QP Code: P25C002

Reg. No : .....
Name : .....

ST MARY'S COLLEGE (AUTONOMOUS), THRISSUR-20

III SEMESTER (CBCSS - PG) DEGREE EXAMINATION, OCTOBER 2025

M. Sc. Botany

BOT3C07 : PLANT PHYSIOLOGY, METABOLISM AND BIOCHEMISTRY

2024 Admission Onwards

Time:3 Hours **Maximum Weightage:30**

Part A

*Short answer type questions: Answer **any four** questions. Weightage **2** for each question.*
(4x2 = 8 Weightage)

1. Give an account on secondary metabolism and their main pathways.
2. Correlate the different physiological roles of secondary metabolites.
3. Examine the modern theories of stomatal mechanism.
4. Contrast and write a note on denaturation and renaturation.
5. Differentiate purines and pyrimidines.
6. Write a note on molecular logic of living organism.
7. Give a short note on phloem loading and unloading.

Part B

*Short essay-type questions: Answer **any four** questions. Weightage **3** for each question.*
(4x3 = 12 Weightage)

8. Analyse and deduce Michaelis-Menton equation.
9. Write a detailed note on biosynthesis of fatty acids.
10. Briefly explain the synthesis of ABA.
11. State the blue and red light photoreceptors and their importance.
12. Reflect the role of amphibolic nature of TCA cycle.
13. Evaluate and mention the significance of different types of aminoacids.
14. Write the enzymes involved in gluconeogenesis and their role.

Turn Over

Part C

*Essay-type questions: Answer **any two** questions. Weightage **5** for each question.*
(2x5 = 10 Weightage)

15. Write a note on beta oxidation of fatty acids.
16. Give an account on symbiotic nitrogen fixation in leguminous plants with diagram.
17. Mention the three organelles involved in C2 cycle and the product formed.
18. Give an account on abiotic stress in plants.

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