**ST. JOSEPH’S COLLEGE (AUTONOMOUS), BENGALURU -27**

Registration Number:

Date & Session

**B.Sc.– VI SEMESTER**

**SEMESTER EXAMINATION: APRIL 2024**

**(Examination conducted in May /June 2024)**

**BO 6123: Plant Physiology and Biochemistry**

**(For current batch students only)**

**Time: 2 Hours Max Marks: 60**

**This paper contains TWO printed pages and THREE parts**

**PART-A**

1. **Answer ANY TEN of the following 2 × 10 = 20**

1.Imbibition

2. Increase in temperature for a prolonged time period causes the plant to wilt. Name the physiological process causing this effect and define it.

3. Isotonic solution

4. Define Ion antagonism with example

5. Define Autoradiography

6. Quantasomes

7. “When two wavelengths of light were supplied simultaneously to a plant, rather than separately, photosynthesis was about 25% higher…” Define the effect

8. Agent orange

9. Pfr

10. Acetyl CoA + Oxalo acetic acid enzyme citric acid CoA enzyme cis aconitic acid

Name the enzymes in the above reactions.

11. Abscisic acid is also known as the stress hormone. Give reason

12. Define long day plants

1. **Answer ANY FIVE of the following 5 × 6 = 30**

13. With an illustration explain K+ ion theory

14. Explain the structure of phloem tissue and add a note on the process of vein loading and unloading

15. Discuss the active theories involved in ion-uptake

16. Schematic representation of non – cyclic photophosphorylation

17. Photorespiration

18. Dwarf plants were exposed to a given chemical “X” of known concentration. After a period of exposure, internodal elongation is observed in the stem of the plant. What is the chemical used? Discuss the bioassay involved.

19. Discuss any four methods to break seed dormancy

1. **Answer ANY ONE of the following 1 × 10 = 10**

20. Pentose phosphate pathway

21. Discuss the genes involved in flowering using a schematic representation