QP CODE: 22000477

MSc DEGREE (CSS) EXAMINATION, JANUARY 2022

Second Semester

M Sc BOTANY

CORE - BY010203 - PLANT PHYSIOLOGY AND BIOCHEMISTRY

2019 Admission Onwards

C07A16B9

Time: 3 Hours

Weightage: 30

Part A (Short Answer Questions)

Answer any eight questions. Weight 1 each.

- 1. Distinguish between primary and secondary active transports.
- 2. What are the three stages of Calvin cycle?
- Comment on Substrate level phosphorylation and oxidative phosphorylation. 3.
- 4. Comment on nitrogenase enzyme.
- 5. What is hardening?
- 6. Differentiate aldose from ketose.
- 7. What are triglycerides?
- 8. Write notes on naming of enzymes.
- 9. How enzyme activity is expressd?
- 10. What is non-competetive inhibition?

(8×1=8 weightage)

Part B (Short Essay/Problems)

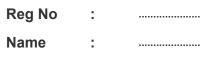
Answer any six questions.

Weight 2 each.

Page 1/2

- 11. Explain Cotransport and countertransport.
- 12. Describe on membrane transporters.
- 13. Explain photoinhibihition and its photoprotective mechanisms.
- 14. Describe the Rotenone insensitive pathway in plants.







- 15. Explain the structure and function of phytochromes.
- 16. Describe the importance of buffers in biochemical experiments.
- 17. Explain glyoxylate cycle.
- 18. Write a short note on classification of amino acids

(6×2=12 weightage)

Part C (Essay Type Questions)

Answer any **two** questions. Weight **5** each.

19. Explain in detail, the mechanism of electron transport and photophosphorylation during photosynthesis.

- 20. Give a detailed comparison on mitochondrial and chloroplast ATP synthesis .
- 21. Give a detailed account on plant stress physiology, sensing and response mechanism.
- 22. Explain the biosynthesis and function of terpenoids, alkaloids and phenolics in plants.

(2×5=10 weightage)