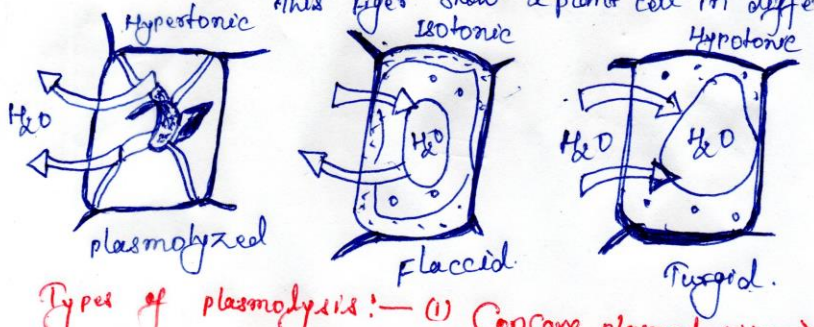
Date- 01-08-2021 Department of Botany - B.Sc - II part Hons.

online classes J. J. College Ara. Dr Sunil pandit. Time- 9:30-10:30 - e-Copy.

Plasmolysis:- plasmolysis is when plant cells lose water after being placed in a solution that has a higher Concentration of solution than the cell does. This is know as hypertonic solution. Water flows out of the cell and into the surrauding fluid due of the cell to osmosis. Since osmosis is process that requires no energy on the part of the cell and. Connot be Controlled, cell Connot stop plasmolysis from taking place.

Osmosis:- Osmosis is responsible for the occurrence of plasmolysis. Osmosis is a special type of diffusion that occurs when water flows into or out of a membrane such as a cell's plasma membrane. It occurs based on the type of solution that a cell is in. When a cell is placed into a hypotonic solution, there is a lower solute Concentration out outside the cell that inside, and water rushes into the cell. In an isotonic solution, solute Concentration are the same on both sides, so there is no net gain or loss of water.

This figer show a plant cell in different types of solutions:-



Types of plasmolysis:- (1) Concave plasmolysis → Concave plasmolysis is a process that can usually be reversed. During Concave plasmolysis, the protoplasm and the plasma membrom shrink away from the cell wall in places due to the loss of water, the protoplasm is them called protoplast once of it has startted to detach from the cell wall.

II. Convex plasmolysis:- Convex plasmolysis is more serve than Concave plasmolysis. When a cell undergoes Complex plasmolysis, the plasma membrom and protoplast lose so much water that they Compietly detach from the cell wall.

=

Date - 01-02-2024 Department of Botany - B. Sc - Part-III (Hons)
Online class . J. J. College Ara. Dr Sunil pandit Time - 8:00 - 9:00 AM. E. Copy:-

Question → What is Afflatoxin ? How it affect human, plant ? Explain the Condition which are favourable for its spread ?

Ans → The Afflatoxins are Secondary metabolites of saprophytic fungi, The afflatoxins are highly injurious to human, animals and plants. Dr Bilgrami of Bhagalpur University of Bihar has worked on different aspects of the Afflatoxins.

Mainly, Aspergillus flavans and A paraticus Fungi secrete it has been reported that the Afflatoxins are responsible for Cancer in human being. Rati and Ramalingam in 1979 reported that Aspergillus species are more prevalent in Winter season. The afflatoxins are highly effective in the poultry form.

In the poultry form, following symptoms show the effected birds from the disease:—

⇒ Deterioration of the health Condition of the bird.
⇒ Haemorrhage leading to death.

The Afflatoxins affect the liver, kidneys, adrenal gland Lungs (Bilgrami and Sinha, 1993). The afflatoxin B is mutagenic DNA and chromosomes. Sinha et al in 1987 reported that it cause gross damage in chromosomes structure. Breakage in distal part of the chromosomes lead to Mutagenic effect of the Afflatoxins. The different environmental Conditions are responsible for the spread of the Afflatoxins. The temperature and humidity are the major determiners of the spreading of the disease. Favourable time of the spreading the Afflatoxins are from the month of July - August. High temperature along with high moisture is favourable Conditions. Bilgrami and Chaudhary worked for the spreading of the disease from maize plants.

=