

MockTest 8

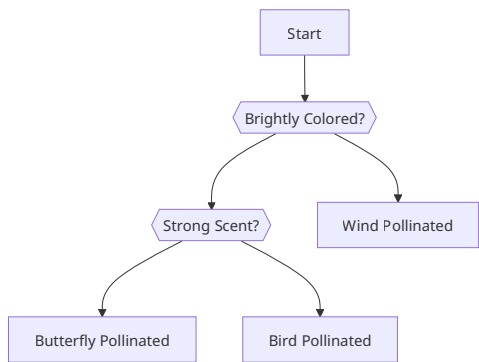
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Question 1

Farmer Ravi uses a sprinkler system to water his large wheat field. The sprinklers spray water high into the air like rain. Which of these is a good thing about using sprinklers?

- ☐ A Sprinklers use less water than other ways.
- ☐ B Sprinklers help water reach all plants evenly.
- ☐ C Sprinklers work best when it's very windy.
- ☐ D Sprinklers make the soil dry faster.

Question 2



Using the flowchart, which flower is most likely pollinated by butterflies?

- ☐ A A small, green flower with no scent
- ☐ B A red flower with a strong sweet smell
- ☐ C A white flower with no scent
- ☐ D A yellow flower with a faint smell

Question 3

A group of students conducted an experiment where they placed two identical potted plants in separate boxes. Box A had small holes to allow sunlight, water, and air to enter, while Box B was completely sealed. After a week, the plant in Box A remained healthy, but the plant in Box B wilted and turned yellow.

Based on this scenario, what can you infer about the plant in Box B?

- ☐ A The plant in Box B did not receive enough sunlight to perform photosynthesis.
- ☐ B The plant in Box B lacked one or more essential inputs required for photosynthesis.
- ☐ C The plant in Box B was infected by a disease that caused it to wilt.
- ☐ D The plant in Box B was genetically weaker than the plant in Box A.

Question 4

Which of these is the 'odd one out' when thinking about the role of chlorophyll in plants?

- ☐ A Absorbs sunlight
- ☐ B Gives leaves their green color
- ☐ C Helps plants make food (glucose)
- ☐ D Transports water from roots to leaves

Question 5

Decide if each statement about the role of water in plants is True (T) or False (F). Choose the option that shows the correct answers for all statements:

Statement 1: Water is only used by plants for photosynthesis.
Statement 2: Transpiration helps plants cool down and transport nutrients.

Statement 3: Plants can survive without water for long periods because they store it in their leaves.

Statement 4: Water helps maintain the structure of plant cells by keeping them rigid.

A 1-T, 2-T, 3-T, 4-T

B 1-F, 2-T, 3-F, 4-T

C 1-T, 2-F, 3-F, 4-F

D 1-F, 2-F, 3-T, 4-F

Question 6

A potted sunflower is placed in a dimly lit room for several weeks. Which of the following physiological changes is MOST likely to occur as a direct result of insufficient sunlight?

A Increased chlorophyll production to compensate for low light

B Enhanced rate of photorespiration due to excess oxygen buildup

C Reduced starch accumulation in leaves due to limited photosynthesis

D Accelerated root growth to seek alternative energy sources

Question 7

Scenario: A plant's root tip is growing through rough soil filled with small rocks and debris. The root cap plays a critical role in this process.

What is the MOST likely function of the root cap in this situation?

A It absorbs extra nutrients from the soil.

B It protects the delicate growing tip from damage.

C It helps the root grow faster by pushing through obstacles.

D It stores water for the plant to use later.

Question 8

Scenario: A mangrove tree grows in a swampy coastal area where the soil has very little oxygen. To survive, it develops special roots that grow above the water.

What is the MOST likely function of these aerial roots?

A To absorb more sunlight for photosynthesis

B To store excess water during high tides

C To take in oxygen from the air since the soil lacks it

D To attract pollinators with their unique shape

Question 9

Why do root hairs increase the efficiency of water absorption in plants?

A They store extra water for the plant to use later.

B They produce sugars that help pull water into the roots.

C They increase the surface area of the root for better absorption.

D They protect the roots from harmful bacteria in the soil.

Question 10

A seed with one seed leaf is called a _____.

☐ A monocot

☐ B dicot

☐ C fruit

☐ D root

Question 11

A seed with two seed leaves is called a _____ seed.

☐ A monocot

☐ B dicot

☐ C tiny

☐ D flower

Question 12

A student cuts open a bean seed and sees three parts: a tiny plant (embryo), a food storage (cotyledon), and a hard outer covering (seed coat). Which part protects the seed from drying out?

☐ A The tiny plant (embryo)

☐ B The food storage (cotyledon)

☐ C The hard outer covering (seed coat)

☐ D None of the parts protect the seed

Question 13

A student places two seeds near a tree: Seed F has a sweet fruit around it, and Seed G is dry and plain. A bird comes and eats one of the seeds. Which seed is MOST likely to be eaten by the bird?

☐ A Seed F because birds like sweet fruits.

☐ B Seed G because birds prefer dry seeds.

☐ C Neither seed because birds don't eat seeds.

☐ D Both seeds equally because birds eat all seeds.

Question 14

Which of these aquatic plants is the 'odd one out' based on their growth habit in water?

☐ A Water Lily

☐ B Duckweed

☐ C Elodea

☐ D Lotus

Question 15

Why do many desert plants have thick, waxy stems?

☐ A To attract pollinators with their shiny appearance

☐ B To store extra food for the plant during droughts

☐ C To help the plant float in flash floods

☐ D To prevent water loss and protect against the hot sun

Question 16

Decide if each statement about adaptations in aquatic plants is True (T) or False (F). Choose the option that shows the correct answers for all statements:

Statement 1: Some aquatic plants have flexible stems to withstand water currents.

Statement 2: Underwater leaves of aquatic plants are often broad and flat to capture more sunlight.

Statement 3: Saltwater plants store excess salt in special glands to survive in salty environments.

Statement 4: All aquatic plants reproduce only by producing seeds.

A 1-T, 2-F, 3-T, 4-F

B 1-T, 2-T, 3-T, 4-T

C 1-F, 2-F, 3-F, 4-F

D 1-F, 2-T, 3-F, 4-T

Question 17

Scenario: A Venus flytrap catches and digests an insect.

What is the MOST likely reason the Venus flytrap evolved this ability?

A To attract pollinators like bees and butterflies.

B To supplement its nutrient intake in poor soil conditions.

C To protect itself from being eaten by larger animals.

D To produce more oxygen through photosynthesis.

Question 18

Scenario: In a temperate forest, deciduous trees shed their leaves in autumn, while evergreen trees retain their leaves year-round. A student observes that the evergreen trees in this forest have needle-like leaves.

Based on this observation, what can you infer about the evergreen trees in this forest?

A They are likely coniferous trees adapted to cold winters.

B They are younger than the deciduous trees in the forest.

C They require more sunlight than deciduous trees to survive.

D They shed their needles every few years like deciduous trees shed leaves.

Question 19

Which part of a leaf is primarily responsible for capturing sunlight for photosynthesis?

A Petiole

B Lamina (blade)

C Veins

D Stipules

Question 20

Which type of aquatic plant is most likely to have roots anchored in the sediment but leaves that float on the water's surface?

A Floating plants

B Fixed plants

C Underwater plants

D None of the above

Question 21

Decide if each statement about Insectivorous and Parasitic Plants is True (T) or False (F). Choose the option that shows the correct answers for all statements:

Statement 1: Insectivorous plants only grow in nutrient-rich soil.
Statement 2: Parasitic plants harm their host plants by stealing nutrients.
Statement 3: Venus flytraps use sticky traps to catch insects.
Statement 4: Mistletoe is an example of a parasitic plant.

☐ A 1-T, 2-T, 3-T, 4-T

☐ B 1-F, 2-T, 3-F, 4-T

☐ C 1-T, 2-F, 3-T, 4-F

☐ D 1-F, 2-F, 3-F, 4-F

Question 22

Complete the sentences below by choosing the best set of words.

Statement 1: _____ plants like the Venus flytrap trap insects to obtain nutrients such as _____ because they grow in nutrient-poor soil.

Statement 2: _____ plants, such as dodder, lack chlorophyll and rely on _____ from host plants for survival.

☐ A Carnivorous, Nitrogen, Parasitic, Water

☐ B Insectivorous, Phosphorus, Symbiotic, Sugars

☐ C Insectivorous, Nitrogen, Parasitic, Sugars

☐ D Carnivorous, Oxygen, Parasitic, Sunlight

Question 23

Which of the following statements about stomata is TRUE?

☐ A They are found only on the upper surface of leaves

☐ B They allow carbon dioxide to enter the leaf

☐ C They are responsible for water absorption

☐ D None of the above

Question 24

Which of these is NOT a staple food crop in India?

☐ A Millets

☐ B Sugarcane

☐ C Maize

☐ D None of the above

Question 25

Which of the following crops is known as the 'Golden Fiber' of India?

☐ A Cotton

☐ B Jute

☐ C Tea

☐ D None of the above

Question 26

Which of the following crops is best suited for growing in areas with very little water in India?

☐ A Rice

☐ B Millets (like Bajra)

☐ C Sugarcane

☐ D Banana

Question 27

What is the primary purpose of a threshing machine in Indian agriculture?

- ☐ A To cut crops
- ☐ B To separate grains from stalks
- ☐ C To plant seeds
- ☐ D All of the above

Question 28

Scenario: A farmer in India decides to grow mustard (an oilseed crop) in a field where wheat was previously cultivated. The farmer does not rotate the crops and continues to grow mustard in the same field for several years.

What is the MOST likely effect of not rotating the mustard crop with other plants?

- ☐ A The soil will become richer in nutrients, increasing mustard yield.
- ☐ B Pests and diseases that target mustard will build up in the soil.
- ☐ C The mustard plants will grow taller and produce more seeds.
- ☐ D The field will require less water over time.

Question 29

Which of the following is the correct sequence of steps in the process of plowing a field in traditional Indian agriculture?

- ☐ A Sowing seeds → Plowing → Leveling the soil
- ☐ B Plowing → Leveling the soil → Sowing seeds
- ☐ C Leveling the soil → Plowing → Sowing seeds
- ☐ D None of the above

Question 30

Which of the following crops is primarily grown during the Rabi season in India?

- ☐ A Rice
- ☐ B Wheat
- ☐ C Cotton
- ☐ D Sugarcane

Answers - MockTest 8

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Question 1

- B** Sprinklers help water reach all plants evenly.

Explanation:

The correct answer is that sprinklers help water reach all plants evenly. This is because the water sprays over a wide area like rain, covering the whole field. The other options are not correct: sprinklers often use more water than drip systems, wind can blow the water away making them work poorly, and they don't make soil dry faster - that would be bad for plants!

Question 2

- B** A red flower with a strong sweet smell

Explanation:

Let's trace the flowchart:

1. **Brightly Colored?** - Yes (red flower) → Proceed to 'Strong Scent?'.
2. **Strong Scent?** - Yes (sweet smell) → **Butterfly Pollinated**.

Other options:

- Small green flower: Not brightly colored → **Wind Pollinated**.
- White flower: No scent → Likely **Bird Pollinated** (if bright) or **Wind Pollinated** (if dull).
- Yellow flower: Faint smell → Likely **Bird Pollinated** (butterflies prefer strong scents).

Question 3

- B** The plant in Box B lacked one or more essential inputs required for photosynthesis.

Explanation:

The plant in Box B wilted because it was sealed, meaning it likely lacked sunlight, water, or carbon dioxide—essential inputs for photosynthesis. The plant in Box A remained healthy because it had access to these inputs. While sunlight is one factor, the scenario does not isolate it as the sole cause, so the broader inference (lack of essential inputs) is more accurate. Disease or genetic weakness are not supported by the given information.

Question 4

- D** Transports water from roots to leaves

Explanation:

Chlorophyll absorbs sunlight, gives leaves their green color, and helps plants make food through photosynthesis. Transporting water from roots to leaves is the job of the xylem, not chlorophyll, making it the odd one out.

Question 5

- B** 1-F, 2-T, 3-F, 4-T

Explanation:

Statement 1 is False: Water is used for photosynthesis, but also for nutrient transport, cooling (transpiration), and maintaining cell structure.

Statement 2 is True: Transpiration releases water vapor, cooling the plant and creating a pull for nutrient uptake.

Statement 3 is False: Most plants cannot survive long without water; only some desert plants have adaptations for extreme water storage.

Statement 4 is True: Water pressure (turgor) keeps plant cells rigid, supporting the plant's structure.

Question 6

- C** Reduced starch accumulation in leaves due to limited photosynthesis

Explanation:

Insufficient sunlight directly limits photosynthesis, the process by which plants produce glucose (and subsequently starch) using light energy. Without adequate light, the Calvin cycle cannot fix enough carbon, leading to reduced starch storage. Chlorophyll production typically decreases (not increases) in low light, photorespiration is unrelated to light scarcity, and root growth slows due to energy deprivation (plants cannot 'seek' energy like animals).

Question 7

- B** It protects the delicate growing tip from damage.

Explanation:

The root cap is a protective layer at the tip of the root. Its primary function is to shield the delicate meristem (growing region) from damage as the root pushes through soil, rocks, or other obstacles. The other options describe functions of other root structures (e.g., root hairs absorb nutrients, the root itself grows, and vacuoles store water), not the root cap.

Question 8

- C** To take in oxygen from the air since the soil lacks it

Explanation:

Mangroves grow in waterlogged, oxygen-poor soil. Their aerial roots (pneumatophores) grow upward to absorb oxygen directly from the air, which is their primary function. The other options are incorrect because aerial roots do not primarily absorb sunlight, store water (they help with gas exchange), or attract pollinators.

Question 9

- C** They increase the surface area of the root for better absorption.

Explanation:

Option c is correct. Root hairs are tiny extensions of root cells that greatly increase the surface area, allowing the plant to absorb more water and nutrients.

Option a is incorrect; root hairs do not store water—they absorb it.

Option b is incorrect; sugars are produced in leaves, not root hairs, and water absorption relies on osmosis, not sugar production.

Option d is incorrect; while root hairs may interact with soil microbes, their primary function is absorption, not protection.

Question 10

- A** monocot

Explanation:

A seed with one seed leaf is called a monocot. This is a basic classification term in botany.

Question 11

- B** dicot

Explanation:

A seed with two seed leaves (cotyledons) is called a 'dicot' seed. This is a basic classification in seed types.

Question 12

- C** The hard outer covering (seed coat)

Explanation:

The seed coat is the hard outer layer of the seed. Its main job is to protect the embryo and cotyledon inside from drying out or getting damaged.

Question 13

- A** Seed F because birds like sweet fruits.

Explanation:

Birds are attracted to sweet fruits because they provide energy. Seed F has a sweet fruit, so the bird is more likely to eat it and help disperse the seed later.

Question 14

- C** Elodea

Explanation:

Water Lily, Duckweed, and Lotus are all plants that have leaves floating on the water surface (Water Lily and Lotus are fixed with roots underwater, while Duckweed floats freely). Elodea is fully submerged underwater and does not have leaves on the surface, making it the odd one out.

Question 15

- D** To prevent water loss and protect against the hot sun

Explanation:

Option d is correct. Thick, waxy stems help desert plants retain water by reducing evaporation and provide protection from intense sunlight.

Option a is incorrect; while some plants attract pollinators, waxiness is not primarily for this purpose.

Option b is incorrect; stems store water, not food (food is made in leaves via photosynthesis).

Option c is incorrect; desert plants are adapted to dry conditions, not flooding.

Question 16

- A** 1-T, 2-F, 3-T, 4-F

Explanation:

Statement 1 is True: Flexible stems help aquatic plants survive in moving water.

Statement 2 is False: Underwater leaves are usually thin and ribbon-like to reduce resistance, not broad and flat.

Statement 3 is True: Saltwater plants like mangroves have salt glands to excrete excess salt.

Statement 4 is False: Aquatic plants can reproduce through seeds, spores, or vegetative propagation (e.g., runners).

Question 17

- B** To supplement its nutrient intake in poor soil conditions.

Explanation:

Venus flytraps grow in nutrient-poor soils, so they evolved to trap and digest insects to obtain essential nutrients like nitrogen and phosphorus. The other options are incorrect: they do not attract pollinators (they rely on other mechanisms), their trapping is not for defense, and photosynthesis is unrelated to their carnivorous adaptation.

Question 18

- A** They are likely coniferous trees adapted to cold winters.

Explanation:

The observation states that the evergreen trees have needle-like leaves, which is a key characteristic of coniferous trees. Conifers are typically evergreen and adapted to cold or harsh climates, as their needles reduce water loss and withstand snow. The correct inference is that these trees are coniferous. The other options are incorrect: age is unrelated to leaf type, conifers often tolerate shade, and needles are not shed seasonally like deciduous leaves.

Question 19

- B** Lamina (blade)

Explanation:

The lamina, or blade, is the broad, flat part of the leaf that contains chlorophyll and is specialized for capturing sunlight to perform photosynthesis. The petiole is the stalk that attaches the leaf to the stem, veins transport water and nutrients, and stipules are small leaf-like appendages at the base of the petiole, none of which are primarily responsible for photosynthesis.

Question 20

- B** Fixed plants

Explanation:

Fixed aquatic plants, such as water lilies, have roots anchored in the sediment while their leaves float on the water's surface to access sunlight. Floating plants (option a) are not rooted, and underwater plants (option c) remain entirely submerged. 'None of the above' (option d) is incorrect because option b is definitively correct.

Question 21

- B** 1-F, 2-T, 3-F, 4-T

Explanation:

Statement 1 is False: Insectivorous plants typically grow in nutrient-poor soil and rely on insects for nutrients.

Statement 2 is True: Parasitic plants absorb nutrients from their host plants, often harming them.

Statement 3 is False: Venus flytraps use snap traps, not sticky traps, to catch insects.

Statement 4 is True: Mistletoe is a well-known parasitic plant that grows on trees.

Question 22

C Insectivorous, Nitrogen, Parasitic, Sugars

Explanation:

Option c is correct because:

- Statement 1: 'Insectivorous' plants (e.g., Venus flytrap) trap insects to supplement 'Nitrogen' in nutrient-poor soils.
- Statement 2: 'Parasitic' plants (e.g., dodder) steal 'Sugars' from hosts since they lack chlorophyll for photosynthesis.

Incorrect options:

- Option a: 'Carnivorous' is less precise than 'Insectivorous' (though sometimes used interchangeably), and 'Water' is not the primary nutrient stolen by parasitic plants.
- Option b: 'Phosphorus' is not the main nutrient insectivorous plants seek from insects, and 'Symbiotic' implies mutual benefit, unlike parasitism.
- Option d: 'Oxygen' is not obtained from insects, and parasitic plants do not rely on 'Sunlight' (they lack chlorophyll).

Question 23

B They allow carbon dioxide to enter the leaf

Explanation:

Stomata are tiny pores typically found on the underside of leaves (though some aquatic plants have them on the upper surface). Their primary role is to allow carbon dioxide to enter for photosynthesis while also enabling oxygen and water vapor to exit. They are not involved in water absorption (roots handle this). Thus, the correct answer is 'They allow carbon dioxide to enter the leaf.'

Question 24

B Sugarcane

Explanation:

Millets and maize are staple food crops widely consumed in India. Sugarcane, however, is primarily a cash crop used for sugar production, not a staple food. Thus, 'Sugarcane' is the correct answer.

Question 25

B Jute

Explanation:

Jute is referred to as the 'Golden Fiber' due to its shiny, golden-brown color and economic importance in India. Cotton and tea, while significant, do not hold this nickname.

Question 26

B Millets (like Bajra)

Explanation:

Option b is correct. Millets like Bajra are drought-tolerant crops that require very little water compared to rice, sugarcane, or bananas.

Option a is incorrect; rice needs a lot of water and is typically grown in flooded fields.

Option c is incorrect; sugarcane is a water-intensive crop.

Option d is incorrect; bananas require consistent moisture and are not suited for dry regions.

Question 27

B To separate grains from stalks

Explanation:

A threshing machine is specifically designed to separate grains (like wheat or rice) from their stalks after harvesting. It does not cut crops (done by sickles or combine harvesters) or plant seeds. Thus, the correct answer is 'To separate grains from stalks.'

Question 28

B Pests and diseases that target mustard will build up in the soil.

Explanation:

Crop rotation helps prevent the buildup of pests and diseases specific to one crop. By growing mustard continuously in the same field, pests and diseases that target mustard will thrive and reduce crop health. The other options are incorrect: soil nutrients deplete without rotation, plant growth is hindered by pests, and water requirements do not decrease.

Question 29

B Plowing → Leveling the soil → Sowing seeds

Explanation:

The correct sequence is Plowing → Leveling the soil → Sowing seeds. Plowing loosens the soil, leveling ensures even distribution, and sowing is the final step. 'None of the above' is incorrect because option b is definitively correct.

Question 30

B Wheat

Explanation:

Option b (Wheat) is correct because Rabi crops are sown in winter (October–December) and harvested in spring (March–April). Wheat is a major Rabi crop in India.

Option a (Rice) is incorrect because rice is a Kharif crop, grown during the monsoon season.

Option c (Cotton) is incorrect because cotton is also a Kharif crop.

Option d (Sugarcane) is incorrect because sugarcane is grown year-round but is not specifically a Rabi crop.