

# MockTest 5

Fuuvix

## Question 1

Ravi sees his grandfather separating rice grains from the husks. First, he beats the rice plants to loosen the grains. Then, he tosses the mixture into the air to let the wind blow away the husks.

Which step is called winnowing?

- ☐ A Beating the rice plants to loosen the grains
- ☐ B Tossing the mixture into the air to remove husks
- ☐ C Planting the rice seeds in the field
- ☐ D Watering the rice plants

## Question 2

Which statement about flowers and pollinators is TRUE?

- ☐ A All flowers smell sweet to attract bees
- ☐ B Butterflies like flowers with flat landing pads
- ☐ C Wind-pollinated flowers are always colorful
- ☐ D Bats pollinate flowers that bloom at noon

## Question 3

Which of the following is the primary purpose of photosynthesis in plants?

- ☐ A To absorb water from the soil
- ☐ B To produce oxygen for animals to breathe
- ☐ C To create food (sugar) for the plant
- ☐ D To attract pollinators with colorful flowers

## Question 4

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

Statement 1: Sunlight is used by plants to make their own food through photosynthesis.

Statement 2: Plants can grow just as well in complete darkness as they can in sunlight.

Statement 3: Chlorophyll in plant leaves absorbs sunlight to help with photosynthesis.

Statement 4: Without sunlight, plants would not be able to produce oxygen.

☐ A 1-T, 2-T, 3-T, 4-T

☐ B 1-T, 2-F, 3-T, 4-T

☐ C 1-F, 2-F, 3-F, 4-F

☐ D 1-T, 2-T, 3-F, 4-F

## Question 5

Scenario: A student observes that a wilted plant perks up after being watered. The student also notices that the plant's leaves appear shinier and more rigid after watering.

Based on this observation, what can you infer about the role of water in the plant's health?

☐ A Water helps the plant absorb more sunlight for photosynthesis.

☐ B Water provides structural support to the plant's cells, keeping leaves firm.

☐ C Water acts as a nutrient, directly feeding the plant like fertilizer.

☐ D Water cools the plant down, preventing it from overheating.

### Question 6

During the day, plants primarily exchange gases through specialized structures called stomata. Which of the following best describes the role of stomata in gas exchange during photosynthesis?

- ☐ A Stomata allow oxygen to enter and carbon dioxide to exit the leaf.
- ☐ B Stomata allow carbon dioxide to enter and oxygen to exit the leaf.
- ☐ C Stomata release water vapor but do not participate in gas exchange.
- ☐ D Stomata close during the day to prevent water loss, halting gas exchange.

### Question 7

Scenario: A scientist observes that a plant has long, deep roots that spread widely underground. The leaves of the plant are also thick and waxy.

What is the MOST likely environment where this plant grows?

- ☐ A A rainy tropical rainforest
- ☐ B A dry desert with little rainfall
- ☐ C A cold tundra with frozen soil
- ☐ D A flooded marshland

### Question 8

A scientist conducts an experiment to study how different amounts of water affect the growth of storage roots in carrots. She plants carrot seeds in three separate pots labeled A, B, and C. Pot A receives 50 mL of water daily, Pot B receives 100 mL of water daily, and Pot C receives 150 mL of water daily. All pots receive the same amount of sunlight and are kept at the same temperature. After 8 weeks, she measures the mass of the storage roots in each pot. What is the MOST likely outcome of this experiment?

- ☐ A Pot A will have the largest storage roots because less water prevents rotting.
- ☐ B Pot B will have the largest storage roots because moderate water supports optimal growth.
- ☐ C Pot C will have the largest storage roots because more water always leads to bigger roots.
- ☐ D All pots will have storage roots of the same size because water does not affect root growth.

### Question 9

When a seed starts to grow, the first part to come out of the seed is the \_\_\_\_\_.

- ☐ A leaf
- ☐ B root
- ☐ C flower
- ☐ D stem

### Question 10

A monocot seed has \_\_\_\_\_ seed leaf, while a dicot seed has two.

- ☐ A one
- ☐ B three
- ☐ C no
- ☐ D four

Question 11

A student has two seeds: Seed A has one thick part inside, and Seed B has two smaller parts inside. Which seed is MOST likely to grow into a plant with leaves that have net-like veins?

- ☐ A Seed A
- ☐ B Seed B
- ☐ C Both seeds
- ☐ D Neither seed

Question 12

Which of these is the 'odd one out' when thinking about plants used for making fabrics?

- ☐ A Cotton
- ☐ B Flax
- ☐ C Hemp
- ☐ D Bamboo

Question 13

Find the 'odd one out' in EACH group and choose the option that lists them correctly for Group 1 and Group 2.

**Group 1:** Water lily, Duckweed, Hydrilla, Lotus  
**Group 2:** Cattail, Seaweed, Water hyacinth, Elodea

- ☐ A Group 1: Hydrilla, Group 2: Cattail
- ☐ B Group 1: Duckweed, Group 2: Seaweed
- ☐ C Group 1: Lotus, Group 2: Water hyacinth
- ☐ D Group 1: Hydrilla, Group 2: Seaweed

Question 14

Which of these is NOT a characteristic of insectivorous plants?

- ☐ A They trap insects for nutrients
- ☐ B They grow in nutrient-poor soil
- ☐ C They rely solely on photosynthesis for energy
- ☐ D They have specialized structures like sticky hairs or pitfall traps

Question 15

| Characteristic      | P   | Q   |
|---------------------|-----|-----|
| Grows Above Ground? | Yes | No  |
| Stores Nutrients?   | No  | Yes |
| Found in Mangroves? | Yes | No  |

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

- ☐ A P: Carrot, Q: Banyan Tree Roots
- ☐ B P: Sweet Potato, Q: Orchid Roots
- ☐ C P: Mangrove Pneumatophores, Q: Radish
- ☐ D P: Corn Prop Roots, Q: Beetroot

### Question 16

Scenario: A deciduous tree in a temperate forest begins to experience shorter daylight hours and cooler temperatures in autumn.

What is the MOST likely effect of these environmental changes on the tree?

- ☐ A The tree will produce more flowers to attract pollinators.
- ☐ B The tree will shed its leaves to conserve water and energy.
- ☐ C The tree will grow thicker bark to protect against heat.
- ☐ D The tree will increase its rate of photosynthesis.

### Question 17

A scientist places two aquatic plants in separate tanks. Tank A has freshwater, and Tank B has saltwater. Both tanks receive the same amount of sunlight and nutrients. After two weeks, the scientist observes that the plant in Tank A is healthy, while the plant in Tank B has wilted. What is the MOST likely explanation for this result?

- ☐ A The plant in Tank B is adapted to freshwater, not saltwater.
- ☐ B The plant in Tank A needs more sunlight than the plant in Tank B.
- ☐ C The plant in Tank B grew faster and used up all the nutrients.
- ☐ D Both plants are equally adapted to saltwater and freshwater.

### Question 18

The part of the plant that stores food and is commonly eaten as a vegetable, such as in carrots or beets, is the \_\_\_\_\_.

- ☐ A leaf
- ☐ B stem
- ☐ C root
- ☐ D flower

### Question 19

Scenario: A Venus flytrap has sticky hairs on its leaves and snaps shut when an insect touches them. After trapping the insect, the plant secretes digestive enzymes to break it down.

What can you infer about the Venus flytrap's habitat based on this behavior?

- ☐ A It grows in nutrient-rich soil where insects are abundant.
- ☐ B It likely grows in soil lacking essential nutrients like nitrogen.
- ☐ C It relies solely on photosynthesis for all its nutritional needs.
- ☐ D It prefers shaded environments with no direct sunlight.

### Question 20

Which of the following plants is primarily used for making paper?

- ☐ A Bamboo
- ☐ B Eucalyptus
- ☐ C Sunflower
- ☐ D None of the above

### Question 21

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

Statement 1: \_\_\_\_\_ are plants like wheat, rice, and corn that are grown for their edible seeds and are a major food source for humans.

Statement 2: The \_\_\_\_\_ tree is often used to make furniture and paper because of its strong and flexible wood.

Statement 3: Aloe vera is a \_\_\_\_\_ plant known for its soothing gel, which is used to treat burns and skin irritations.

- ☐ A Legumes, Oak, Decorative
- ☐ B Grains, Pine, Medicinal
- ☐ C Vegetables, Maple, Poisonous
- ☐ D Fruits, Birch, Carnivorous

### Question 22

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

Statement 1: \_\_\_\_\_ is a leafy green vegetable commonly grown in India, rich in iron and often used in salads.

Statement 2: \_\_\_\_\_ is a root vegetable, usually orange in color, and is a good source of vitamin A.

Statement 3: \_\_\_\_\_ is a tropical vegetable, often used in curries, and has a bumpy green skin.

**A** Spinach, Potato, Bitter Gourd

**B** Lettuce, Carrot, Okra

**C** Spinach, Carrot, Bitter Gourd

**D** Cabbage, Radish, Pumpkin

### Question 23

Which of these crops is typically grown in the Rabi season?

**A** Rice

**B** Barley

**C** Groundnut

**D** All of the above

### Question 24

Why is leveling the soil important after plowing?

**A** To prevent waterlogging in uneven areas

**B** To ensure uniform seed distribution and growth

**C** Both a and b

**D** None of the above

### Question 25

What is the primary purpose of plowing a field before planting crops?

**A** To remove weeds and pests

**B** To loosen the soil for better root growth

**C** To add nutrients to the soil

**D** All of the above

### Question 26

Scenario: In a village in India, farmers use a winnowing basket to separate wheat grains from chaff. They toss the mixture into the air on a windy day, and the lighter chaff blows away while the heavier grains fall back into the basket.

What can you infer about the principle behind winnowing?

**A** Winnowing relies on the difference in weight between grains and chaff.

**B** Winnowing requires electricity to function properly.

**C** Winnowing is only effective for wheat and not other crops.

**D** Winnowing removes all impurities, including small stones and dirt.

### Question 27

Scenario: A farmer in northern India decides to grow wheat during the summer season (April to June) instead of the usual winter season (November to March).

What is the MOST likely effect of planting wheat in the summer season?

**A** The wheat plants will grow faster due to higher temperatures.

**B** The wheat yield will be lower because it requires cooler temperatures to thrive.

**C** The wheat will produce more grains due to longer daylight hours.

**D** The wheat will require less water because of the rainy season.

#### Question 28

Which of the following pairs correctly matches a crop with its primary growing season in India?

**A** Soybean - Rabi

**B** Barley - Kharif

**C** Pulses - Zaid

**D** None of the above

#### Question 29

Scenario: A botanist observes that certain plants, like the Bryophyllum, can grow new plants from the edges of their leaves when the leaves fall onto moist soil. In contrast, ferns reproduce by releasing spores from the undersides of their fronds.

Which of the following is a valid inference about vegetative reproduction in these plants?

**A** Leaf-based reproduction is faster than spore-based reproduction because it skips the germination stage.

**B** Spore-based reproduction is more energy-efficient for the parent plant than leaf-based reproduction.

**C** Both methods require pollination to produce new plants.

**D** Leaf-based reproduction can only occur in tropical climates.

#### Question 30

Which of the following is NOT a characteristic feature of Rabi crops?

**A** Require warm weather for growth

**B** Sown in winter

**C** Harvested in spring

**D** None of the above

# Answers - MockTest 5

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## Question 1

- B** Tossing the mixture into the air to remove husks

### Explanation:

Winnowing is the process of tossing the mixture of grains and husks into the air so the wind can blow away the lighter husks. Beating the plants to loosen the grains is called threshing, while planting and watering are farming steps unrelated to grain separation.

## Question 2

- B** Butterflies like flowers with flat landing pads

### Explanation:

Butterflies need flat places to land while feeding. Not all flowers smell sweet, wind-pollinated flowers are usually plain, and bats visit night-blooming flowers.

## Question 3

- C** To create food (sugar) for the plant

### Explanation:

Option c is correct because the primary purpose of photosynthesis is to produce glucose (food) for the plant. Oxygen is a byproduct, not the main goal (Option b). Water absorption (Option a) occurs through roots, not photosynthesis. Pollinator attraction (Option d) is a function of flowers, not photosynthesis.

## Question 4

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

### Explanation:

Statement 1 is True: Plants use sunlight to make food (glucose) during photosynthesis.

Statement 2 is False: Plants cannot grow well in complete darkness; they need sunlight for energy.

Statement 3 is True: Chlorophyll absorbs sunlight, which is essential for photosynthesis.

Statement 4 is True: Oxygen is a byproduct of photosynthesis, which requires sunlight.

## Question 5

- B** Water provides structural support to the plant's cells, keeping leaves firm.

### Explanation:

The observation that the plant perks up and its leaves become rigid after watering suggests water's role in maintaining *turgor pressure*—the pressure of water inside plant cells that keeps them firm. This is a direct structural function of water. While water is involved in photosynthesis and cooling, these are not the primary explanations for the immediate rigidity observed. Water is not a nutrient like fertilizer.

## Question 6

- B** Stomata allow carbon dioxide to enter and oxygen to exit the leaf.

### Explanation:

During photosynthesis, stomata open to allow carbon dioxide (CO<sub>2</sub>) to enter the leaf, which is essential for the Calvin cycle. Oxygen (O<sub>2</sub>), a byproduct of photosynthesis, exits through the stomata. While stomata do release water vapor (transpiration), their primary role in gas exchange is facilitating CO<sub>2</sub> uptake and O<sub>2</sub> release. Stomata typically open during the day to support photosynthesis and close at night to conserve water.

## Question 7

- B** A dry desert with little rainfall

### Explanation:

Long, deep roots help plants reach water far underground, and thick, waxy leaves reduce water loss. These adaptations are typical of desert plants, where water is scarce. Rainforests, tundras, and marshlands have abundant water, so plants there don't need these adaptations.

Question 8

- B** Pot B will have the largest storage roots because moderate water supports optimal growth.

**Explanation:**

Storage roots like carrots grow best with moderate water (Pot B). Too little water (Pot A) limits growth, while too much (Pot C) can cause rot or poor nutrient uptake. The experiment controls sunlight and temperature, making water the key variable.

Question 9

- B** root

**Explanation:**

The first part to emerge from a germinating seed is the root. This anchors the plant and begins absorbing water and nutrients from the soil.

Question 10

- A** one

**Explanation:**

Monocot seeds have one seed leaf (cotyledon), while dicot seeds have two. This is a key difference between the two types of seeds.

Question 11

- B** Seed B

**Explanation:**

Seed B has two smaller parts inside, which means it is a dicot seed. Dicot seeds usually grow into plants with leaves that have net-like veins. Seed A has one thick part, which means it is a monocot seed, and monocots usually have leaves with parallel veins.

Question 12

- D** Bamboo

**Explanation:**

Cotton, flax, and hemp are all plants traditionally used to make fabrics (cotton for soft textiles, flax for linen, and hemp for durable cloth). Bamboo, while sometimes processed into fabric, is primarily known for its use in construction, furniture, and as a food source, making it the odd one out in this group.

Question 13

- D** Group 1: Hydrilla, Group 2: Seaweed

**Explanation:**

In Group 1, 'Hydrilla' is the odd one out because Water lily, Duckweed, and Lotus are all floating or fixed aquatic plants (with leaves on the surface), while Hydrilla is a fully submerged underwater plant.

In Group 2, 'Seaweed' is the odd one out because Cattail, Water hyacinth, and Elodea are freshwater aquatic plants, while seaweed is a marine (saltwater) plant.

Question 14

- C** They rely solely on photosynthesis for energy

**Explanation:**

Insectivorous plants trap insects for nutrients (especially nitrogen) and grow in nutrient-poor soil, often developing specialized structures like sticky hairs or pitfall traps. However, they do not rely solely on photosynthesis—they supplement their nutrient intake by digesting insects. Thus, the correct answer is the option stating they rely solely on photosynthesis.

Question 15

- C** P: Mangrove Pneumatophores, Q: Radish

**Explanation:**

Based on the table:

P: Grows Above Ground (Yes), Stores Nutrients (No), Found in Mangroves (Yes) - characteristics of Mangrove Pneumatophores (aerial roots for oxygen uptake, not nutrient storage).

Q: Grows Above Ground (No), Stores Nutrients (Yes), Found in Mangroves (No) - characteristics of Radish (a storage root that grows underground).

Option 'c' correctly matches Mangrove Pneumatophores to P and Radish to Q. The other options misidentify the roots based on the table's characteristics.

#### Question 16

- B** The tree will shed its leaves to conserve water and energy.

##### Explanation:

Deciduous trees respond to shorter daylight hours and cooler temperatures in autumn by shedding their leaves. This adaptation helps them conserve water and energy during the winter when resources are scarce. The other options are not logical responses to autumn conditions; flowering occurs in spring, bark thickening is a long-term adaptation, and photosynthesis decreases due to reduced sunlight.

#### Question 17

- A** The plant in Tank B is adapted to freshwater, not saltwater.

##### Explanation:

Aquatic plants have specific adaptations for their environments. Freshwater plants cannot tolerate high salt concentrations, which disrupt their water balance and cause wilting. The plant in Tank B likely lacks saltwater adaptations, while the plant in Tank A thrives in its preferred freshwater conditions.

#### Question 18

- C** root

##### Explanation:

Carrots and beets are examples of roots that store food for the plant and are consumed by humans. Roots are specialized for nutrient storage and absorption.

#### Question 19

- B** It likely grows in soil lacking essential nutrients like nitrogen.

##### Explanation:

The Venus flytrap's ability to trap and digest insects suggests it supplements its nutrient intake from the soil. This adaptation is common in plants growing in nutrient-poor soils (e.g., bogs or sandy areas), where nitrogen and other minerals are scarce. The inference is that the plant's habitat lacks essential nutrients, forcing it to derive them from insects. The other options are incorrect: nutrient-rich soil would make trapping unnecessary; photosynthesis alone doesn't provide nitrogen; and sunlight preference isn't linked to trapping behavior.

#### Question 20

- B** Eucalyptus

##### Explanation:

Eucalyptus trees are widely used in the paper industry due to their fast growth and high cellulose content, which is essential for paper production. Bamboo is also used, but it is less common compared to eucalyptus. Sunflowers are not used for making paper. Therefore, the correct answer is 'Eucalyptus'.

#### Question 21

- B** Grains, Pine, Medicinal

##### Explanation:

Option b is the correct answer because:

- Statement 1: 'Grains' like wheat, rice, and corn are indeed major food crops grown for their edible seeds.
- Statement 2: 'Pine' trees are commonly used for wood in furniture and paper production due to their sturdy and workable wood.
- Statement 3: Aloe vera is a 'Medicinal' plant, widely recognized for its healing gel.

Other options are incorrect because:

- Option a is incorrect because 'Legumes' (e.g., beans, peas) are not the primary grains; 'Oak' is used for furniture but is less common for paper; 'Decorative' does not describe aloe vera's primary use.
- Option c is incorrect because 'Vegetables' are not seed crops like grains; 'Maple' is used for syrup, not typically paper; 'Poisonous' is factually wrong for aloe vera.
- Option d is incorrect because 'Fruits' are not the same as grain crops; 'Birch' wood is less common for paper; 'Carnivorous' is irrelevant to aloe vera.

#### Question 22

**C** Spinach, Carrot, Bitter Gourd

##### Explanation:

Option c is the correct answer because:

- Statement 1: 'Spinach' is a leafy green vegetable rich in iron and commonly used in salads in India.
- Statement 2: 'Carrot' is a root vegetable, typically orange, and a great source of vitamin A.
- Statement 3: 'Bitter Gourd' is a tropical vegetable with bumpy green skin, often used in Indian curries.

Other options are incorrect because:

- Option a is incorrect because 'Potato' is not orange nor a significant source of vitamin A, and 'Bitter Gourd' is correct for statement 3 but the other terms don't fit.
- Option b is incorrect because 'Lettuce' is less commonly grown in India compared to spinach, and 'Okra' does not have bumpy green skin like bitter gourd.
- Option d is incorrect because 'Cabbage' is not as iron-rich as spinach, and 'Radish' is not orange nor a primary source of vitamin A.

#### Question 23

**B** Barley

##### Explanation:

The Rabi season (winter) includes crops like barley, wheat, and mustard. Rice and groundnut are Kharif crops. Therefore, 'Barley' is the correct answer.

#### Question 24

**C** Both a and b

##### Explanation:

Leveling prevents waterlogging (a) and ensures even seed distribution (b), making 'Both a and b' correct. 'None of the above' is incorrect because both a and b are valid reasons.

#### Question 25

**B** To loosen the soil for better root growth

##### Explanation:

The primary purpose of plowing is to loosen the soil, which facilitates better root penetration and growth. While plowing may incidentally remove weeds or mix in nutrients, these are secondary effects, not the primary purpose. Thus, 'All of the above' is incorrect.

#### Question 26

**A** Winnowing relies on the difference in weight between grains and chaff.

##### Explanation:

The scenario describes winnowing as a process where lighter chaff is blown away by wind while heavier grains fall back. This clearly shows that winnowing works based on the *difference in weight* between the two components. The other options are incorrect: winnowing does not require electricity, can be used for other crops (like rice or millet), and does not remove dense impurities like stones.

#### Question 27

**B** The wheat yield will be lower because it requires cooler temperatures to thrive.

##### Explanation:

Wheat is a winter crop in India and requires cooler temperatures for optimal growth. Planting it in the summer season (April to June) exposes it to excessive heat, which stresses the plants and reduces yield. The other options are incorrect because wheat does not grow faster in heat, longer daylight does not compensate for temperature stress, and summer is not the rainy season in northern India.

#### Question 28

**D** None of the above

##### Explanation:

Soybean is a Kharif crop, barley is Rabi, and pulses are mostly Rabi or Kharif—not Zaid (short summer season). Since all options are mismatched, 'None of the above' is correct.

#### Question 29

**A** Leaf-based reproduction is faster than spore-based reproduction because it skips the germination stage.

##### Explanation:

The scenario describes two methods of vegetative reproduction: leaf-based (Bryophyllum) and spore-based (ferns). A valid inference is that leaf-based reproduction skips the germination stage (required for spores), making it faster. The other options are incorrect: spore-based reproduction is not necessarily more energy-efficient (no evidence provided), neither method requires pollination (asexual reproduction), and leaf-based reproduction is not limited to tropical climates (Bryophyllum can grow in various conditions).

### Question 30

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**A** Require warm weather for growth

#### Explanation:

Rabi crops thrive in cool weather and are sown in winter, not warm weather. Options b and c describe true features of Rabi crops, so 'Require warm weather for growth' is the correct answer to this negative question.