

Code No. : 30372 E Sub. Code : AMBO 62

B.Sc. (CBCS) DEGREE EXAMINATION,
NOVEMBER 2023.

Sixth Semester

Botany - Core

PLANT PHYSIOLOGY

(For those who joined in July 2020 only)

Time : Three hours

Maximum : 75 marks

PART A — (10 × 1 = 10 marks)

Answer ALL questions.

Choose the correct answer :

1. Name the condition in which protoplast of the plant cell shrinks away.
- (a) Turgid
(b) Plasmolysis
(c) Flaccid
(d) Rigid

2. In Ascent of Sap, water and dissolved minerals are taken up by leaves through
- (a) Xylem tissue (b) Phloem tissue
(c) Lamina tissue (d) Lenticels
3. Loss of water from plants in the form of water vapour is called _____
- (a) Surface tension (b) Cohesion
(c) Ascent of sap (d) Transpiration
4. Who gave the mechanism of pressure flow hypothesis?
- (a) Ernst Munch (b) Henry Dixon
(c) Steward (d) Adolph Fick
5. Which of the following element is needed by plants in a very small quantity?
- (a) Phosphorus (b) Carbon
(c) Sodium (d) Magnesium
6. Kreb's cycle occurs in
- (a) Chloroplast
(b) Golgi bodies
(c) Nucleus
(d) Mitochondria

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7. What is the special leaf anatomy found in C_4 plants?
- (a) Mesophyll anatomy
(b) Vascular anatomy
(c) Kranz anatomy
(d) Calvin anatomy
8. What are the favorable conditions for cyclic photophosphorylation?
- (a) Aerobic and optimum light
(b) Aerobic condition only
(c) Aerobic and low light intensity
(d) Anaerobic and low light intensity
9. The process of rupturing hard seed coat is called
- (a) Stratification
(b) Scarification
(c) Drying
(d) None of the above
10. The hormone responsible for apical dominance is _____
- (a) IAA (b) ABA
(c) GA (d) Kinetin

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PART B — (5 × 5 = 25 marks)

Answer ALL questions, choosing either (a) or (b).
Each answer should not exceed 250 words.

11. (a) Define the following terms (i) Imbibition
(ii) Diffusion.
- Or
- (b) List out the factors affecting water absorption in plants.
12. (a) Comment on the Munch mass flow hypothesis.
- Or
- (b) Point out the significance of Transpiration.
13. (a) Give an account on micronutrients.
- Or
- (b) Outline the steps involved in Kreb's cycle.
14. (a) Differentiate between Cyclic and Non Cyclic photophosphorylation.
- Or
- (b) Write a short notes on Electron Transport Chain.

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[P.T.O.]

15. (a) Define growth curve. And explain its phases.

Or

(b) What are the physiological effects of Gibberellins?

PART C — (5 × 8 = 40 marks)

Answer ALL questions, choosing either (a) or (b)
Each answer should not exceed 600 words.

16. (a) Describe about the mechanism of water absorption in roots.

Or

(b) Write an essay on Ascent of sap.

17. (a) Transpiration is a necessary evil - Discuss.

Or

(b) Enumerate about the translocation of organic solutes.

18. (a) Evaluate the steps involved in Glycolysis.

Or

(b) Define macronutrient. Explain about its roles and deficiencies of the element.

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19. (a) Organize about the Calvin cycle.

Or

(b) Give a detailed account on light and dark reactions of photosynthesis.

20. (a) Examine the physiological effects of auxins.

Or

(b) Generalize about the causes and methods to overcome seed dormancy.

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