Control and coordination

Module -2

Handout

1. Plant movements are categorized into two types – tropic movement and nastic movement .
2. If the growth is towards the direction of stimulus ,it is called tropic movement .
3. If the movement is independent of the direction of stimulus ,it is called nastic movement.
4. Types of tropic movement –
5. Phototropism – Movement of plant towards light is called phototropism.
6. Geotropism - Movement of roots towards the soil is called geotropism.
7. Hydrotropism – Movement of plant parts towards water is called hydrotropism
8. Chemotropism – Movement of plant parts towards chemicals is called chemotropism.
9. Nastic movements are of different types like – seismonastic , thigmonastic etc.
10. Plant hormones or phytohormones also regulate growth and development in plants .
11. The auxin group of hormones has a wide range of uses in a plant. Auxin molecules are found in all tissues in a plant. However, they tend to be concentrated in the *meristems*, growth centres which are at the forefront of growth. These centres release auxin molecules, which are then distributed towards the roots. In this way, the plant can coordinate its size, and the growth and development of different tissues based on the gradient of the auxin concentration .
12. Giberrellins are essential for elongation of stem, break seed dormancy ,delay senescence etc.
13. **Cytokinins** (CK) are a class of plant growth substances (phytohormones) that promote cell division, or cytokinesis, in plant roots and shoots. They are involved primarily in cell growth and differentiation, but also affect apical dominance, axillary bud growth, and leaf senescence .
14. Abscisic acid (ABA) is often referred to as a inhibitory rather than stimulatory hormone. It is involved in the closure of stomata, bud and seed dormancy and is known to inhibit other hormonal actions.

11.It acts as a growth promoter as well as inhibitor. It is a gaseous hormone .

It helps in the ripening of fruits .