D4BBT2202 **Reg.No.....**

Name: .....

FOURTH SEMESTER B.Sc. DEGREE EXAMINATION, APRIL 2024

(Regular/Improvement/Supplementary)

BOTANY: Complementary Course for Zoology

GBOT4C04T: PLANT PHYSIOLOGY, ECOLOGY AND GENETICS

Time:2Hours **MaximumMarks: 60**

SECTION A: Answer the following questions. Each carries *two* marks.

(Ceiling 20Marks)

1. Give an account of ATPase.
2. Define water potential.Write its components.
3. What is Krantz leaf anatomy?
4. What is hydroponics?
5. Mention two important adaptationsparasites.
6. Briefly describe abscission.
7. States the Cohesion-tension theory.
8. Differentiate between test cross and back cross.
9. Briefly describe seed dormancy and its applications.
10. List out the adaptations of halophytes.
11. Enumerate the fate of pyruvic acid under anaerobic condition.
12. Briefly explain the incomplete dominance in *Mirabilis jalapa.*

SECTION B: Answer the following questions. Each carries *five* marks.

(Ceiling 30Marks)

13. List out the roles played by gibberellins in plant development.
14. Briefly explain the dihybrid cross conducted by Mendel and add a note on the discovery of law of independent assortment.
15. Explain the adaptationsof Xerophytes.
16. Describe the K^+ion theory of stomatal movements.
17. Define ecosystem and explain the factors affecting ecosystem.
18. What are complementary genes? Explain with an example.
19. Describe Emerson's enhancement effect.

SECTION C: Answer any *one* question. Each carries *ten* marks.

20. Explain plant succession. Describe the stages of Xerosere in detail with suitableexamples.
21. Explain C4 Cycle. Give its significance over C3 Cycle.

(1 x 10 = 10 Marks)