CLASS NOTES-ANSWERS

I. Tick the correct options.

1. The baby plant inside the seeds is called the

a. seedling. ☐

✓ b. embryo. ☐

c. seed coat. ☐

d. carpel. ☐

2. Cotyledons store

✓ a. food. ☐

b. nectar. ☐

c. water. ☐

d. oil. ☐

3. The scattering of seeds is known as

a. seed growth. ☐

b. seed germination. ☐

c. seed movement. ☐

✓ d. seed dispersal. ☐

4. Seeds with hair are dispersed by

✓ a. wind. ☐

b. water. ☐

c. animals. ☐

d. explosion. ☐

5. The seeds of an apple can be dispersed by

a. explosion. ☐

✓ b. animals. ☐

c. water. ☐

d. wind. ☐

II. Change one word in each of the following statements and correct them. Write the correct sentences in your notebook.

1. Cotyledons protect the inner parts of a seed.

   Solution: Seed coat protect the inner parts of a seed.

2. During germination, the plumule emerges first.

   Solution: During germination, the radicle emerges first.

3. Warmth is one of the requirements for seed dispersal.

   Solution: Warmth is one of the requirements for seed germination.

4. Sprouts are actually germinating cotyledons.

   Solution: Sprouts are actually germinating seeds.

5. The Indian elm seeds have hair.

   Solution:

   a. The Indian elm seeds have wing-like structures.

   b. The dandelion seeds have hair.

III. Complete the analogy.

1. one cotyledon: ---------- :: two cotyledons: dicotyledons

   Solution: monocotyledon

2. ----------: grow downwards :: shoots: grow upwards

Solution: roots

3. air, water and warmth: seeds :: air, water, warmth and sunlight: ----------

Solution: seedlings

4. milkweed: seeds with hair :: coconut: ----------

Solution: thick, fibrous, waterproof outer covering

5. seeds of lotus: water :: seeds of ladies' finger: ----------

Solution: explosion

IV. Answer the following questions.

1. Name the parts of a seed.

Solution: The parts of a seed are seed coat, cotyledons, embryo, radicle and plumule

2. What is the role of the cotyledon?

Solution: The cotyledons store food and provide it to the baby plant until its leaves grow.

3. Differentiate between plumule and radicle.

Solution: Plumule is the part of the embryo that develops into shoot and radicle is the part of the embryo that develops into roots.

4. How is a bean seed different from a maize seed?

Solution: A bean seed has two cotyledons whereas a maize seed has only one cotyledon.

5. List the conditions required for a seed to germinate.

Solution: The conditions required for a seed to germinate are air, water and warmth.

6. Briefly explain the process of seed germination.

   Solution: During the process of germination, the seed absorbs water and the seed coat becomes soft. The embryo starts growing inside the seed and the radicle emerges from the seed by breaking the seed coat. The radicle forms the root and grows downwards. The plumule comes out and forms the shoot with stems and leaves. It starts growing upwards towards sunlight. As the seed germinates, the cotyledons provide food to the baby plant until its leaves grow. Once the leaves are formed, the plant can prepare its own food and the cotyledons are shed.

7. Explain why seed dispersal is necessary.

   Solution: All the seedlings, if grown together, will not get the necessary requirements like water, nutrients, space, sunlight etc., to grow properly. So, it is important that seeds get scattered away from the parent pant. Thus, seed dispersal is necessary.

HIGHER ORDER THINKING SKILLS

Think and answer:

1. Why do you think the plumule grows upwards?

   Solution: The plumule forms the shoot of the plant. The shoot requires sunlight for growth and hence, the plumule grows upwards.

2. Look at the seedling growing on the wall. How do you think the seed reached there?

   Solution: The seedling might have reached on the wall due to dispersal

by wind or by animals.

3. To speed up the germination time, what type of seeds should you use – soaked or dry ones? Justify your answer.

   Solution: Soaked seeds would germinate faster than dry ones since the dry seeds would need time to absorb water to become soft and to break the seed coat.