

TM153045B

Reg. No:.....

Name:.....

**M. Sc. DEGREE (C.S.S.) EXAMINATION, MARCH 2017**  
**(Supplementary – 2015 Admission)**  
**SEMESTER III - BOTANY**  
**BO3C10TM - PLANT PHYSIOLOGY AND BIOCHEMISTRY**

**Time: Three Hours**

**Maximum Marks: 75**

**PART A**

**I. Answer any five questions. Each question carries 3 marks**

1. Explain the control of stomatal opening and closing in plants.
2. What are light harvesting complex. What is its structure?
3. Briefly explain the three stages of respiratory metabolism.
4. Explain the mechanism of resistance to biotic stress.
5. What are essential fatty acids? What is its significance?
6. Explain the principle of catalysis.
7. What are flavanoids? Give examples.

**(5x3=15)**

**PART B**

**II. Answer any six questions. Each question carries 5 marks**

8. Write an account on the anatomy and regulation of transpiration in plants.
9. Explain the structure and function of RUBISCO.
10. Explain alternative oxidase. What is its significance?
11. Explain the mechanism of biological nitrogen fixation in plants.
12. What is the role of photoperiodism in the setting of biological clock in plants?
13. What are buffers? What is its significance?
14. What is *B*-oxidation? What is its relevance in plant metabolism?
15. Explain ping-pong mechanism.
16. Give classification of terpenoids. Describe briefly its occurrence in plants.

**(6x5=30)**

**PART C**

**III. Answer any two questions. Each question carries 15 marks**

17. Write an essay on the transport of photoassimilates in plants.
18. Write an essay on the synthesis, storage, transport and mechanism of action of plant hormones.
19. Write an essay on the importance of tertiary and quaternary structure of protein. What are the forces stabilizing them? What is its importance in life?
20. Explain in detail the mechanism of regulation of enzyme activity. What are the different factors controlling it?

**(2x15=30)**