

# Plant Growth and Development

## Growth

1. The process of growth is maximum during:

(2020)

a. Lag phase

b. Senescence

c. Dormancy

d. Log phase

2. Typical growth curve in plants is:

(2015)

a. Stair-steps shaped

b. Parabolic

c. Sigmoid

d. Linear

#### Differentiation, Dedifferentiation, Redifferentiation and Development

- 3. Which one of the following plants does not show plasticity? (2022)
  - a. Maize
- b. Cotton
- c. Coriander
- d. Buttercup
- 4. Plants follow different pathways in response to environment or phase of life to form different kinds of structures. This ability is called: (2021)
  - a. Flexibility
- b. Plasticity
- c. Maturity
- d. Elasticity

#### **Plant Growth Regulators**

- 5. Production of Cucumber has increased manifold in recent years. Application of which of the following phytohormones has resulted in this increased yield as the hormone is known to produce female flowers in the plants: (2022)
  - a. Cytokinin
- b. ABA
- c. Gibberellin
- d. Ethylene
- 6. The gaseous plant growth regulator is used in plants to: (2022)
  - a. Kill dicotyledonous weeds in the fields
  - b. Speed up the malting process
  - c. Promote root growth and root hair formation to increase the absorption surface
  - d. Help overcome apical dominance

7. The plant hormone used to destroy weeds in a field is: (2021)

- a. NAA
- b. 2, 4-D
- c. IBA
- d. IAA
- 8. Name the plant growth regulator which upon spraying on sugarcane crop, increases the length of stem, thus increasing the yield of sugarcane crop. (2020)
  - a. Gibberellin
- b. Ethylene
- c. Abscisic acid
- d. Cytokinin
- 9. Match the following concerning the activity/function and the phytohormone involved. (2020-Covid)

1.	Fruit ripener	(i)	Abscisic acid
2.	Herbicide	(ii)	$GA_3$
3.	Bolting agent	(iii)	2, 4-D
4.	Stress hormone	(iv)	Ethephon

(4)

(i)

(iii)

Select the correct option from following:

- (1)
- (2)
- (3)
- a. (iii)
- (iv)
  - (ii) (i)
- b. (iv) c. (iv)
- (iii) (ii) (i) (ii)
- d. (ii)
- (iii) (iv)
  - (i)

10. Who coined the term 'Kinetin'?

(2020-Covid)

- a. Darwin
- b. Went
- c. Kurosawa
- d. Skoog and Miller
- 11. It takes very long time for pineapple plants to produce flowers. Which combination of hormones can be applied to artificially induce flowering in pineapple plants throughout the year to increase yield?
  - a. Auxin and Ethylene
  - b. Gibberellin and Cytokinin
  - c. Gibberellin and Abscisic acid
  - d. Cytokinin and Abscisic acid
- 12. Fruit and leaf drop at early stages can be prevented by the application of: (2017-Delhi)
  - a. Cytokinins
- b. Ethylene
- c. Auxins
- d. Gibberellic acid

#### Plant Growth and Development

- 13. You are given a tissue with its potential for differentiation in an artificial culture. Which of the following pairs of hormones would you add to the medium to secure shoots as well as roots?

  - a. Auxin and Abscisic acid b. Gibberellin and Abscisic acid
  - c. IAA and Gibberellin
- d. Auxin and Cytokinin
- **14.** The Avena curvature is used for bioassay of:

(2016 - I)

- a. ABA
- b. GA
- c. IAA
- d. Ethylene
- 15. What causes a green plant exposed to the light on only one side, to bend toward the source of light as it grows? (2015)
  - a. Light stimulates plant cells on the lighted side to grow faster.
  - b. Auxin accumulates on the shaded side, stimulating greater cell elongation there.
  - c. Green plants need light to perform photosynthesis.
  - d. Green plants seek light because they are phototropic.
- 16. Auxin can be bioassay by:

[OS] (2015 Re)

- a. Hydroponics
- b. Potometer
- c. Lettuce hypocotyl elongation
- d. Avena coleoptile curvature
- 17. Dr. F. Went noted that if coleoptile tips were removed and placed on agar for one hour, the agar would produce a bending when placed on one side of freshly cut coleoptile stumps. Of what significance is this experiment? [OS] (2014)
  - a. It demonstrated polar movement of auxins
  - b. It made possible the isolation and exact identification of auxin
  - c. It is the basis for quantitative determination of small amounts of growth-promoting substances
  - d. It supports the hypothesis that IAA is auxin
- 18. Which one of the following growth regulators is known as 'stress hormone'? (2014)
  - a. Indole acetic acid
- b. Abscisic acid
- c. Ethylene
- d. GA<sub>3</sub>

- 19. During seed germination its stored food is mobilised by:
  - a. Gibberellin
- b. Ethylene
- c. Cytokinin
- d. ABA

### Photoperiodism, Vernalisation, **Seed Dormancy**

- 20. The site of perception of light in plants during photoperiodism [RC] (2021)
  - a. Stem
- b. Axillary bud
- c. Leaf
- d. Shoot apex
- 21. Which of the following is not an inhibitory substance governing seed dormancy? [RC] (2020)
  - a. Abscisic acid
- b. Phenolic acid
- c. Para-ascorbic acid
- d. Gibberellic acid
- 22. Inhibitory substances in dormant seeds cannot be removed by subjecting seeds to: [RC] (2020-Covid)
  - a. Nitrate
  - b. Ascorbic acid
  - c. Chilling conditions
  - d. Gibberellic acid
- 23. What is the site of perception of photoperiod necessary for induction of flowering in plants? [RC] (2019)
  - a. Lateral buds
- b. Pulvinus
- c. Shoot apex
- d. Leaves
- **24.** A few normal seedlings of tomato were kept in a dark room. After a few days they were found to have become whitecolored like albinos. Which of the following terms will you use to describe them? [RC] (2014)
  - a. Defoliated
- b. Mutated
- c. Embolised
- d. Etiolated

#### **Answer Key**

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
d	c	a	b	d	c	b	a	b	d	a	c	d	c	b	d	b
18	19	20	21	22	23	24										
b	a	c	d	b	d	d										