

Reg. No .....

Name .....

**M. Sc DEGREE END SEMESTER EXAMINATION - OCTOBER 2019****SEMESTER 3 : BOTANY****COURSE : 16P3BOTT11 : PLANT PHYSIOLOGY & METABOLISM***(For Regular - 2018 Admission and Supplementary - 2016/2017 Admissions)*

Time : Three Hours

Max. Marks: 75

**Section A****Answer any 8 (2 marks each)**

1. What is the source of oxygen evolved during photosynthesis?
2. Explain the structure of RUBISCO enzyme.
3. Explain the role of plasmodesmata in phloem translocation.
4. Explain apoplastic and symplastic phloem loading.
5. Explain the regulation of Kinetins in plants.
6. What is respiration?
7. What is Rotenone?
8. What is meant by water potential and explain its components.
9. Differentiate between symport and antiport.
10. What is meant by facilitated diffusion?
11. Explain bacteroids.
12. What are various responses of plants to water deficit?

(2 x 8 = 16)

**Section B****Answer any 7 (5 marks each)**

13. Briefly explain the repair and regulation of photosynthetic machinery in higher plants.
14. Give an account on water splitting complex. State its significance
15. Write an account on the physiological actions of ABA.
16. What is phytochrome? How does it mediate phytomorphogenetic response? Describe its role in flowering.
17. What is meant by transpiration ratio? What does it indicate?
18. Give an account on SPAC.
19. Give a brief note on VAM
20. Briefly explain ABC transporters
21. Briefly explain the significance of leghaemoglobin.
22. Give an account on low temperature stress.

(5 x 7 = 35)

**Section C****Answer any 2 (12 marks each)**

23. Explain the structure of ATP synthase. Give an account of its functioning.

**OR**

24. Explain stress physiology and its significance in plant productivity.

25. What do you understand by the terms Light reaction and Dark reaction? Explain.

**OR**

26. Write an essay on active transport of ions, solutes and macromolecules in plants.

(12 x 2 = 24)