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)**

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