TEACHING TASK (page 32 -34)

Multiple Choice Questions

1) What type of root consists of a main, thick root from which small roots grow?

Answer: B) Taproot *Explanation*: A taproot is a single, thick primary root with smaller lateral roots branching off, as seen in plants like carrots.

2) Which type of root consists of many thin roots that appear bushy?

Answer: B) Fibrous root *Explanation*: Fibrous roots form a dense, bushy network of thin roots, common in grasses.

3) What do some roots store for the plant?

Answer: B) Food *Explanation*: Some roots, like those of carrots and beets, store food (carbohydrates) for the plant's use.

4) Which function is NOT performed by roots?

Answer: C) Producing flowers *Explanation*: Roots anchor the plant, absorb water and minerals, and store food, but flower production occurs in the shoot system.

5) What do roots absorb from the soil?

Answer: B) Water and minerals *Explanation*: Roots absorb water and essential minerals from the soil to support plant growth.

6) What kind of stems do trees typically have?

Answer: C) Thick and strong *Explanation*: Trees have thick, strong, woody stems (trunks) to support their height and weight.

7) What do creepers need to grow upwards?

Answer: B) Support *Explanation*: Creepers, like money plants, have weak stems and require external support (e.g., a trellis) to grow upward.

8) Which of the following is NOT a function of the stem?

Answer: D) Absorbs water and minerals from the soil *Explanation*: Stems support the plant, transport water/minerals and food, but absorption occurs in roots.

9) Which type of plants are described as having weak, soft, and thin stems?

Answer: D) Herbs *Explanation*: Herbs, like mint, have soft, weak, and thin stems, unlike trees or shrubs.

Advanced Level

More than One Answer Type

10) Which of the following plants have taproots?

Answer: A) Tomato, C) Brinjal *Explanation*: Tomato and brinjal (eggplant) have taproots, while wheat and onion have fibrous roots.

11) Which functions are performed by the stem in a plant?

Answer: A) Supporting the upper parts of a plant, B) Carrying water and minerals from the roots to other parts of the plant, C) Carrying food made in the leaves to other parts of the plant *Explanation*: Stems provide structural support, transport water and minerals upward via xylem, and distribute food via phloem. Absorbing nutrients from the soil is a root function.

Fill In the Blanks

12) Plants such as grass, wheat have _____ roots.

Answer: Fibrous *Explanation*: Grass and wheat have fibrous roots, characterized by many thin roots forming a dense network.

13) The stem carries water and minerals from the _____ to the other parts of the plant.

Answer: Roots *Explanation*: Stems transport water and minerals absorbed by the roots to the leaves and other parts.

Matching Type:

14) 1. Tomato - A. Fibrous root

2. Wheat - F. Many thin roots

3. Onion - C. Stores food

4. Carrot - B. Taproot

5. Brinjal - D. Does not store food

6. Grass - A. Fibrous root

Answer the Following Questions

15) Explain about roots and its types

Answer: Roots are plant structures, typically underground, that anchor the plant, absorb water and minerals, and sometimes store food. The main types of roots are:

Taproot: A single, thick main root with smaller lateral roots (e.g., carrots, radish). It grows deep into the soil.

Fibrous root: A network of many thin, bushy roots that spread out near the soil surface (e.g., grass, wheat).

Adventitious root: Roots that grow from non-root parts, like stems or leaves (e.g., ivy, banyan tree prop roots).

Aerial root: Roots exposed to air, often for support or moisture absorption (e.g., orchids). Each type supports the plant's survival in different environments.

16) Explain about the functions of stem

Answer: The stem is the main structural part of the plant's shoot system, with several key functions:

Support: It holds leaves, flowers, and fruits upright for sunlight and pollination.

Transport: It carries water and minerals from roots to leaves via xylem and distributes food (sugars) from leaves to other parts via phloem.

Storage: Some stems (e.g., potato tubers) store food for the plant.

Growth: Stems enable vertical growth and branching, increasing the plant's access to sunlight. In some plants, stems may also perform photosynthesis (e.g., cacti).

LEARNER'S TASK (Page 34 – 35)

Multiple Choice Questions

1) What is the part of the plant that usually grows below the ground?

Answer: C) Root *Explanation*: Roots typically grow underground to anchor the plant and absorb water and minerals.

2) Which plant has a taproot?

Answer: C) Tomato *Explanation*: Tomato has a taproot, while grass, wheat, and onion have fibrous roots.

3) Which plant has fibrous roots?

Answer: D) Onion *Explanation*: Onion has fibrous roots, unlike carrot, brinjal, and capsicum, which have taproots.

4) Which of these roots can be eaten by human beings?

Answer: C) Radish *Explanation*: Radish is an edible taproot, while grass and wheat roots are not consumed, and capsicum is a fruit.

5) Which of these plants does NOT have a taproot?

Answer: D) Wheat *Explanation*: Wheat has fibrous roots, while brinjal, tomato, and turnip have taproots.

6) What is the main part of the shoot?

Answer: C) Stem *Explanation*: The stem is the main structural component of the shoot system, supporting leaves, flowers, and fruits.

7) Why do trees have thick and strong stems?

Answer: A) To hold the tree straight and upright *Explanation*: Thick, strong stems (trunks) provide structural support to keep trees upright.

8) Which of these plants is an example of a creeper?

Answer: D) Sweet pea *Explanation*: Sweet pea is a creeper with weak stems that climbs with support, unlike potato, sugarcane, or banana.

9) Which of the following stems can be eaten by humans?

Answer: D) Banana *Explanation*: Banana stems are edible in some cuisines, while potato, sweet pea, and money plant stems are not typically eaten.

Advanced Level

More than One Answer Type

10) Which of the following functions are performed by roots?

Answer: A) Holding a plant erect, C) Absorbing water and minerals, D) Storing food *Explanation*: Roots anchor the plant, absorb water and minerals, and store food in some plants (e.g., carrots). Producing flowers and photosynthesis are not root functions.

11) Which of the following statements are true about strong stems?

Answer: A) They are thick and strong, B) They hold the tree straight and upright, D) They store extra food prepared by the plant *Explanation*: Strong stems (e.g., tree trunks) are thick, provide support, and can store food (e.g., in woody tissue). They do not need support to grow upward, unlike creepers.

Fill In the Blanks

12) _____ roots consist of a main, thick root from which small roots grow

Answer: Taproot *Explanation*: Taproots have a single, thick main root with smaller lateral roots.

13) Some plants, like the money plant, have very weak, soft, and thin stems. These plants are called _____.

Answer: Creepers *Explanation*: Money plants are creepers, characterized by weak, soft stems that require support to grow upward.

Matching Type

14) 1) Banana - c. soft and thick stem

2) Money plant - d. Weak, soft, and thin stem

3) Tree trunk - a. Thick and strong.

4) Sugarcane - b. Stores food and can be eaten

5) Function of the stem - e. Carries water and minerals

Answer the Following Questions

15) Explain about stem

Answer: The stem is the main above-ground part of a plant's shoot system, providing structural support and facilitating transport. It holds leaves, flowers, and fruits in position for sunlight and pollination. Stems vary in type: trees have thick, woody stems; herbs have soft, thin stems; and creepers have weak stems needing support. Some stems, like potato tubers, store food, while others, like cacti, perform photosynthesis.

16) Explain about the functions of roots *Answer*: Roots perform essential functions for plant survival:

Anchoring: They hold the plant firmly in the soil, providing stability.

Absorption: Roots absorb water and minerals from the soil for plant growth.

Storage: Some roots (e.g., carrots, beets) store food for the plant.

Support: In some plants, roots like prop roots provide additional support (e.g., banyan tree). Roots are critical for nutrient uptake and structural stability.

TEACHING TASK (Page 39)

Multiple Choice Questions

1) What gives the green color to most leaves?

Answer: A) Chlorophyll *Explanation*: Chlorophyll is the pigment responsible for the green color in leaves and enables photosynthesis.

2) What is the main function of a leaf?

Answer: D) Making food for the plant *Explanation*: Leaves primarily produce food via photosynthesis, using sunlight, water, and carbon dioxide.

3) What is the process by which a leaf makes food in the presence of sunlight?

Answer: C) Photosynthesis *Explanation*: Photosynthesis is the process where leaves convert sunlight, water, and carbon dioxide into glucose and oxygen.

4) Through which structure does a plant breathe in air?

Answer: C) Stomata *Explanation*: Stomata are tiny pores on leaves that allow gas exchange, including the intake of carbon dioxide and release of oxygen.

5) What do most fruits contain inside them?

Answer: C) Seeds *Explanation*: Most fruits contain seeds, which are essential for plant reproduction.

6) Which fruit has many seeds inside it?

Answer: C) Papaya *Explanation*: Papaya contains many seeds, unlike bananas (seedless varieties), oranges, or watermelons, which have fewer seeds.

7) What happens when a seed gets air, water, and sunlight?

Answer: B) It grows *Explanation*: Seeds require air, water, and sunlight (after sprouting) to germinate and grow into a plant.

8) What does each seed contain inside it?

Answer: B) Food *Explanation*: Seeds contain stored food (e.g., endosperm) to nourish the embryo during early growth.

9) Which of the following are examples of edible seeds?

Answer: B) Wheat and barley *Explanation*: Wheat and barley seeds are edible grains, unlike apples, bananas, roses, or rocks.

Advanced Level

More than One Answer Type

10) What is the primary function of veins in a leaf? Answer: B) Structural support, C) Nutrient transport *Explanation*: Leaf veins provide structural support to maintain the leaf's shape and transport water, minerals, and food within the leaf. Water absorption and gas exchange occur via other structures (roots and stomata).

11) Which of the following statements about fruits are true?

Answer: A) Some fruits have only one seed, B) All fruits contain seeds, C) Bananas have seeds inside them *Explanation*: Some fruits (e.g., mango) have one seed, all fruits contain seeds (though some, like commercial bananas, have tiny, non-viable seeds), and bananas do have seeds in wild varieties. Oranges have seeds, so D is false.

Fill In the Blanks

12) The flat part of a leaf is called the leaf _____.

Answer: Blade *Explanation*: The leaf blade (or lamina) is the flat, broad part of the leaf where photosynthesis primarily occurs.

13) Most plants grow from their _____.

Answer: Seeds *Explanation*: Most plants begin their life cycle from seeds, which germinate into new plants.

Matching Type:

14) Based on the provided table, here are the matches for each phrase with its corresponding term:

1. most fruits contain - a. Seeds
2. seeds contain - c. Baby plant
3. What blooms into a flower - b. Bud

Answer the Following Questions

15) Explain about leaf and its function *Answer*: A leaf is a flat, green organ of the plant, typically attached to the stem, and is the primary site of photosynthesis. Its main functions include:

Photosynthesis: Leaves use chlorophyll to convert sunlight, water, and carbon dioxide into glucose and oxygen.

Gas exchange: Stomata on leaves allow the intake of carbon dioxide and release of oxygen.

Transpiration: Leaves release water vapor through stomata, regulating water balance.

Storage: Some leaves store water or nutrients (e.g., succulents). The leaf's structure, with a broad blade, veins, and stomata, supports these functions.

LEARNER'S TASK (Page 40 – 41)

Multiple Choice Questions

1) What is the smooth and darker upper part of a leaf called?

Answer: A) Leaf blade *Explanation*: The leaf blade is the flat, smooth, and typically darker upper surface where photosynthesis occurs.

2) What is the term used for the tiny pores on the underside of a leaf blade?

Answer: C) Stomata *Explanation*: Stomata are tiny pores on the leaf's underside for gas exchange and transpiration.

3) What do the veins in a leaf primarily provide?

Answer: C) Nutrient transport *Explanation*: Veins transport water, minerals, and sugars within the leaf, though they also provide structural support.

4) Which part of the leaf is rougher and lighter in color on the underside?

Answer: B) Leaf blade *Explanation*: The underside of the leaf blade is often rougher and lighter due to stomata and less chlorophyll.

5) What is the most beautiful part of a plant?

Answer: B) Flower *Explanation*: Flowers are often considered the most beautiful part due to their colors and role in reproduction.

6) Where does a flower bloom from?

Answer: C) Bud *Explanation*: Flowers develop from buds, which are immature structures on the stem.

7) How do most plants grow?

Answer: C) From seeds *Explanation*: Most plants grow from seeds, which germinate into seedlings and develop into mature plants.

8) What term is used to describe seeds like pulses, wheat, gram, and beans that we eat?

Answer: C) Edible seeds *Explanation*: Pulses, wheat, gram, and beans are edible seeds consumed as grains or legumes.

Advanced Level

More than One Answer Type

9) Which structures are found on the underside of a leaf blade?

Answer: A) Veins, C) Stomata, D) Cuticles *Explanation*: The underside of the leaf blade contains veins (for transport), stomata (for gas exchange), and a cuticle (a waxy layer for protection). Chloroplasts are inside leaf cells, not specifically on the underside.

10) Which of the following are examples of fruits that contain many seeds?

Answer: A) Papaya, B) Watermelon, C) Orange *Explanation*: Papaya, watermelon, and orange contain many seeds. Apples typically have fewer seeds.

Fill In the Blanks

11) The process by which a leaf makes food in the presence of sunlight is called _____.

Answer: Photosynthesis *Explanation*: Photosynthesis is the process where leaves produce food using sunlight, water, and carbon dioxide.

12) Each seed contains a baby plant inside it, protected by the outer part of the seed, which also stores _____ for the baby plant.

Answer: Food *Explanation*: Seeds contain stored food (e.g., endosperm) to support the embryo's growth during germination.

Matching Type

13) Based on the provided content, here are the correct matches:

1. Chlorophyll - c. Responsible for the green colour of leaves

2. Leaf blade - b. Flat part of the leaf

3. Veins - a. Provides structural support to the leaf

4. Stomata - e. Tiny pores on the underside of the leaf blade

5. Photosynthesis - d. Process by which a leaf makes food in the presence of sunlight

Answer the Following Questions

14) Explain about flower and its function *Answer*: A flower is the reproductive part of a plant, often colorful and fragrant to attract pollinators. Its functions include:

Reproduction: Flowers contain male (stamen) and female (pistil) parts to produce seeds via pollination and fertilization.

Attraction: Petals and nectar attract pollinators like bees and birds.

Seed production: After fertilization, flowers develop into fruits containing seeds. Flowers are essential for the continuation of plant species.

TEACHING TASK (Page 42)

Multiple Choice Questions

1) What does a seed absorb during germination?

Answer: C) Water *Explanation*: Seeds absorb water to initiate germination, softening the seed coat and activating growth.

2) What is the primary source of food for a seed during germination?

Answer: D) Stored nutrients in the seed *Explanation*: Seeds rely on stored nutrients (e.g., endosperm) for energy until the seedling can photosynthesize.

3) What softens the outer shell of the seed during absorption?

Answer: C) Water *Explanation*: Water softens the seed coat, allowing the embryo to break through during germination.

4) What emerges first from the seed during germination?

Answer: C) Roots *Explanation*: The root (radicle) emerges first to anchor the seedling and absorb water and nutrients.

5) What does the root of the plant search for in the soil?

Answer: C) Water and nutrients *Explanation*: Roots grow into the soil to absorb water and essential nutrients for plant growth.

6) What role do the leaves play in the plant's growth?

Answer: C) Breathing and photosynthesis *Explanation*: Leaves perform photosynthesis to produce food and facilitate gas exchange (breathing) via stomata.

7) What does the shoot of the plant eventually become?

Answer: D) Stem and leaves *Explanation*: The shoot develops into the stem and leaves, forming the above-ground part of the plant.

LEARNER'S TASK (Page 42 - 43)

Multiple Choice Questions

1) What is the first step in the process of germination?

Answer: A) Absorption *Explanation*: Germination begins with the seed absorbing water, which triggers growth.

2) Where does a seed get its energy during germination?

Answer: C) Nutrients *Explanation*: Seeds use stored nutrients (e.g., endosperm) for energy during germination.

3) What part of the plant grows upward toward the sunlight?

Answer: C) Shoots *Explanation*: The shoot (plumule) grows upward toward sunlight to develop into the stem and leaves.

4) What provides the energy for photosynthesis?

Answer: C) Sunlight *Explanation*: Sunlight is the primary energy source for photosynthesis, driving food production in leaves.

5) Which of the following is NOT a requirement for germination?

Answer: C) Soil *Explanation*: Seeds require water, air, and warmth for germination. Soil is helpful but not essential, as seeds can germinate in other media.

6) What is the main purpose of the seed's outer shell?

Answer: A) To protect the seed *Explanation*: The seed coat protects the embryo from damage and desiccation until germination.