ODM EDUCATIONAL GROUP
Changing your Tomorrow

SUBJECT:BIOLOGY
CHAPTER:7
CHAPTER NAME: CONTROL AND COORDINATION.
PERIOD-6

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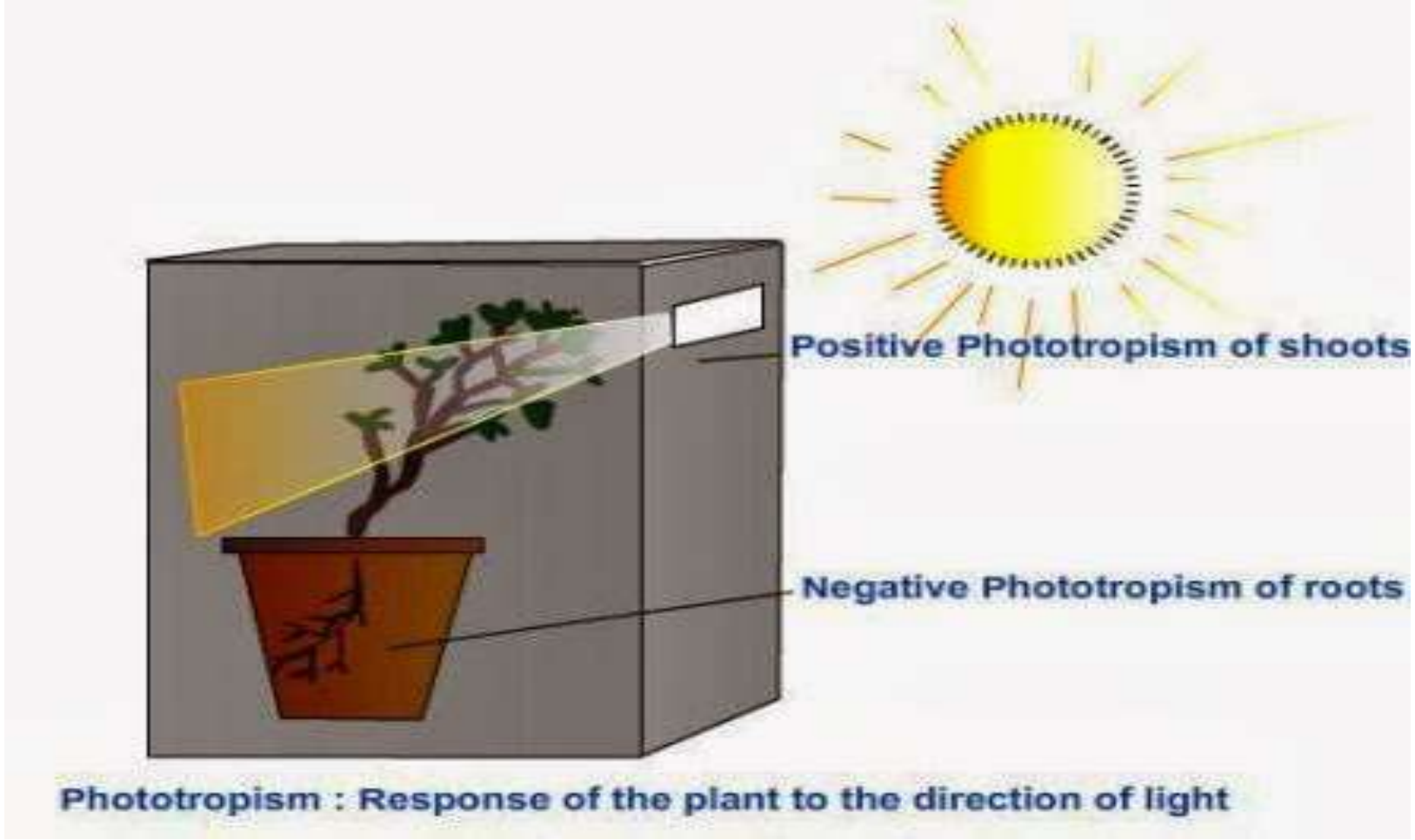
Photo tropism

- The growth in a plant part in response to light is called phototropic movement. Stems usually show positive phototropic movement, while roots usually show negative phototropic movement. If a plant is kept in a container in which no sunlight reaches and a hole in the container allows some sunlight; the stem finally grows in the direction of the sunlight. This happens because of a higher rate of cell division in the part of stem which is away from the sunlight. As a result, the stem bends towards the light. The heightened rate of cell division is attained by increased secretion of the plant hormone auxin in the part which is away from sunlight.



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Chemotropism

- **Chemotropism** is a growth movement of a plant part in response to chemical stimulus.
- Example - Growth of pollen tubes towards ovules

Flower showing Chemotropism

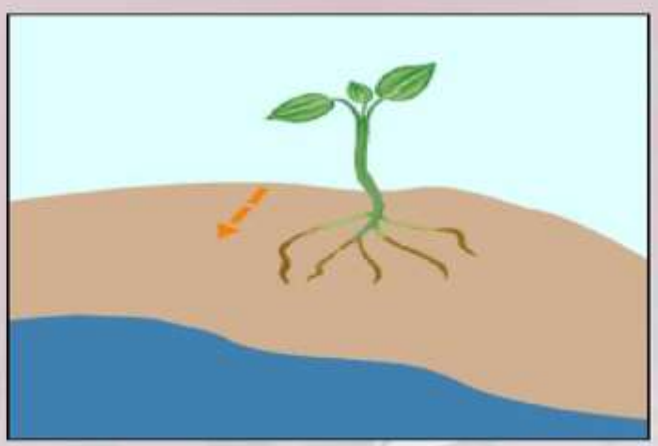
Hydrotropism

("hydro" – "water")

Movement by plants **toward water**

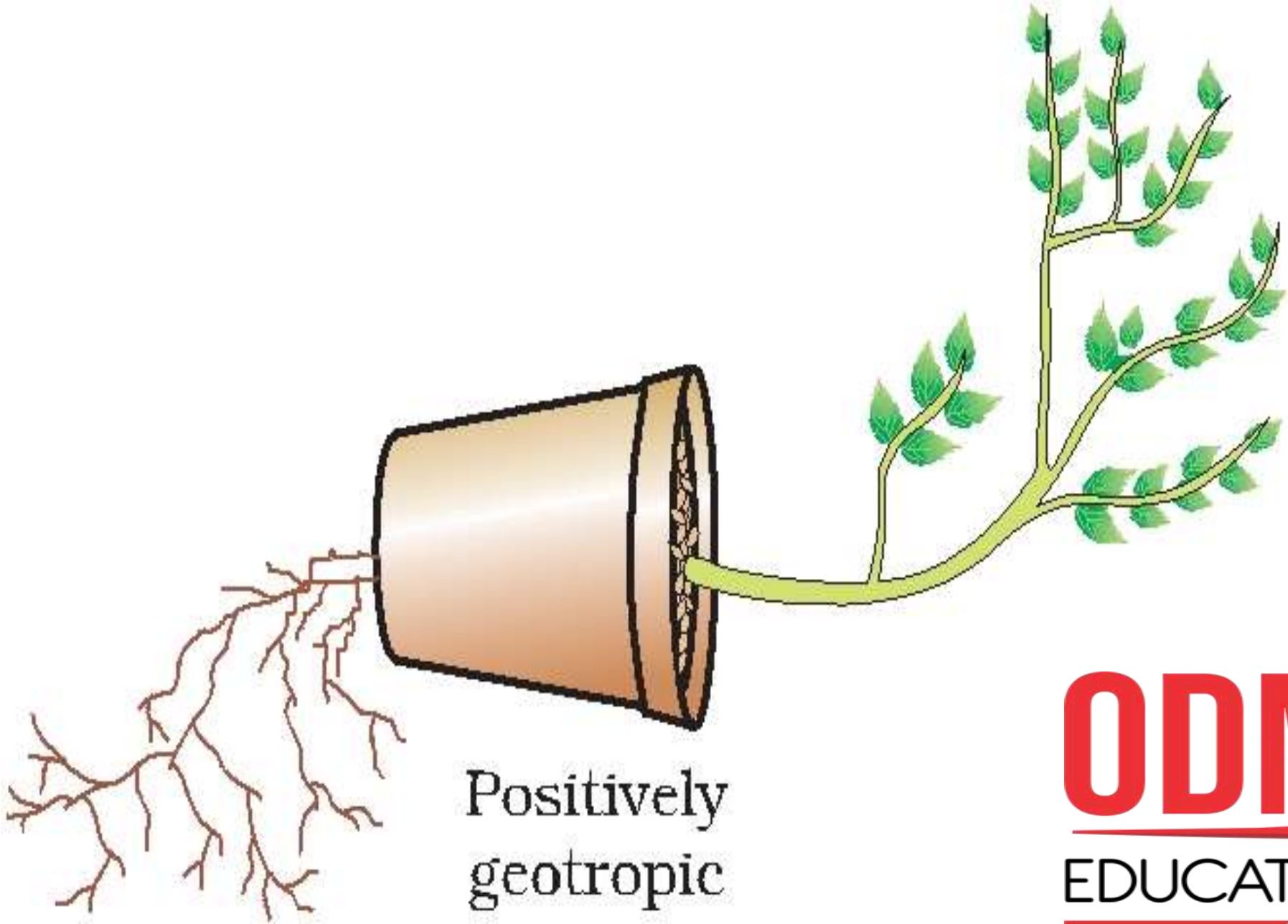
Positive Hydrotropism
toward water

Negative Hydrotropism
Away from water



Geo tropism

- ?? Geotropic Movement: The growth in a plant part in response to the gravity is called geotropic movement. Roots usually show positive geotropic movement, i.e. they grow in the direction of the gravity. Stems usually show negative geotropic movement.



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Thigmotropic Movement

- The growth in a plant part in response to touch is called thigmotropic movement. Such movements are seen in tendrils of climbers. The tendril grows in a way so as it can coil around a support. The differential rate of cell division in different parts of the tendril happens due to action of auxin.

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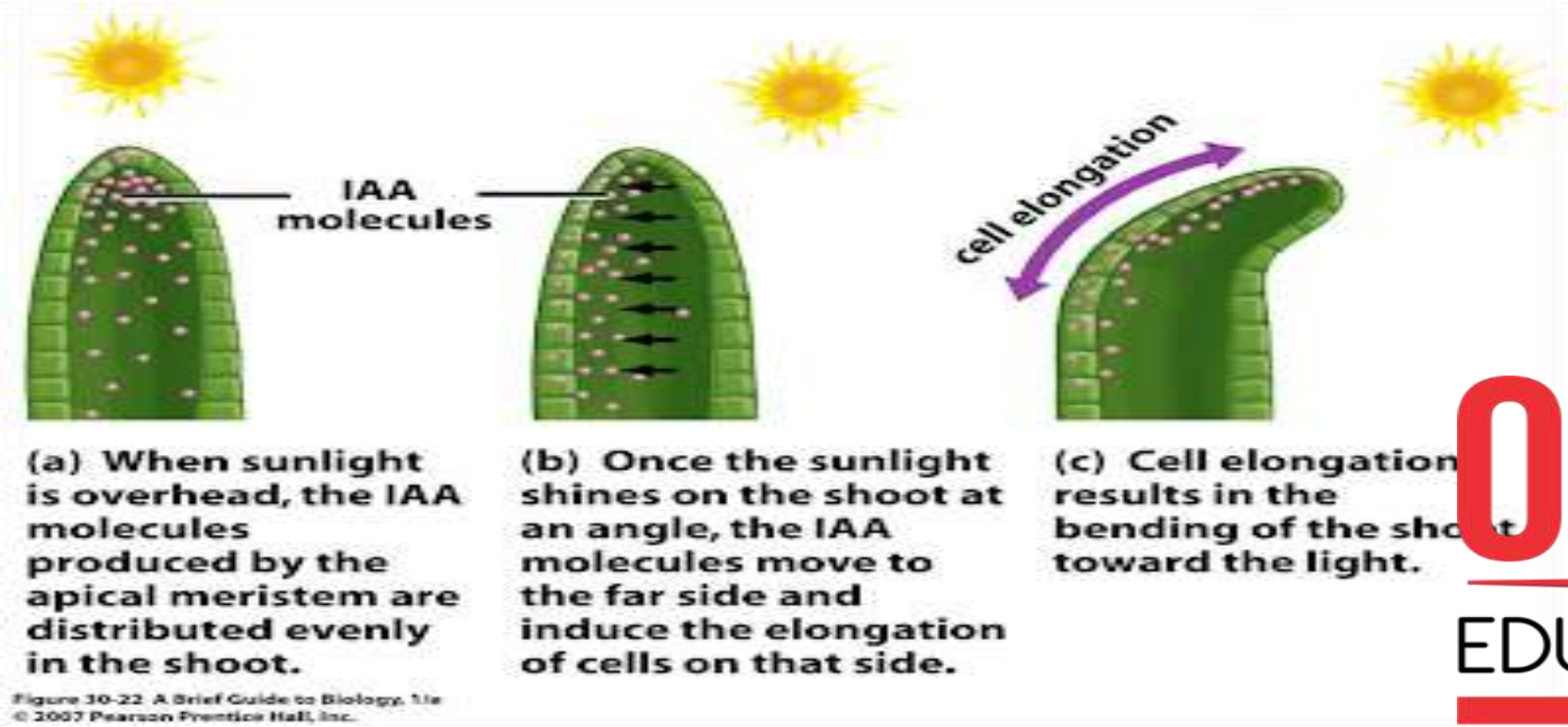
Auxins

- The main **function of auxin** is to help **plants** grow. **Auxin** stimulates **plant** cells to elongate, and the apical meristem of a **plant** is one of the main places that **auxin** is produced. ... Not only does **auxin** stimulate cell elongation, but it can also help repair wounds on the **plant**.



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Gibberelins

- Gibberellins are **growth** hormones that stimulate **cell** elongation and cause plants to grow taller. Gibberellins also have a role in other plant processes, such as **stem** elongation, germination, flowering,

Cytokinins

- **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.

Abscicis acid

- Abscisic acid (ABA) is a plant hormone which functions mainly as a growth inhibitor. Abscisic acid promotes the dormancy in seeds and buds [this is the opposite of breaking the dormancy].
  It also promotes closing of stomata. Abscisic acid promotes falling of leaves.

HOME ASSIGNMENTS

1.How do auxins promote the growth of a tendril around a support?

2. What is the function of Gibberellins, Ethene and Auxins?

3. What are Phytohormones? Name any two.

THANKING YOU

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