Reg. No ....................     Name ...............................     **23U607**

# B. Sc. DEGREE END SEMESTER EXAMINATION : MARCH 2023
## SEMESTER 6 : BOTANY
COURSE : **19U6CRBOT09 : PLANT PHYSIOLOGY AND BIOCHEMISTRY**
*(For Regular - 2020 Admission and Supplementary - 2019 Admission)*

Time : Three Hours                                                      Max. Marks: 60

## PART A
## Answer All (1 mark each)

1. Define SAR.
2. Name any two allelochemicals.
3. Name an achiral amino acid.
4. Who proposed the lock and key model?
5. What is a buffer? Give an example.
6. Define translocation of solutes in plants.
7. What is the nitrogen deficiency symptom which appears on the vegetative region?
8. Name any two proteins that take part in ETS during cellular respiration.

**(1 x 8 = 8)**

## PART B
## Answer any 6 (2 marks each)

9. The peptide bond is a partial single bond and a partial double bond. Justify
10. What are the sources of allelochemicals in plants?
11. What are the practical applications of auxins?
12. Define aerobic respiration. State its significance.
13. Draw the structure of optically inactive amino acid.
14. Define transpiration and explain its types seen in plants?
15. Differentiate fluorescence from phosphorescence.
16. Differentiate between essential and non-essential amino acids.
17. Differentiate between fats and oils.
18. What are the effects of drought stress in plants?

**(2 x 6 = 12)**

## PART C
## Answer any 4 (5 marks each)

19. Explain the steps in Kreb's cycle.
20. Write a note on photosynthetic pigments.
21. Comment on models which explain enzyme-substrate complex formation.
22. Describe physiological roles of ABA in plants.
23. Explain the functions of fats.
24. Discuss the significance of transpiration.

**(5 x 4 = 20)**

**PART D**
**Answer any 2 (10 marks each)**

25. Explain stomatal movement. Discuss the theories that explain stomatal opening and closure.

26. Briefly discuss the processes involved in the breakdown of glucose to yield ATP in plants?

27. Write an essay on classification of enzymes with examples.

28. Illustrate and explain photorespiration in plants. What is its significance?

**(10 x 2 = 20)**