



EDUSAMBAM ASSESSMENT SERIES

Biology Comprehensive Practice Test 6

PRINTABLE PRACTICE WORKSHEET

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Subject	Biology	Topic	Biology Comprehensive Practice Test 6	Total Marks	100
Total Questions	45	Time Allowed	1 Hour (60 minutes)	Version	A

GENERAL INSTRUCTIONS

1. Read each question carefully before answering.
2. For Section A and Section B, mark one answer only.
3. For Sections C and E, write your answer clearly in the space provided.
4. For Section D, write the correct letter from Column B against each item in Column A.
5. Do not use correction fluid. Keep all answers clear and legible.
6. This worksheet is prepared from the EDUSAMBAM practice assessment supplied for this paper.

PAPER PATTERN

Section	Questions	Marks Each	Total
Section A — Multiple Choice	15	2	30
Section B — True / False	10	2	20
Section C — Fill in the Blank	10	2	20
Section D — Column Matching	5 pairs	2	10
Section E — Short Answer	5	4	20
Total	45	—	100

Section A — Multiple Choice

30 marks

1. Photosynthesis converts light energy into:

- A.** Chemical energy stored in organic molecules
C. Sound energy

- B.** Heat only
D. Kinetic energy only

Answer: ☐A ☐B ☐C ☐D

Basic • 2 pts

2. The main site of photosynthesis in plant cells is the:

- A.** Chloroplast
C. Lysosome

- B.** Nucleus
D. Ribosome

Answer: ☐A ☐B ☐C ☐D

Basic • 2 pts

3. Chlorophyll is important because it:

- A.** Absorbs particular wavelengths of light used in photosynthesis
C. Stores DNA

- B.** Digests starch
D. Pumps blood

Answer: ☐A ☐B ☐C ☐D

Basic • 2 pts

4. Carbon dioxide enters most leaves mainly through:

- A.** Stomata
C. Root hairs only

- B.** Xylem vessels
D. Phloem sieve tubes

Answer: ☐A ☐B ☐C ☐D

Basic • 2 pts

5. Xylem primarily transports:

- A.** Water and mineral ions
C. DNA

- B.** Sugars from leaves
D. Oxygen to mitochondria

Answer: ☐A ☐B ☐C ☐D

Intermediate • 2 pts

6. Phloem transports:

A. Organic assimilates such as sucrose from sources to sinks

B. Only water

C. Only mineral ions

D. Only carbon dioxide

Answer: ☐A ☐B ☐C ☐D

7. Transpiration is:

A. Loss of water vapour from plant surfaces, especially leaves

B. Production of glucose

C. Uptake of carbon dioxide by roots

D. Cell division in meristems

Answer: ☐A ☐B ☐C ☐D

8. A plant needs mineral ions because:

A. They support structures and biochemical processes such as enzyme function and chlorophyll formation

B. They replace sunlight

C. They are all converted directly into glucose

D. They prevent all transpiration

Answer: ☐A ☐B ☐C ☐D

9. If stomata close, a likely immediate effect is:

A. Reduced carbon dioxide entry and reduced water loss

B. Increased carbon dioxide entry

C. Elimination of xylem flow

D. Guaranteed increase in photosynthesis

Answer: ☐A ☐B ☐C ☐D

10. A factor that can limit photosynthesis is:

A. Light intensity, carbon dioxide concentration or temperature, depending on conditions

B. Only gravity

C. Only soil colour

D. Only plant height

Answer: ☐A ☐B ☐C ☐D

11. The cohesion-tension mechanism helps explain:

A. Upward movement of water in xylem associated with transpiration and cohesive water molecules

B. Sugar movement in phloem only

C. DNA replication

D. Protein synthesis

Answer: ☐A ☐B ☐C ☐D

12. Source-to-sink translocation in phloem means:

A. Sugars are moved from producing or exporting tissues to tissues that use or store them

B. Water always moves from leaves to roots only

C. Minerals move through chloroplasts

D. Carbon dioxide is transported in xylem

Answer: ☐A ☐B ☐C ☐D

13. A plant with adequate light but very low magnesium may have reduced photosynthesis because:

A. Magnesium is important in chlorophyll structure

B. Magnesium replaces carbon dioxide

C. Magnesium is the main sugar

D. Magnesium closes every stomata permanently

Answer: ☐A ☐B ☐C ☐D

14. Why can a plant grow faster in one environment than another even with the same species?

A. Light, water, nutrients, temperature, carbon dioxide and other conditions can alter limiting factors

B. Species identity determines every response completely

C. Plants do not respond to environment

D. Only soil colour matters

Answer: ☐A ☐B ☐C ☐D

15. Which statement best integrates plant nutrition and transport?

A. Roots acquire water/minerals, leaves capture carbon, and vascular tissues distribute materials needed for growth and metabolism

B. Leaves obtain all minerals directly from sunlight

C. Xylem makes glucose

D. Phloem transports only oxygen

Answer: ☐A ☐B ☐C ☐D

Section B — True / False

20 marks

16. Plants require carbon dioxide for photosynthesis.

A. True ☐

B. False ☐

17. Photosynthesis occurs only in roots.

A. True ☐

B. False ☐

18. Xylem is associated mainly with water and mineral transport.

A. True ☐

B. False ☐

19. Phloem can transport sugars away from leaves.

A. True ☐

B. False ☐

20. Transpiration is identical to photosynthesis.
A. True ☐ B. False ☐

21. Stomata regulate gas exchange and can influence water loss.
A. True ☐ B. False ☐

22. All mineral ions are required by plants in exactly the same quantities.
A. True ☐ B. False ☐

23. Increasing light intensity always increases photosynthesis without limit.
A. True ☐ B. False ☐

24. Water loss from leaves can contribute to upward water movement through xylem.
A. True ☐ B. False ☐

25. A plant's growth depends only on photosynthesis and not on mineral nutrition.
A. True ☐ B. False ☐

Intermediate · 2 pts

Intermediate · 2 pts

Intermediate · 2 pts

Intermediate · 2 pts

Intermediate · 2 pts

Intermediate · 2 pts

Section C — Fill in the Blank

20 marks

26. The green pigment that absorbs light for photosynthesis is _____.
Answer: _____

27. The openings that regulate gas exchange in leaves are called _____.
Answer: _____

28. The vascular tissue that transports water and mineral ions is _____.
Answer: _____

29. The vascular tissue that transports sugars is _____.
Answer: _____

30. Loss of water vapour from leaves is called _____.
Answer: _____

31. Plants use carbon dioxide and water to produce organic molecules during _____.
Answer: _____

32. The tissue containing many chloroplasts beneath the upper epidermis is the _____ mesophyll.
Answer: _____

33. Tiny extensions of root epidermal cells that increase absorption surface area are root _____.
Answer: _____

34. Movement of sugars through phloem from sources to sinks is called _____.
Answer: _____

35. A mineral element required in relatively large amounts is a _____ nutrient.
Answer: _____

Basic · 2 pts

Basic · 2 pts

Basic · 2 pts

Basic · 2 pts

Intermediate · 2 pts

Intermediate · 2 pts

Intermediate · 2 pts

Intermediate · 2 pts

Intermediate · 2 pts

Intermediate · 2 pts

Section D — Column Matching

10 marks

36-40. Match each term to its correct definition.

Column A	Answer	Column B
Stomata	_____	A. Water and mineral transport
Xylem	_____	B. Assimilate transport
Phloem	_____	C. Light-absorbing pigment
Chlorophyll	_____	D. Water vapour loss
Transpiration	_____	E. Regulate leaf gas exchange

Section E — Short Answer

20 marks

41. Explain how stomata create a trade-off between carbon dioxide uptake and water conservation.

Advanced · 4 pts

42. Describe the path of water from soil to the site of photosynthesis.

Advanced · 4 pts

43. Why can mineral deficiency reduce photosynthesis even when light and carbon dioxide are adequate?

Advanced · 4 pts

44. Explain why xylem and phloem are functionally different transport systems.

Advanced · 4 pts

45. A greenhouse has strong light but photosynthesis stops increasing above a certain light level. Give a biological explanation.

Advanced · 4 pts

Candidate Signature: _____ **Invigilator Signature:** _____

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Marks Obtained: _____ / 100

Checked By: _____

Result / Grade: _____

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Biology Comprehensive Practice Test 6 — Answer Key

Teacher reference: equivalent grammatically correct wording is acceptable for open-ended items when the meaning is preserved.

Section A — Multiple Choice

1. A

2. A

3. A

4. A

5. A

6. A

7. A

8. A
9. A

10. A

11. A

12. A

13. A

14. A

15. A

Section B — True / False

16. False

17. True

18. False

19. False

20. True
21. False

22. True

23. True

24. False

25. True

Section C — Fill in the Blank

26. chlorophyll

27. stomata

28. xylem

29. phloem

30. transpiration
31. photosynthesis

32. palisade

33. hairs

34. translocation

35. macro

Section D — Column Matching

36. Stomata — E

37. Xylem — A

38. Phloem — B
39. Chlorophyll — C

40. Transpiration — D

Section E — Short Answer (Model Answers)

41. link; stomatal; opening; diffusion; photosynthesis

42. root; uptake; movement; through; tissues

43. mineral; roles; chlorophyll; enzymes; electron

44. compare; transported; materials; directionality; patterns

45. identify; another; limiting; factor; such