** questions.

Weight 1 each.

1. Briefly describe the molecular structure of telomere.
2. What are insulin receptors ?
3. What are intermediate filaments?
4. What is apoptosis? Explain its process.
5. Write a short note on the significance of E.coli in Genetics.
6. What are oncogenes?
7. What are Mutagens? Give examples.
8. Compare and contrast resistance breeding strategies.
9. Discuss mutagenic agents.
10. Discuss the importance of cell and tissue culture in plant breeding.

(8×1=8 weightage)

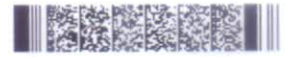
Part B (Short Essay/Problems)

Answer any **six** questions.

Weight 2 each.

11. What is meant by cell signaling?
12. How are Anchor junctions classified?
13. How can we perform chromosome mapping in eukaryotes?
14. Explain the X-chromosome inactivation in mammals.
15. Using examples, give an account on inborn errors in metabolism.





16. Differentiate between pre-zygotic and post-zygotic isolation.
17. Discuss how cytoplasmic male sterility (CMS) is used in a breeding program.
18. Explain the methods of idio type breeding.

(6×2=12 weightage)

Part C (Essay Type Questions)

Answer any **two** questions.

Weight **5** each.

19. Explain the detailed structure of Nucleus and functions.
20. What are the significance of cell cycle checkpoints?
21. State Hardy-Weinberg's law and explain the factors influencing gene frequency.
22. Note down some important achievements and future prospects of plant breeding.

(2×5=10 weightage)

