

Reg. No

Name

22P355

M. Sc. DEGREE END SEMESTER EXAMINATION : OCTOBER 2022

SEMESTER 3 : BOTANY

COURSE : 21P3BOTT11 : PLANT PHYSIOLOGY AND METABOLISM

(For Regular - 2021 Admission)

Duration : Three Hours

Max. Weights: 30

PART A

Answer any 8 questions

Weight: 1

1. What is Rotenone? (R)
 2. Give an account on enzymes involved in the conversion of ammonium to amino acids. ()
 3. Give any two factors that influence the production of Ethylene. (R)
 4. Why does leaves have more hydraulic resistance than xylem conduits? (An)
 5. What are channels? ()
 6. Differentiate action spectra and absorption spectra. (R)
 7. Why is Calvin cycle called as C3 cycle? Give its significance. (An)
 8. Write a short note on size and charge of soil particles. ()
 9. What are aquaporins? ()
 10. What is the difference between aerobic and anaerobic respiration. (U)
- (1 x 8 = 8)**

PART B

Answer any 6 questions

Weights: 2

11. Briefly explain the repair and regulation of photosynthetic machinery in higher plants. (A)
 12. Briefly explain the biosynthesis of Gibberellin. Which Gibberellin is called as Gibberellic Acid? (An)
 13. Write short note on phloem transport. (U)
 14. Compare Mitochondrial and chloroplast ATP synthesis. (E)
 15. Briefly explain ABC transporters. (U)
 16. Give an account on biotic stress factors in plants. ()
 17. Briefly explain the formation of sucrose in plants. (R)
 18. Illustrate and explain nitrogen cycle. ()
- (2 x 6 = 12)**

PART C

Answer any 2 questions

Weights: 5

19. What is Ethylene? Give an account on its biosynthetic pathway along with its physiological actions in plants. (U)
20. Explain the factors controlling translocation and assimilates partitioning in higher plants. ()

21. Describe schematically the pentose phosphate pathway of glucose oxidation. How does it differ from the cellular oxidation process from the point of view of ATP generation? (An)
22. Give an account on water movement from the leaf to the atmosphere with special mention of pathway resistances. ()
- (5 x 2 = 10)**

OBE: Questions to Course Outcome Mapping

CO	Course Outcome Description	CL	Questions	Total Wt.
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Cognitive Level (CL): Cr - CREATE; E - EVALUATE; An - ANALYZE; A - APPLY; U - UNDERSTAND; R - REMEMBER;