

MockTest 7

Fuuvix

Question 1

In a village, Farmer Meena waters her tomato plants using small tubes that drop water slowly near each plant's roots. Her neighbor, Farmer Arun, waters his cornfield with pipes that spray water all over the plants like rain.

Which of these is most likely true about Farmer Meena's way of watering?

☒ A It helps save water because it gives water only where the plant needs it.

☐ B It is faster than spraying water high in the air.

☐ C It works best for very tall plants like trees.

☐ D It makes the leaves of the plants very wet.

Question 2

A flower is white, opens only at night, and has a strong fruity smell. Which pollinator is it MOST LIKELY adapted for?

☒ A Bees

☐ B Bats

☐ C Butterflies

☐ D Wind

Question 3

Photosynthesis primarily occurs in the _____ of plant cells, where chlorophyll captures sunlight.

☒ A mitochondria

☐ B nucleus

☐ C chloroplasts

☐ D cell wall

Question 4

Evaluate each statement about the role of sunlight in plant processes as True (T) or False (F). Choose the option that correctly identifies all statements:

Statement 1: Sunlight is only used by plants to make their leaves green.

Statement 2: Without sunlight, plants cannot produce glucose through photosynthesis.

Statement 3: Sunlight helps plants grow taller by directly pushing their stems upward.

Statement 4: Plants use sunlight to convert carbon dioxide and water into oxygen and energy.

☒ 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 5

During nighttime, plants primarily take in which gas as part of their respiratory process?

☒ A Carbon dioxide

☐ B Oxygen

☐ C Nitrogen

☐ D Methane

Question 6

Scenario: A plant with storage roots is moved from a nutrient-rich environment to a nutrient-poor one.

What is the MOST likely effect on the plant's storage roots?

- ☐ A The roots will shrink and store less nutrients.
- ☐ B The roots will expand to store more nutrients for survival.
- ☐ C The roots will turn green and start photosynthesis.
- ☐ D The roots will grow above ground to absorb sunlight.

Question 7

Scenario: A plant's roots are damaged due to overwatering, causing them to rot and lose their ability to absorb water effectively.

What is the MOST likely effect of damaged roots on the plant?

- ☐ A The plant will grow taller to reach more sunlight.
- ☐ B The plant will produce more flowers to attract pollinators.
- ☐ C The plant will wilt and struggle to take up nutrients and water.
- ☐ D The plant's leaves will turn blue due to lack of oxygen.

Question 8

Scenario: A student carefully observes the roots of a dandelion plant and notices they are long, thick, and grow straight down into the soil.

What is the MOST likely function of this type of root system?

- ☐ A To spread seeds over a wide area.
- ☐ B To anchor the plant firmly and reach deep water sources.
- ☐ C To absorb sunlight for photosynthesis.
- ☐ D To store large amounts of food for animals.

Question 9

Scenario: A carrot plant's storage root is damaged by insects, causing significant loss of stored nutrients.

What is the MOST likely effect on the plant?

- ☐ A The plant will grow taller to escape the insects.
- ☐ B The plant will produce more flowers to attract pollinators.
- ☐ C The plant will struggle to survive due to lack of energy reserves.
- ☐ D The plant's leaves will turn blue to deter pests.

Question 10

A scientist observes two plants: Plant A has long, deep roots, while Plant B has short, wide-spreading roots. Both plants are found in different environments. Based on root adaptations, which environment is Plant A MOST likely adapted to?

- ☐ A A dry desert with little rainfall
- ☐ B A swamp with constant waterlogging
- ☐ C A rainforest with frequent heavy rains
- ☐ D A tundra with frozen soil

Question 11

Which of the following is NOT a plant part commonly used for vegetative reproduction?

- ☐ A Tuber
- ☐ B Bulb
- ☐ C Leaf
- ☐ D Petal

Question 12

Which of the following is NOT a plant that reproduces vegetatively through spores?

- ☐ A Fern
- ☐ B Moss
- ☐ C Potato
- ☐ D Mushroom

Question 13

Seeds need water, air, and _____ to start growing.

- ☐ A sunlight
- ☐ B soil
- ☐ C warmth
- ☐ D wind

Question 14

Seeds that float on water often have a special outer layer that helps them stay _____.

- ☐ A dry
- ☐ B heavy
- ☐ C afloat
- ☐ D sticky

Question 15

A student places two seeds on a table. Seed 1 has its seed coat removed. Seed 2 keeps its seed coat. Both seeds are left in a dry room for a week. What will MOST likely happen to the seeds?

- ☐ A Seed 1 will dry out, but Seed 2 will stay healthy.
- ☐ B Both seeds will dry out and not grow.
- ☐ C Both seeds will stay healthy and grow.
- ☐ D Seed 2 will dry out, but Seed 1 will stay healthy.

Question 16

Which of these shows the correct order of how a monocot seed (like corn) grows into a plant?

- ☐ A
 1. Seed absorbs water
 2. Single leaf emerges
 3. Roots grow down
- ☐ B
 1. Roots grow down
 2. Seed absorbs water
 3. Single leaf emerges
- ☐ C
 1. Single leaf emerges
 2. Roots grow down
 3. Seed absorbs water
- ☐ D
 1. Seed absorbs water
 2. Roots grow down
 3. Two leaves emerge

Question 17

Scenario: A seed falls onto a hard rock instead of soft soil.

What is the MOST likely reason the seed might not grow?

- ☐ A The seed coat is too thick.
- ☐ B The rock does not give the seed water or nutrients.
- ☐ C The seed will grow faster on the rock.
- ☐ D The seed coat will break too soon.

Question 18

Scenario: A seed is planted in the soil and begins to grow. Inside the seed, there is a special part called the cotyledon.

What is the MOST important job of the cotyledon when the seed starts to grow?

- A It helps the seed float in water.
- B It gives the seed its color.
- C It provides food for the baby plant.
- D It makes the seed smell nice.

Question 19

Which of these trees is the 'odd one out' based on their leaf characteristics?

- A Oak
- B Maple
- C Pine
- D Birch

Question 20

Characteristic	P	Q
Root Structure	Single, thick	Thin, branching
Depth in Soil	Deep	Shallow
Example Plant	Carrot	Grass

Study the given table and select the option that correctly identifies P and Q.

- A P: Taproot, Q: Fibrous Root
- B P: Fibrous Root, Q: Taproot
- C P: Aerial Root, Q: Storage Root
- D P: Storage Root, Q: Aerial Root

Question 21

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

Statement 1: Desert plants often have a waxy _____ on their surface to prevent water loss.

Statement 2: Some desert plants open their _____ only at night to avoid daytime heat and reduce evaporation.

Statement 3: The roots of desert plants are usually _____ to quickly absorb water during rare rainfalls.

- A cuticle, stomata, shallow
- B bark, flowers, deep
- C cuticle, stomata, widespread
- D spines, leaves, short

Question 22

Scenario: A farmer decides to plant a field with only one type of crop, such as corn, year after year without rotating crops.

What is the MOST likely effect of planting the same crop in the same field repeatedly?

- A The soil will become richer in nutrients over time.
- B The crop yield will increase each year due to specialized soil conditions.
- C The soil will lose specific nutrients, leading to poorer crop growth.
- D The field will attract a greater variety of beneficial insects.

Question 23

Fungi obtain nutrients by breaking down dead organic matter, making them _____.

- A parasites
- B producers
- C saprophytes
- D predators

Question 24

Aquatic plants like water lilies have _____ leaves to help them float on the water's surface.

- ☐ A waxy
- ☐ B broad and flat
- ☐ C needle-like
- ☐ D hairy

Question 25

What triggers the Venus flytrap to close its trap?

- ☐ A Touch stimuli on its trigger hairs
- ☐ B Changes in sunlight intensity
- ☐ C Rainwater accumulation
- ☐ D All of the above

Question 26

Which of the following crops requires the most water to grow successfully in India?

- ☐ A Wheat
- ☐ B Rice
- ☐ C Millet
- ☐ D Barley

Question 27

Scenario: In a region of India with heavy monsoon rains, farmers primarily grow rice and sugarcane. During a drought year, these crops fail, but farmers who grew millet and sorghum still had a successful harvest.

Based on this scenario, what can you infer about rice and sugarcane compared to millet and sorghum?

- ☐ A Rice and sugarcane require more water to grow than millet and sorghum.
- ☐ B Rice and sugarcane are more resistant to pests than millet and sorghum.
- ☐ C Millet and sorghum are more profitable crops than rice and sugarcane.
- ☐ D Rice and sugarcane grow faster than millet and sorghum.

Question 28

Scenario: A farmer in India plows a field but does not break up the large clumps of soil properly before planting seeds.

What is the MOST likely effect of leaving large soil clumps unbroken during plowing?

- ☐ A Seeds will germinate faster due to better air circulation.
- ☐ B Plant roots will struggle to penetrate the hard soil clumps.
- ☐ C The field will retain more water, preventing drought.
- ☐ D Weeds will grow less because of the uneven surface.

Question 29

Which of the following methods is commonly used in India to prevent insect damage during grain storage?

- ☐ A Spraying chemical pesticides on the grains
- ☐ B Storing grains in airtight containers
- ☐ C Adding neem leaves to the storage bins
- ☐ D None of the above

Question 30

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

Statement 1: Grains are stored in airtight containers to prevent pests.

Statement 2: Sun-drying grains before storage helps remove excess moisture.

Statement 3: Storing grains in damp places keeps them fresh for longer.

Statement 4: Neem leaves are sometimes used in grain storage to repel insects.

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

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

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

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

Answers - MockTest 7

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Question 1

- A** It helps save water because it gives water only where the plant needs it.

Explanation:

Farmer Meena is using drip irrigation, which delivers water directly to the roots of plants. This method saves water because it reduces waste (no water is lost to evaporation or runoff). The other options are incorrect: drip irrigation is not necessarily faster, it is not designed for tall trees (it's ideal for crops like tomatoes), and it avoids wetting leaves (unlike sprinklers).

Question 2

- B** Bats

Explanation:

Option b is correct. Bats are nocturnal pollinators attracted to white flowers (visible in moonlight) and fruity smells.

Option a is incorrect; bees are active during the day and prefer bright colors like yellow/blue.

Option c is incorrect; butterflies visit daytime flowers with landing platforms, not night-blooming ones.

Option d is incorrect; wind-pollinated flowers lack scent and are usually small/green, not showy.

Question 3

- C** chloroplasts

Explanation:

Photosynthesis takes place in the chloroplasts, which contain the green pigment chlorophyll. This is where light energy is converted into chemical energy.

Question 4

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

Explanation:

Statement 1 is False: Sunlight is not just for making leaves green; it powers photosynthesis.

Statement 2 is True: Photosynthesis requires sunlight to produce glucose.

Statement 3 is False: Sunlight doesn't physically push stems; growth is driven by cell division and elongation.

Statement 4 is True: Plants use sunlight to convert CO₂ and H₂O into oxygen and glucose (energy).

Question 5

- B** Oxygen

Explanation:

At night, plants undergo cellular respiration, where they break down stored sugars to release energy. This process requires oxygen, which is taken in from the surrounding air, similar to animal respiration. During the day, plants also perform photosynthesis, absorbing carbon dioxide and releasing oxygen, but respiration continues alongside it.

Question 6

- B** The roots will expand to store more nutrients for survival.

Explanation:

Storage roots adapt to their environment by storing nutrients. In a nutrient-poor environment, the plant will prioritize storing more nutrients in its roots to survive, causing them to expand. The other options are not logical adaptations for storage roots in this scenario.

Question 7

- C** The plant will wilt and struggle to take up nutrients and water.

Explanation:

Roots are essential for absorbing water and nutrients from the soil. If they are damaged, the plant cannot uptake these resources effectively, leading to wilting and nutrient deficiency. The other options are unrelated to root damage or biologically implausible (e.g., leaves turning blue).

Question 8

- B** To anchor the plant firmly and reach deep water sources.

Explanation:

The described root system is a taproot, which is long and thick to anchor the plant deeply in the soil and access water far below the surface. Spreading seeds, absorbing sunlight, and storing food for animals are not functions of roots. The correct answer reflects the primary purpose of taproots.

Question 9

- C** The plant will struggle to survive due to lack of energy reserves.

Explanation:

Storage roots, like those of carrots, hold nutrients and energy reserves for the plant. If these are damaged, the plant loses its stored energy, making survival difficult. The other options are unrelated to the function of storage roots or are biologically implausible (e.g., leaves turning blue).

Question 10

- A** A dry desert with little rainfall

Explanation:

Long, deep roots help plants reach water far below the surface, which is crucial in dry environments like deserts where water is scarce. Swamps (B) and rainforests (C) have abundant surface water, so deep roots are unnecessary. Frozen tundra soil (D) makes deep root growth difficult.

Question 11

- D** Petal

Explanation:

Tubers (e.g., potatoes), bulbs (e.g., onions), and leaves (e.g., Bryophyllum) are all plant parts that can be used for vegetative reproduction, where new plants grow from these structures. Petals, however, are part of the flower and are not involved in vegetative reproduction; they play a role in attracting pollinators for sexual reproduction. Thus, 'Petal' is the correct answer as it does not belong to the category of plant parts used for vegetative reproduction.

Question 12

- C** Potato

Explanation:

Ferns, mosses, and mushrooms are all examples of organisms that reproduce vegetatively through spores. Potatoes, however, reproduce vegetatively through tubers (modified stems), not spores. Therefore, 'Potato' is the correct answer as it does not belong to the group of plants that reproduce through spores.

Question 13

- C** warmth

Explanation:

Seeds require warmth (the right temperature) along with water and air to begin germination. Sunlight, soil, and wind are not essential for the initial sprouting process.

Question 14

- C** afloat

Explanation:

Seeds dispersed by water often have a lightweight or air-filled outer layer to help them float on the water's surface. This allows them to travel to new places.

Question 15

- A** Seed 1 will dry out, but Seed 2 will stay healthy.

Explanation:

The seed coat protects the embryo inside from drying out. Seed 1, without its seed coat, will lose water and dry out. Seed 2, with its seed coat intact, will stay protected and healthy.

Question 16

- A**
1. Seed absorbs water
 2. Single leaf emerges
 3. Roots grow down

Explanation:

Monocot seeds (like corn) grow in this order: first, the seed absorbs water (1), then a single leaf emerges (2), and finally roots grow down (3). The other options mix up the steps or incorrectly show two leaves (dicots have two).

Question 17

- B** The rock does not give the seed water or nutrients.

Explanation:

Seeds need water and nutrients from soil to grow. A hard rock cannot provide these things, so the seed will likely not grow. The other options are incorrect because the seed coat's thickness or breaking time does not depend on the surface, and seeds do not grow faster on rocks.

Question 18

- C** It provides food for the baby plant.

Explanation:

The cotyledon is like a lunchbox for the baby plant inside the seed. When the seed starts to grow, the cotyledon gives the baby plant the food it needs until it can make its own food using sunlight. The other options are not jobs of the cotyledon.

Question 19

- C** Pine

Explanation:

Oak, Maple, and Birch are deciduous trees that shed their broad, flat leaves seasonally. Pine is a coniferous tree with needle-like leaves that remain green year-round, making it the odd one out.

Question 20

- A** P: Taproot, Q: Fibrous Root

Explanation:

Based on the table:

P: Single, thick root (Taproot), deep in soil, example: Carrot.

Q: Thin, branching roots (Fibrous Root), shallow in soil, example: Grass.

Option 'a' correctly matches Taproot to P and Fibrous Root to Q. The other options either swap P and Q or incorrectly identify them as unrelated root types (Aerial/Storage).

Question 21

- C** cuticle, stomata, widespread

Explanation:

Option c is the correct answer because:

- Statement 1: The 'cuticle' is a waxy layer on desert plants that helps prevent water loss.
- Statement 2: 'Stomata' are tiny openings on leaves that some desert plants only open at night to conserve water.
- Statement 3: 'Widespread' roots allow desert plants to quickly absorb water over a large area when it rains.

Other options are incorrect because:

- Option a is incorrect because while 'cuticle' and 'stomata' are correct, 'shallow' roots are not typical for water absorption in deserts—roots are usually widespread or deep.
- Option b is incorrect because 'bark' is not a waxy layer, 'flowers' do not open/close to regulate water, and 'deep' roots are only partially correct (they are not the primary adaptation for quick water absorption).
- Option d is incorrect because 'spines' are not waxy, 'leaves' do not open/close (stomata do), and 'short' roots are not adaptive for water absorption.

Question 22

- C** The soil will lose specific nutrients, leading to poorer crop growth.

Explanation:

Planting the same crop repeatedly depletes the soil of specific nutrients that the crop uses most, leading to poorer growth over time. Crop rotation is often used to prevent this by alternating crops that use different nutrients. The other options are incorrect because monocropping typically reduces soil fertility, does not increase yield long-term, and often decreases biodiversity, including beneficial insects.

Question 23

- C** saprophytes

Explanation:

Fungi that feed on dead organic matter are called saprophytes. This is a key mode of nutrition for fungi, distinguishing them from parasites (which live on living hosts) or producers (like plants).

Question 24

- B** broad and flat

Explanation:

Aquatic plants such as water lilies have broad and flat leaves to maximize surface area, allowing them to float more easily. This adaptation helps them absorb sunlight efficiently for photosynthesis.

Question 25

- A** Touch stimuli on its trigger hairs

Explanation:

The Venus flytrap closes when its sensitive trigger hairs are touched multiple times (a). Sunlight (b) and rainwater (c) do not trigger this response, making 'All of the above' incorrect.

Question 26

- B** Rice

Explanation:

Option b (Rice) is correct because it is a water-intensive crop typically grown in flooded fields called paddies.

Option a (Wheat) is incorrect as it requires less water compared to rice and is grown in drier conditions.

Option c (Millet) is incorrect because millet is a drought-resistant crop that thrives with minimal water.

Option d (Barley) is incorrect as it also requires less water and is often grown in semi-arid regions.

Question 27

- A** Rice and sugarcane require more water to grow than millet and sorghum.

Explanation:

The scenario states that rice and sugarcane failed during a drought, while millet and sorghum succeeded. This implies that rice and sugarcane depend heavily on water (monsoon rains), whereas millet and sorghum are drought-resistant. The correct inference is that rice and sugarcane require more water. The other options are unrelated to the given information about water dependency.

Question 28

- B** Plant roots will struggle to penetrate the hard soil clumps.

Explanation:

Plowing breaks up soil to create a fine, loose texture for seeds to establish roots. Large, unbroken clumps make it difficult for young roots to penetrate and access nutrients, stunting growth. The other options are incorrect: air circulation is not improved by clumps, water retention is not the primary issue, and weeds are not deterred by uneven soil.

Question 29

- C** Adding neem leaves to the storage bins

Explanation:

In India, neem leaves are traditionally added to grain storage bins because they act as a natural insect repellent. Chemical pesticides (option a) are sometimes used but are not as common or traditional as neem leaves. Airtight containers (option b) help but do not specifically prevent insect damage. Therefore, 'Adding neem leaves to the storage bins' is the most accurate answer.

Question 30

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

Explanation:

Statement 1 is True: Airtight containers block pests like insects and rodents.

Statement 2 is True: Sun-drying reduces moisture, preventing mold growth.

Statement 3 is False: Dampness causes spoilage and fungal growth.

Statement 4 is True: Neem leaves act as a natural insect repellent.