We observed from the above activities that all living things require water to carry out their life processes. Most chemical reactions occur in water. Seeds, like any other living thing, also need water during germination.

Seeds also need air, similar to most of the other living things, for respiration. The oxygen present in the air is used to oxidise the stored food and thus release energy. This energy is required for the the growth of the embryo.

A suitable temperature is necessary for all chemical activities assisted by enzymes. Enzymes are inactive at low temperatures and get destroyed at higher temperatures. They act best at a temperature between 35° and 40°C.

REVIEW QUESTIONS

Multiple Choice Questions :

1. Put a tick mark (✓) against the correct alternative in the following statements :

(a) In a germinating seed, the roots develop from :

(i) Radicle [✓] (ii) Plumule [ ]

(iii) Tegmen [ ] (iv) Hilum [ ]

(b) In a germinating seed, the shoot develops from :

(i) Radicle [ ] (ii) Plumule [✓]

(iii) Tegmen [ ] (iv) Hilum [ ]

(c) Which one of the following is a monocotyledonous seed ?

(i) Bean [ ] (ii) Pea [ ]

(iii) Maize [✓] (iv) Gram [ ]

(d) If the cotyledons are pushed above the soil, then such type of germination is called :

(i) Epigeal [✓] (ii) Hypogeal [ ]

(iii) Perigeal [ ] (iv) Progeal [ ]

(e) If the cotyledons remain under the soil, then such type of germination is called :

(i) Epigeal [ ] (ii) Hypogeal [✓]

(iii) Perigeal [ ] (iv) Progeal [ ]

(f) Pollen is produced in the :

(i) Filament [ ] (ii) Style [ ]

(iii) Pistil [ ] (iv) Anther [✓]

(g) Reproductive whorls of a flower are :

(i) Stamens and carpels ✓ (ii) Sepals and petals

(iii) Sepals and stamens (iv) Petals and carpels

(h) Which one of the following is a false fruit ?

(i) Tomato (ii) Apple ✓

(iii) Potato (iv) Pea

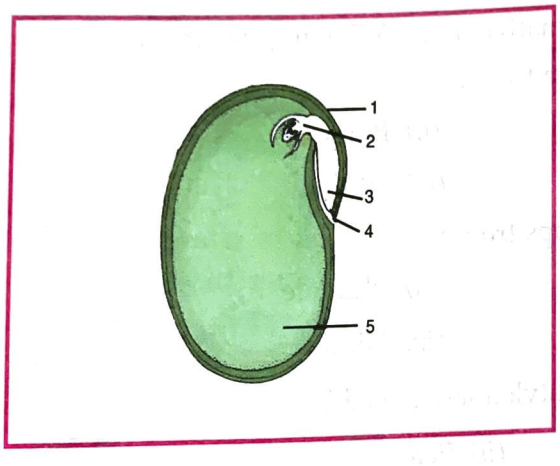
(i) In a seed, food is generally stored in :

(i) Radicle (ii) Plumule

(iii) Fruit (iv) Cotyledons or endosperms ✓

Short Answer Questions :

1. Given below is a longitudinal section of a bean seed. Label the parts marked 1 to 5 and write their functions.



2. Name the following :

(a) A seed which shows hypogeal germination.

.....

(b) A monocot seed.

.....

(c) A dicot seed.

.....

(d) A seed which shows epigeal germination.

.....

H.W
2/7/21

Short Answers Questions

1) Given below is a longitudinal section of a bean seed. Label the parts marked 1 to 5 and write their functions.

1) Testa: It is the outer exposed part of the seed.

2) Plumule: It is located between the two cotyledons and develops in to a shoot.

3) Radicle: It is located between the two cotyledons and develops in to a root.

4) Micropyle: It observes and allows the entry of as much as water as is required for germination.

5) Cotyledon: It stores the food material which is used by the seedlings for growth.

2) Name the following:

a) A seed which shows hypogeal germination Pea

b) A monocot seed Maize grain.

c) A dicot seed Bean seed.

d) A seed which shows epigeal germination.
Bean seed.

3) Differentiate between the following pairs of terms:

a) Radicle and plumule
The radicle develops in to a root. while the plumule develops in to shoot.

b) Hilum and micropyle.
Hilum in the inner concave side of the seed, where the seed was attached to the fruit wall. Micropyle is a small pore which absorbs and allows water required for germination.

c) Testa and tegmen.
Testa is the outer exposed part of the seed coat. Whereas tegmen is a thin membrane and lies under the testa. It is the inner part of seed coat.