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(FOR THE CANDIDATES ADMITTED DURING THE ACADEMIC YEAR 2023 ONLY)

23UBY611

REG.NO. :

N.G.M.COLLEGE (AUTONOMOUS) : POLLACHI

END-OF-SEMESTER EXAMINATIONS :APRIL - 2026

B.Sc.-BOTANY **MAXIMUM MARKS: 75**

SEMESTER: VI **TIME : 3 HOURS**

PART - III
PLANT PHYSIOLOGY

SECTION – A (10 X 1 = 10 MARKS)

ANSWER THE FOLLOWING QUESTIONS. (K1)

MULTIPLE CHOICE QUESTIONS.

1. Name the term which is given for the movement of water through a semipermeable membrane?

a) Diffusion b) Osmosis c) Tonicity d) Transpiration

2. Theprocess by which green plants make their own food is called as _____

a) Respirationb) Oxidation and reduction c) Solarisation d) Photosynthesis

3. Which of the following processes occurs in both aerobic and anaerobic respiration?

a) Krebs cycle b) Glycolysis c) Electron transport chaind) Oxidative phosphorylation

4. The hormone responsible for apical dominance is_____

a) IAA b) ABA c) GA d) Kinetin

5.What process involves mechanically injuring the seed coat to break dormancy?

(a) Stratification b) Scarificationc) Vernalization d) After-ripening

ANSWER THE FOLLOWING IN ONE (OR) TWO SENTENCES (K2)

6. **Is plasmolysis hypertonic or hypotonic?**
7. **Why is photorespiration good for plants?**
8. **How is fermentation anaerobic?**
9. **What is the importance of plant growth regulators?**
10. **How is hydrotropism helpful to plants?**

SECTION – B (5 X 5 = 25 MARKS)

ANSWER EITHER (a) OR (b) IN EACH OF THE FOLLOWING QUESTIONS.(K3)

11. a) **Identify the water components that influence water potential.**

(OR)

b) **Compute the types of mineral nutrition in plants. Add notes on its significance**

12.a) **Find out the theories on the ascent of sap.**

(OR)

b) **Organize the mechanism of photosynthesis in higher plants.**

13.a) **Determine the nitrogen cycle.**

(OR)

b) **Develop the stages of the biosynthesis process aminoacids.**

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14.a) **Estimate the types and practical applications of photoperiodism.**

(OR)

b) **Discuss the physiology behind vernalisation. Mention its importance**

15.a) **Write the types and significance of plant movement in higher plants.**

(OR)

b) **Organize the mechanism of senescence in angiospermic plants.**

SECTION – C (5 X 8 = 40 MARKS)

ANSWER EITHER (a) OR (b) IN EACH OF THE FOLLOWING QUESTIONS.

(K4 (Or) K5)

16. a)**Examine the mechanism of water absorption in higher plants**

(OR)

b)**How doesenergy dependent process of phloem loading takes place?- Explain**

17.a)**Differentiate between C_3 and C_4 CO_2 fixation process in plants**

(OR)

b) **Focus the types of transpiration in flowering plants. Mention its significance**

18. a) **Correlate the symbiotic and non-symbiotic nitrogen fixation in plants**

(OR)

b)**Illustrate the schematic representation of Kreb's cycle**

19.a) **Discuss the developmental and physiological effects of auxin and gibberellins**

(OR)

b) **Evaluate the physiology of Kinetin and ABA.**

20.a) **Organize the methods of breaking dormancy in plant physiology.**

(OR)

b) **Assign the types of plant stress in plants. Mention its advantages and disadvantages**

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