## CHAPTER-01 REPRODUCTION IN ORGANISMS

## 12 Biology page 1

Reproduction is a biological process of formation new offsprings from the pre-existing organism.Reproduction becomes a vital process without which species cannot survive for long It ensures continuity of species generation after generations as older individuals undergo senescence and ultimately they die.

**Life span** - • The period from birth to the natural death of an organism represents its **life span**. Life span of organisms varies from few days (Butterfly 1 to 2 weeks) to thousands of years (Banyan tree).

#### Types of Reproduction:

Based on whether there is one or two organisms taking part in the process of reproduction

- ASEXUAL REPRODUCTON
- SEXUAL REPRODUCTION

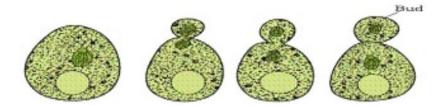
When the offspring is produced by single parents with or without the involvement of gamete formation, the reproduction is called **asexual reproduction**.

When two parents (opposite sex) participates in reproduction process and also involves the fusion male and female gametes, it is called **sexual reproduction**.

#### **Asexual Reproduction**



- 1. Usually followed by organisms with relatively simpler organizations.
- 2. Off springs produced by single parent.
- 3. With/without involvement of gamete formation.
- 4. Off springs produced are genetically and morphologically similar to each other and to the parent, i.e. they are **clones**.
- In Protista and Monera, the parent cells divides into two to give rise to new individuals. Thus, in these organisms cell division is the mode of reproduction itself.
- Binary fission- in this method of asexual reproduction, a cell divides into two halves and rapidly grows into an adult. Ex- amoeba, paramecium.
- **Budding** small buds are produced that remain attached initially with parents and get separated on maturation. Ex. Yeast.



• Fungi and simple plants like algae reproduce through special reproductive structures like zoospores (motile structure), conidia (penicillium), buds (hydra) and gemmules (sponges).  In plants, vegetative reproduction occurs by page 3 vegetative propagules like runner, rhizome, sucker, tuber, offset and bulb.

Vegetative part	Example
Roots	Dahlia, Asparagus, Dalbergia, guava and tapioca
Stems	66
• Tubers	Potato and artichoke
• Bulbs	Garlic and onion
Rhizome	Ginger, turmeric, banana and Dryopteris
• Corms	Colocasia, Crocus and Amorphophallus
• Suckers	Mint and Chrysanthemum
Runners	Oxalis and Centella
• Stolons	Jasmine
<ul> <li>Offsets</li> </ul>	Pistia and Eichhornia
Leaves	Bryophyllum, Begonia, Kalanchoe and walking ferr
Bulbils	Agave, lily and Dioscorea
Turions (fleshy buds in aquatic plants)	Potamogeton and Utricularia

# WATER HYACINTH (Terror of Bengal) page 4

- One of the most invasive weeds
- Grows wherever there is standing water
- Drains oxygen from water- leads to death of fishes.
- Introduced in India because of its pretty flowers & shape of leaves
- Vegetative propagation occurs at a phenomenal rate

Class- 12 Biology Chapter-1 reproduction in organisms. Mrs Seema Bhandari (test 1)



### Find and write the answers of the following:-

- 1.why reproduction is important on the earth
- 2. How sexual reproduction is different from asexual reproduction.
- 3. The offspring which produce asexually are called clones, why?
- 4. Name the vegetative parts of plant.
- 5.what was the terror of Bengal.