Plant Growth and Development

CHAPTER 15

TRY YOURSELF

ANSWERS

1. Plants grow throughout their life due to the presence of meristems, which have the capacity to divide and self-perpetuate.

2. Yes, unicellular organisms also grow. At cellular level, growth is increase in the quantity of protoplasm. Increase in number of cells is also considered as growth ; so unicellular organisms multiply by cell division. In unicellular organisms, growth and reproduction are synonymous.

3. The biochemical or morphological change of meristematic daughter cell to become a permanent cell is called differentiation. The phenomenon of regeneration of permanent tissue to become meristematic is called dedifferentiation.

4. Heterophylly is the phenomenon in which a plant bears different shapes of leaves, habitually in different growth phases or under different environmental condition.

5. F.W. Went first named the chemical substance auxin.

6. (a) 2, 4-D (b) NAA

7. (i) They cause elongation of internodes.
(ii) They promote bolting in rosette plants like beetroot, cabbage, etc.

8. Mevalonic acid is the precursor of gibberellins.

9. Zeatin (6-hydroxy 3 methyl trans 2-butenyl amino purine).

10. Natural cytokinins are known to be synthesised in the regions where rapid cell divisions take place, *e.g.*, root apex developing shoot buds, young fruits, etc.

11. Climacteric refers to the increased rate of respiration during ripening of fruits.

12. Cousins (1910) confirmed the release of a volatile substance from ripening oranges, that could hasten ripening of bananas. The substance was named as ethylene.

13. Abscisic acid

14. (i) ABA stimulates the closure of stomata under conditions of intense solar radiation and water stress.
(ii) It causes seed dormancy.

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