Reg. No ....   Name **17P3634**

MSc DEGREE END SEMESTER EXAMINATION- OCTOBER-NOVEMBER 2017
SEMESTER 3 : BOTANY
COURSE : **16P3BOTT11 ; PLANT PHYSIOLOGY & METABOLISM**
(For Regular - 2016 admission)

Time : Three Hours   Max. Marks: 75

Section A
Answer any 8 (2 marks each)

1. Briefly explain Quantum yield and Quantum requirement.
2. Give an account on PSI. Where it is located?
3. Explain apoplastic and symplastic phloem loading.
4. With which physiological process the name 'Munch' is associated and how?
5. Name any steroid hormone and state its functions.
6. Give an account on Kreb's cycle.
7. Give an account on light compensation point and pasteur's effect.
8. What is meant by hydraulic conductivity?
9. Explain membrane potential.
10. Briefly explain transmembrane proteins and its major classes.
11. What is meant by heterocyst?
12. What are the morphological adaptations of plants to high temperature stress?

8 x 2 (16)

Section B
Answer any 7 (5 marks each)

13. Explain the CO_2 concentrating mechanism in CAM plants.
14. Explain the structure of any two photosynthetic pigments.
15. Briefly describe Indole Acetic Acid and its role.
16. Write short note on oxidative phosphorylation.
17. Write a critical account on physiology of flowering.
18. Explain the significance of adsorption and capillarity in soils.
19. Explain water transport through the xylem.
20. Describe the classification of mineral nutrients based on biological function.
21. Give a brief note on ammonium assimilation.

22. Give an account on biotic stress factors in plants.

7 x 5 (35)

Section C
Answer any 2 (12 marks each)

23. What is auxin? Give an account on its biosynthetic pathway along with its functions in plants.

OR

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

25. Give an account on water movement from the leaf to the atmosphere with special mention of pathway resistances.

OR

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

2 x 12 (24)