

Springfield High School - Final Examination 2025

Subject: Science | Duration: 3 Hours | Max Marks: 100



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Date: August 2025

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Instructions:

1. Answer all questions.
2. Marks are indicated against each question.
3. Write neatly and clearly.
4. Read each question carefully before answering.

Single Correct Multiple Choice Questions

1. Which of the following is the primary function of the cuticle?
(A) To absorb water (B) To prevent water loss
(C) To perform photosynthesis (D) To provide structural support
2. In grasses, what is the specific shape of the guard cells?
(A) Bean-shaped (B) Circular
(C) Dumb-bell shaped (D) Irregular
3. What are the epidermal hairs on the stem called?
(A) Root hairs (B) Stomata
(C) Subsidiary cells (D) Trichomes
4. Which of the following tissues is NOT considered a part of the ground tissue?
(A) Parenchyma (B) Epidermis
(C) Collenchyma (D) Sclerenchyma
5. In leaves, the ground tissue is specialized and called:
(A) Cortex (B) Pith
(C) Mesophyll (D) Pericycle

Multiple Correct Multiple Choice Questions

6. The stomatal apparatus is composed of which of the following components?
(A) Guard cells (B) Stomatal aperture
(C) Subsidiary cells (D) Cuticle
7. Which of the following statements are true about trichomes?
(A) They are always unicellular. (B) They help in preventing water loss.
(C) They are found on the root system. (D) They can be secretory in function.
8. Which characteristics apply to epidermal cells?
(A) They form a continuous, single layer. (B) They have a large amount of cytoplasm.
(C) They are parenchymatous. (D) They possess a large vacuole.
9. Ground tissue is found in which of the following parts of primary stems and roots?
(A) Cortex (B) Pericycle
(C) Pith (D) Epidermis

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10. Which of the following are functions of the epidermal tissue system?

- (A) Regulation of gaseous exchange
(C) Prevention of water loss

- (B) Absorption of water and minerals
(D) Conduction of food

Answer in One Sentence

11. What is the primary function of stomata?

12. What are root hairs?

13. What constitutes the ground tissue in a plant?

14. What are subsidiary cells?

15. What is mesophyll?

Fill in the Blanks

16. The outer walls of guard cells are thin and the inner walls are highly _____.

17. The waxy layer called the cuticle is absent in _____.

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18. The trichomes in the shoot system are usually _____.

19. Ground tissue consists of simple tissues such as parenchyma, collenchyma and _____.

20. The guard cells possess chloroplasts and regulate the opening and closing of _____.

Answer in Brief

21. Describe the structure and function of guard cells.

22. Differentiate between root hairs and trichomes.

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23. What are the key characteristics of the epidermis?

24. Explain the composition of ground tissue.

25. What is the stomatal apparatus and what is its role?

Answer in Detail

26. Explain the components and functions of the epidermal tissue system in plants.

27. Describe the structure of a stoma in detail, including the features of its guard cells and its relationship with subsidiary cells.

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28. What is ground tissue, and where is it located in different parts of the plant as described in the text?

29. Explain the different ways the epidermal tissue system helps in managing water for the plant.

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30. Based on the text, compare and contrast the epidermal appendages: root hairs and trichomes.

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