

Chapter – 13 | Plant growth and Development

QUIZ
PART-03

1. Growth rate means —

- A. Increase in growth per unit time
- B. Total number of leaves only
- C. Loss of water per day
- D. Decrease in dry weight only (A)

Explanation : Growth rate is the increase in growth in a given time.

2. In arithmetic growth, after mitosis —

- A. Both daughter cells continue to divide
- B. Only one daughter cell continues to divide
- C. Both daughter cells die
- D. No daughter cell is formed (B)

Explanation : In arithmetic growth, one daughter cell divides while the other differentiates.

3. Arithmetic growth gives which type of curve?

- A. Linear curve
- B. S-shaped curve
- C. Circular curve
- D. Bell-shaped curve (A)

Explanation : Root elongation at a constant rate gives a linear growth curve.

4. Formula of arithmetic growth is —

- A. $W_t = W_o e^{rt}$
- B. $L_t = L_o + rt$
- C. $RQ = CO_2/O_2$
- D. $ATP = ADP + P_i$ (B)

Explanation : This formula represents constant linear growth.

5. In geometric growth —

- A. Both daughter cells retain ability to divide
- B. No cell divides
- C. Only dead cells increase
- D. Growth is always zero (A)

Explanation : Geometric growth involves continuous division of both daughter cells.

6. Geometric growth usually gives a —

- A. Straight line curve
- B. Sigmoid curve
- C. Triangle curve
- D. Flat line only (B)

Explanation : When growth is plotted against time, an S-shaped sigmoid curve is obtained.

7. The first slow phase of sigmoid growth curve is called —

- A. Lag phase
- B. Log phase
- C. Stationary phase
- D. Maturation phase (A)

Explanation : In the lag phase, growth begins slowly.

8. Maximum rapid growth occurs during —

- A. Lag phase
- B. Log or exponential phase
- C. Stationary phase
- D. Dormant phase (B)

Explanation : The log phase shows rapid and maximum growth.

9. Absolute growth rate means —

- A. Total growth per unit time
- B. Growth per unit initial size
- C. Growth only in roots
- D. Growth only in seeds (A)

Explanation : Absolute growth rate compares total increase in size per unit time.

10. Essential conditions for plant growth include —

- A. Water, oxygen and nutrients
- B. Only darkness
- C. Only high temperature
- D. Only carbon dioxide (A)

Explanation : Water, oxygen, nutrients and suitable temperature are needed for growth.