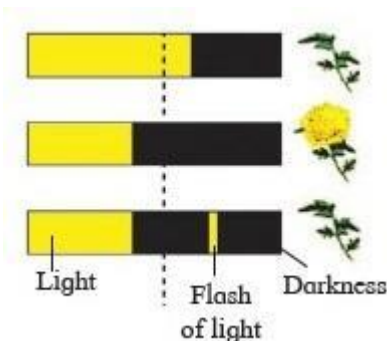
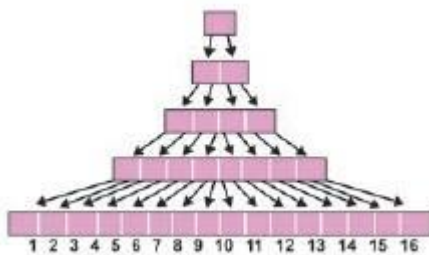


## 7. Plant Growth and Mineral Nutrition

- 1) \_\_\_\_\_ independent of duration of light.  
(a) Day Neutral Plants      (b) Short Day Plants  
(c) Long Day Plants      (d) None of these
- 2) For short day plants, the critical period is .....  
(a) Light      (b) Dark/night  
(c) UV rays      (d) Both a and c
- 3) Which of the following is day neutral plant?  
(a) Tomato      (b) Cotton  
(c) Sunflower      (d) Soybean
- 4) Essential macro elements are .....  
(a) Manufactured during photosynthesis  
(b) Produced by enzymes  
(c) Absorbed from soil  
(d) Produced by growth hormones
- 5) Function of Zinc is .....  
(a) Closing of stomata  
(b) Biosynthesis of 3-IAA  
(c) Synthesis of chlorophyll  
(d) Oxidation of carbohydrates
- 6) The following diagram is of \_\_\_\_\_



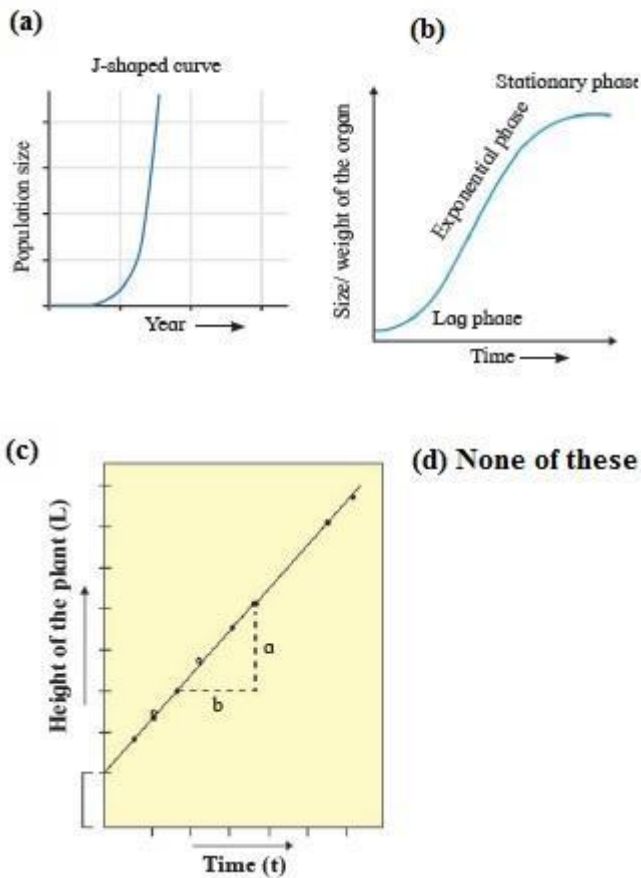
- (a) Day Neutral Plants      (b) Short Day Plants  
(c) Long Day Plants      (d) All of these
- 7) The below diagram explains \_\_\_\_\_



- (a) Arithmetic growth      (b) Geometric growth

- (c) Absolute growth      (d) Relative growth

8) Which of the following diagram belongs to linear growth.



9) Biological nitrogen fixation is carried out by \_\_\_\_\_.

- (a) Eukaryotes      (b) Prokaryotes  
(c) Protozoa      (d) Protista

10) \_\_\_\_\_ maintains turgidity of the cell.

- (a) Oxygen      (b) Nitrogen  
(c) Water      (d) Hormones

11) \_\_\_\_\_ decides the direction of growth of the shoot and root.

- (a) Water      (b) Growth hormones  
(c) Light      (d) Gravitational force

12) Increased growth per unit time it is also called \_\_\_\_\_

- (a) Efficiency index  
(b) Absolute growth rate  
(c) Relative growth ratio  
(d) None of these

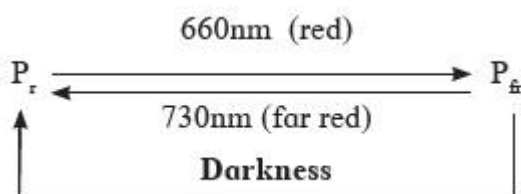
13) Necrosis means .....

- (a) Yellow spots on the leaves  
(b) Death of tissue  
(c) Darkening of green colour in leaves  
(d) Wilting of leaves

- 14)** Conversion of nitrates to nitrogen is called .....  
 (a) Ammonification (b) Nitrification  
 (c) Nitrogen fixation (d) Denitrification
- 15)** How many molecules of ATP are required to fix one molecule of nitrogen?  
 (a) 12 (b) 20 (c) 6 (d) 16
- 16)** In qualitative aspects the development leads to \_\_\_\_\_ and \_\_\_\_\_ state.  
 (a) Higher, Complex  
 (b) Higher, Simple  
 (c) Lower, Simple  
 (d) Lower, Complex
- 17)** \_\_\_\_\_ is the capacity of being molded, formed or modeled.  
 (a) Growth (b) Morphogenesis  
 (c) Plasticity (d) Development
- 18)** Development includes \_\_\_\_\_.  
 (a) Growth (b) Morphogenesis  
 (c) Maturation (d) All of these
- 19)** Secondary xylem and secondary phloem are formed from \_\_\_\_\_.  
 (a) Dedifferentiated cambium  
 (b) Redifferentiated cambium  
 (c) Differentiated cambium  
 (d) None of these
- 20)** Growth regulators leads to \_\_\_\_\_ the growth.  
 (a) Promote (b) Inhibit  
 (c) decrease (d) Both a and b
- 21)** The cells lose the capacity to divide and mature to perform specific function is called  
 (a) Differentiation (b) Redifferentiation  
 (c) Dedifferentiation (d) All of these
- 22)** Mineral ion concentration which reduces the dry weight of tissues by \_\_\_\_\_.  
 (a) 50% (b) 100% (c) 25% (d) 10%
- 23)** \_\_\_\_\_ hormone is called antitranspirant.  
 (a) Ethylene (b) Cytokinin  
 (c) Abscissic Acid (d) Gibberellins
- 24)** \_\_\_\_\_ gaseous growth regulator.  
 (a) Ethylene (b) Cytokinin  
 (c) Gibberellins (d) Abscissic Acid
- 25)** \_\_\_\_\_ is a cytokine.  
 (a) GA3 (b) IAA (c) NAA (d) kinetin
- 26)** The principle pathway of water translocation in angiosperms is \_\_\_\_\_.  
 (a) Sieve cells (b) Sieve tube elements  
 (c) Xylem (d) Xylem and phloem

- 27) Absciscic acid controls .....
- Cell division
  - Leaf fall and dormancy
  - Shoot elongation
  - Cell elongation and wall formation
- 28) Which is employed for artificial ripening of banana fruits?
- Auxin
  - Ethylene
  - Cytokinin
  - Gibberellin
- 29) Which of the following is required for stimulation of flowering in the plants?
- Adequate oxygen
  - Definite photoperiod
  - Adequate water
  - Water and minerals
- 30) Permanent change in structure and function of cells leading to maturation is called \_\_\_\_\_.
- Differentiation
  - Dedifferentiation
  - Redifferentiation
  - None of these
- 31) \_\_\_\_\_ cell undergoes dedifferentiation and becomes \_\_\_\_\_
- Permanent, meristematic
  - Permanent, parenchyma
  - Permanent, non-meristematic
  - None of these
- 32) In \_\_\_\_\_ growth rate is faster and reaches its maximum.
- Log phase
  - Lag phase
  - Exponential phase
  - Both a and c
- 33) \_\_\_\_\_ are examples of auxin.
- 2, 4-D
  - NAA
  - IBA
  - All of these
- 34) \_\_\_\_\_ and \_\_\_\_\_ are useful in describing the dynamics of cell growth in culture.
- Relative growth ratio
  - Absolute growth rate
  - Efficiency index
  - Both a and b
- 35) \_\_\_\_\_ are the phases of growth.
- Cell formation
  - Cell elongation
  - Cell maturation
  - All of these
- 36) The ratio of change in the cell number over the time interval is called \_\_\_\_\_
- Absolute growth rate
  - Relative growth ratio
  - Efficiency index
  - Both a and b
- 37) In arithmetic growth the growth is \_\_\_\_\_ and \_\_\_\_\_.
- Constant and increasing
  - Constant and decreasing
  - Variable and increasing
  - Variable and decreasing

- 38) Plant absorb \_\_\_\_\_  
 (a) Water (b) Gas  
 (c) Minerals (d) All of these
- 39) The term vernalization was coined by T.D Lysenko in.....  
 (a) 1918 (b) 1928 (c) 1960 (d) 1939
- 40) \_\_\_\_\_ are indispensable without that plant can not complete its life cycle.  
 (a) Essential minerals (b) Non-essential  
 (c) Both a and b (d) None of these
- 41) The influence of \_\_\_\_\_ is known as photoperiodism.  
 (a) Light (b) Temperature  
 (c) Water (d) Oxygen
- 42) In the higher plants, growing apical bud \_\_\_\_\_ the growth of \_\_\_\_\_.  
 (a) Inhibits, lateral buds  
 (b) Inhibits, apical buds  
 (c) Promote, lateral buds  
 (d) Promote, apical buds
- 43) Gibberellins found at \_\_\_\_\_.  
 (a) Root tip (b) Shoot tip  
 (c) Lateral buds (d) Apical buds
- 44) Growth as a \_\_\_\_\_ change is a final end product of successive metabolism.  
 (a) Qualitative (b) Quantitative  
 (c) None of these (d) All of these
- 45) In \_\_\_\_\_ the movement of mineral ions into the root cell occurs by diffusion.  
 (a) Donnan equilibrium  
 (b) Passive Absorption  
 (c) Active Absorption  
 (d) Both b and c
- 46) Identify the wavelength of 'A' in the diagram



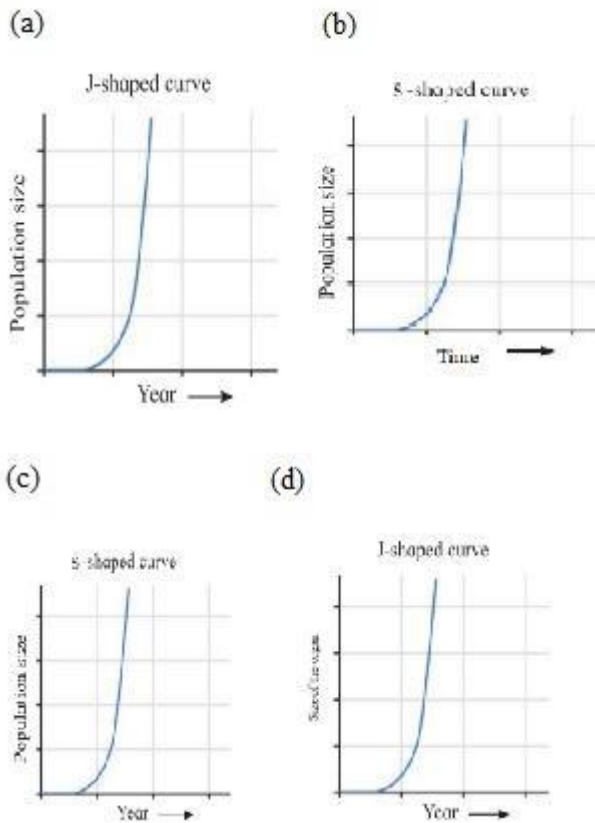
- (a) 780 (b) 640 (c) 660 (d) 620
- 47) Uptake of mineral ions against concentration gradient, is called .....  
 (a) Passive Absorption  
 (b) Donnan equilibrium  
 (c) Active Absorption  
 (d) All of these
- 48) Growth is characteristic features of \_\_\_\_\_.  
 (a) Living organisms (b) Non-living organisms

- (c) Both a and b                      (d) Death organism

**49) Which of the hormones can replace vernalization?**

- (a) Auxin                      (b) Cytokinin  
(c) Gibberellins            (d) Ethylene

**50) Identify the correct diagram of exponential growth curve.**



----- All the Best -----

## **7. Plant Growth and Mineral Nutrition Keys**

- 1) Ans. (a)**
- 2) Ans. (b)**
- 3) Ans. (b)**
- 4) Ans. (c)**
- 5) Ans. (d)**
- 6) Ans. (c)**
- 7) Ans. (b)**
- 8) Ans. (d)**
- 9) Ans. (b)**
- 10) Ans. (c)**
- 11) Ans. (d)**
- 12) Ans. (a)**
- 13) Ans. (b)**
- 14) Ans. (d)**
- 15) Ans. (d)**
- 16) Ans. (a)**
- 17) Ans. (c)**
- 18) Ans. (d)**
- 19) Ans. (a)**
- 20) Ans. (d)**
- 21) Ans. (b)**
- 22) Ans. (d)**
- 23) Ans. (c)**
- 24) Ans. (a)**
- 25) Ans. (d)**
- 26) Ans. (c)**

**27) Ans. (a)**

**28) Ans. (b)**

**29) Ans. (b)**

**30) Ans. (a)**

**31) Ans. (a)**

**32) Ans. (d)**

**33) Ans. (d)**

**34) Ans. (d)**

**35) Ans. (d)**

**36) Ans. (a)**

**37) Ans. (a)**

**38) Ans. (d)**

**39) Ans. (b)**

**40) Ans. (a)**

**41) Ans. (a)**

**42) Ans. (a)**

**43) Ans. (a)**

**44) Ans. (b)**

**45) Ans. (b)**

**46) Ans. (c)**

**47) Ans. (c)**

**48) Ans. (a)**

**49) Ans. (c)**

**50) Ans. (a)**