

and gives rise to aerial shoots which get developed into new plants. E.g. rhizome of banana, tuber of potato and corn of saffron etc.



Vegetative propagation by grafting

Vegetative propagation by leaves of Bryophyllum

c) Vegetative propagation by leaves: - In some plants like bryophyllum, the fleshy leaves bear adventitious buds their notches located on the margins when these leaves fall on a moist soil favored by favorable condition of temperature and humidity, these buds develop into small plants. Which are capable of living independently.

Other methods of vegetative propagation

1. **Cutting:** - It is the most common method of the vegetative propagation. In this method a piece of stem having few nodes and internodes is taken from the parent plant and planted in the moist soil. After some time roots immerge from its basal portion and the buds give rise to the shoots, which results in the formation of a new plant. The plants of rose, sugarcane, banana, orange, and

bougainvillea are commonly grown by this method.

2. **Layering:** - Layering means development of roots on a stem, which is attached to the parent plant. The stem that develops adventitious roots while still attached to the parent plant is a layer. Layering is a natural process, but can be induced by bending a plant branch and covering its middle portion below the soil. However, the apical portion of the branch is kept exposed to the air. After some time the portion of the branch below the soil develops adventitious roots and can be transferred into an individual plant if planted in a moist soil under favorable conditions. This process is commonly practiced in Magnolia, Jasmanium, rose e

3. **Grafting:** - In this process of vegetative propagation, a detached twig having several buds is planted or inserted into the stem or root of another plant to grow an individual plant of the same kind. When the detached twig is referred to as scion and the plant portion into which the twig is inserted is referred to as stock. In order to avoid infection, the point of grafting is covered with grafting wax.

4. **Tissue culture:** - It is a modern method of vegetative propagation in which a small tissue is taken from a plant and is allowed to grow in a medium containing all the essential nutrients required for the proper growth of the plant. When the tissue grows it forms an undifferentiated mass of cells called "Callus" which is used for further

Acquired immuno deficiency

1.syndrome(AIDS)

2. Syphilis

3.Gonorrhoea

4.Herpes

5. Genital warts

6.Chlamydia

Acquired immuno deficiency syndrome (AIDS)

Acquired immuno deficiency syndrome commonly known as AIDS is probably the most notorious disease in humans. It is sexually transmitted diseases it can pass from one person to another during sexual intercourse. This disease can also be transmitted if blood from an infected person comes in contact with that of a healthy person through a cut, or a scratch or by means of blood transfusion.

AIDS is a pandemic disease, I.e. it is found world over. The word 'immuno deficiency' means that the immune system of the affected person becomes deficient or weak. It is cell-mediated disorder of the immune system.

Causative organism the pathogen which AIDS is the human immunodeficiency virus (HIV)

The human immunodeficiency virus (HIV) is too small naked eyes. Once the virus enters the body it and grows in the body fluid and blood cell of the infected person.

Mode of transmission HIV may be transmitted in many ways

- i) Sexual contact with the affected person through semen or vaginal fluid or through blood in case there is any tearing of tissues during the intercourse.
- ii) Exposure to infected blood and blood products by using the same syringe already used by an infected person, and by use of infected blood during blood transfusion.
- iii) Organ transplant from an affected person to a healthy person.
- iv) During artificial insemination, the semen used may contain HIV infection
- v) During pregnancy, from an infected mother's blood to her baby's blood.

Incubation period:- The average incubation period of HIV virus is about 28 months (range 15-57

months).

Symptoms:- A person infected with AIDS may show one or all of the following symptoms:

- i) The person feels fatigued or tired, suffers from loss of weight and fever, and sweats profusely.

Syphilis:-

Causative organism: *Trponema pallidum*, long corkscrew bacteria.

Models of spread: Sexual contact with the infected person can cause the disease. Infants can contract this disease during birth.

Incubation period: Symptoms of the disease occur in about 10-90 days after contraction, but generally notice in 3-4 weeks.

Symptoms:- Syphilis symptoms occur in stages. These can appear anywhere from 10-90 days after contraction. The common symptoms are given below.

- i) Fever and sores appear on the skin, in the throat and urinogenital areas especially vagina or penis, anus, rectum and mouth. Sores are firm, round and often painless, and can lead to other serious diseases as well.
- ii) Break out of rashes on hands, feet and palms in seen.
- iii) White patches are observed in the mouth.
- iv) Acne-like warts are found in the groin area.
- v) Hairfall occurs in patches from infected areas.

Prevention and cure:-

- Having sexual intimacy with only one person
- Avoiding prostitution and homosexuality
- Taking appropriate medical treatment.

Gonorrhoea:

Gonorrhoea is a sexually transmitted disease that often involves urethra, vagina or penis, cervix, anus, throat, joint and eyes as its target sites. A large number of gonorrhoea cases are reported each year.

If gonorrhoea is at an advance stage, the symptoms include-abdominal pain and bleeding between menstrual periods. These symptoms are more common in females and are usually more pronounced than in males. They can appear anytime from 2-10 days after contraction all the way up to one month after contraction.

Modes of spread: As with most sexually transmitted diseases, having multiple sex partners increases your risk of contracting it. Any kind of unprotected sex is always a