22000476

MSc DEGREE (CSS) EXAMINATION , JANUARY 2022

Second Semester

M Sc BOTANY

CORE - BY010202 - CELL BIOLOGY, GENETICS AND PLANT BREEDING

2019 Admission Onwards

8E799872

Time: 3 Hours   Weightage: 30

Part A (Short Answer Questions)

*Answer any **eight** questions.*

*Weight **1** each.*

1. What are telomeres?

2. Briefly describe two componet signaling system.

3. Give an account of Microtubule Organizing Centres.

4. What is the use of various check ponts in mitosis?

5. Comment on any one of the model organism you have studied.

6. Write the properties of cancer cells.

7. What is Chromosomal mutations and Gene mutation? Give an example.

8. Discuss the mechanisms used by plants to avoid the effects of drought.

9. Define mutation and mutagenesis.

10. Discuss micropropagation and its applications.

(8×1=8 weightage)

Part B (Short Essay/Problems)

*Answer any **six** questions.*

*Weight **2** each.*

11. Give an account on Steriod hormone receptors with an example.

12. Explain the role of selectins as cell adhesion molecules.

13. Give account on quantitative inheritance and QTL.

14. What is dosage compensation?

15. Notes on autosomal reccessive genetic disorders seen in humans.

16. Quoting suitable examples, explain genetic drift.

17. Compare and contrast the mass selection and pure-line selection methods of breeding.

18. Discuss the applications of idiotype breeding.

<div align="right">(6×2=12 weightage)</div>

Part C (Essay Type Questions)

*Answer any **two** questions.*

*Weight **5** each.*

19. Describe the structural organization of plant cell.

20. Describe different phases of cell cycle.

21. What is Hardy Weinberg equilibrium? Describe the conditions for Hardy Weinberg equilibrium.

22. Write an essay on Vavilov's concept of the centers of diversity of crops.

<div align="right">(2×5=10 weightage)</div>