

Ch-7 How do Organisms Reproduce?

1. Asexual Reproduction in Plants –

- a. Spore formation → e.g., Bacteria, fungi.
- b. Budding → e.g., Fungi (yeast).
- c. Fragmentation → e.g., Algae, fungi.
- d. Vegetative propagation –
 - i. Natural method –
 1. By roots → e.g., Sweet potato.
 2. By stems → e.g., Ginger, potato.
 3. By leaves → e.g., Bryophyllum.
 - ii. Artificial method –
 1. Cutting → e.g., Rose.
 2. Layering → e.g., Strawberry, lemon.
 3. Grafting → e.g., Mango, rose.
 4. Micropropagation → e.g., Orchids, dahlia.

2. Sexual Reproduction in Plants –

- a. Flower is the reproductive organ.
- b. It has four whorls – Calyx, Corolla, Androecium, Gynoecium.
- c. Calyx and corolla are accessory parts.
- d. Androecium – Male reproductive organ producing pollen grains.
- e. Gynoecium – Female reproductive organ having ovule (egg).
- f. Pollination – Transfer of pollens from anther to stigma for fertilization.
- g. Fertilization – Fusion of male and female gametes.
- h. Double fertilization (Triple fusion and syngamy) – unique events in the embryo sac of ovules.

3. Asexual Reproduction in Animals –

- a. Fission –
 - i. Binary fission → e.g., Amoeba.
 - ii. Multiple fission → e.g., Plasmodium.
- b. Budding → e.g., Hydra.
- c. Regeneration → e.g., Planaria, Hydra.

4. Sexual Reproduction in Animals (Humans) –

- a. Human beings are heterosexual.
- b. Reproductive system includes –
 - i. Primary sex organs – Testes (males) and ovaries (females).
 - ii. Secondary sex organs – Genital ducts and glands (males) and fallopian tubes, uterus, vagina (females).
- c. Male sex hormone is testosterone and female sex hormones are progesterone and estrogen.
- d. Puberty is attained at the age of 13 – 14 years in males and 10 – 12 years in females.
- e. The zygote formed after fertilization develops into embryo which gets implanted in uterus.

- f. Placenta (a disc-like special tissue) develops between uterine wall and embryo for nourishment of the embryo.
- g. Gestation period in humans is around 280 days.

5. **Reproductive Health** –

- a. Birth control prevents unwanted pregnancies –
 - i. Barrier methods
 - ii. Chemical methods
 - iii. Intrauterine contraceptive device
 - iv. Surgical method
- b. Sexually transmitted diseases (STDs) are caused by bacteria, protozoa and viruses.
- c. AIDS is an incurable viral disease.