



1. False

Corrected statement — Plumule is the future shoot and radicle is the future root of the plant.

2. True

3. False

Corrected statement — Endosperm in castor are a big store of food for the embryo.

4. True

5. False

Corrected statement — Testa is the outermost layer of the seed.

MCQ

- A) in which glucose is broken down into pyruvate

Reason — Glycolysis is the first phase of respiration in which glucose is broken down into pyruvate.

- B) Baker's yeast

- C) Hilum

Reason — Hilum is the distinct whitish oval scar on the concave side of the seed which represents the spot where the ovule was attached to ovary wall.

- D) Scutellum

Reason — The single cotyledon of a maize grain is called Scutellum.

**E) Respiration**

Reason — Photosynthesis (anabolic process) leads to formation of glucose while respiration(catabolic process) leads to break down of the glucose molecules.

FILL IN THE BLANKS**Answer**

1. **Lenticels** are the openings found on older stems.
2. Glycolysis occurs in the **cytoplasm** of the cells.
3. **Glucose** is a respiratory substance.
4. Rate of **Photosynthesis** is more than the rate of **Respiration** in the daytime in the case of green plants.
5. **Pyrogallate of potash** is a chemical substance which absorbs oxygen of the air.
6. **Caustic potash (KOH)** is used to create vacuum to show anaerobic respiration

Distinguish between the following pairs:

Answer

(a) Difference between Aerobic and anaerobic respiration:



Aerobic respiration	Anaerobic respiration
Proceeds in the presence of oxygen.	Proceeds without using oxygen.
Complete breakdown of glucose.	Incomplete breakdown of glucose.
End products are carbon dioxide and water.	End-products are ethyl alcohol and carbon dioxide.
Energy liberated in large quantity (38 ATP) from one mole of glucose.	Energy liberated in small quantity (2 ATP) from one mole of glucose.
Occurs normally throughout life.	Occurs temporarily for short periods.

(b) Difference between Respiration and combustion:

Respiration	Combustion
Cellular process	Non-cellular process
Occurs at body temperature	Occurs at high temperature (at ignition point)
Occurs in a series of chemical steps	Occurs in a single step
Carried out by enzymes	Carried out by heat



Respiration	Combustion
Biochemical process	Physico-chemical process
Energy released as ATP and heat	Energy released as heat and light
Light energy is not produced	Light energy is produced

(c) Difference between Stomata and lenticels:

Stomata	Lenticel
Stomata are present in leaves and green stems.	Lenticels are present in mature stems, roots and fruits.
Stomata are active only during day time.	Lenticels are active both during day and night.
Stomata have guard cells and they can be opened and closed.	Lenticels do not have guard cells, they are always open.

(d) Difference between Photosynthesis and respiration:

Photosynthesis	Respiration
Occurs only in the presence of chlorophyll.	Occurs in all living cells.



Photosynthesis	Respiration
Occurs only in presence of light.	Occurs at all times.
Uses carbon dioxide and water.	Uses oxygen and glucose.
Oxygen is released as an end product.	End product is carbon dioxide.
Light energy is converted into chemical energy.	Chemical energy is converted into useful energy (ATP) and heat.
Results in gain in weight.	Results in loss in weight.
Anabolic process.	Catabolic process.

(e) Difference between Anaerobic respiration in plants and animals:

Anaerobic respiration in plants	Anaerobic respiration in animals
It leads to formation of ethanol	It leads to formation of lactic acid
Little heat is released	More heat is released



Correct the following false statements by changing the first/last word only

Answer

- (a) Plumule develops into the **shoot system**.
- (b) **Tegmen** is the thin inner layer of the seed coat.
- (c) **Epithelium** separates the endosperm and embryonic region in the maize grain.
- (d) **Epicotyl** elongates faster in hypogeal germination.
- (e) **Dormancy** is the period of rest in a seed.

DRC