

K21P 0963

Reg. No. :

Name :

**III Semester M.Sc. Degree (CBSS – Reg. /Suppl. / Imp.) Examination, October 2021
(2018 Admission Onwards)
BOTANY
BOT 3C10 : Plant Physiology**

Time : 3 Hours

Max. Marks : 60

Instructions : Draw diagrams *whenever necessary*.

SECTION – A

(2×8=16)

1. a) Write an account on types of stresses, plant responses and resistance to stress.

OR

b) Explain electron transport system and chemi – osmotic mechanism of ATP formation in Photosynthesis.

2. a) Explain the Soil – Plant – Atmosphere continuum.

OR

b) Describe the ultra-structure of chloroplast.

SECTION – B

Answer **any two**.

(2×6=12)

3. a) What is seed dormancy ?

b) Explain the mechanisms to break dormancy.

c) Write a note on mobilization of stored reserves during seed germination. **(1+2+3)**

4. a) What is a climateric fruit ?

b) What are the different stages of the growth and development of fruit ?

c) Briefly explain the major changes of fruit ripening. **(1+2+3)**

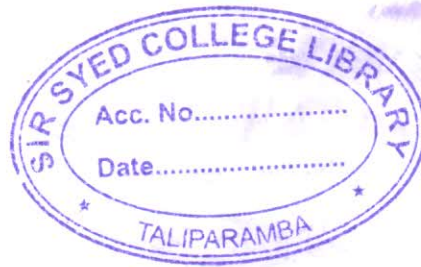
5. a) What is transpiration ?

b) How stomata control leaf transpiration ?

c) Write a short note on physiological adaptations of desert plants to minimizing transpiration. **(1+2+3)**

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SECTION – C

Answer **any six**.

(6×3=18)

6. Differentiate passive diffusion and facilitated diffusion.
7. Explain photorespiration and its significance.
8. Explain nutrient cycle.
9. Write a note on cyanide resistant respiration.
10. Define growth and explain the growth curve.
11. What are phytochromes ? Role of phytochromes on flower initiation.
12. Explain briefly the physiological effects of auxins in plant growth.
13. Write a note on aquaporins.

SECTION – D

Answer **any seven**.

14. Chemical Potential
15. Antitranspirants
16. Calmodulin
17. Senescence
18. Symport and antiport
19. Turgor pressure
20. Quiescence
21. Photoblastic seeds
22. Aleurone layer
23. Homolactic fermentation

(7×2=14)
