



Chapter 9

Reproduction in Animals

Notes:

Reproduction

- The process by which an organism produces its offspring (young ones) is called reproduction.
- It is essential for the continuation of a species generation after generation.

Modes of reproduction

- (i) Sexual Reproduction
- (ii) Asexual Reproduction.

Sexual reproduction

- Reproduction resulting from the fusion of male and female gamete is called sexual reproduction.
- It involves two parents, male and female.

Asexual reproduction

- The type of reproduction in which only a single parent is involved is called asexual reproduction.
- There no fusion of gametes.

Male reproductive organ

- The male reproductive organs include a pair of testes (singular testis), two sperm ducts and a penis.
- The testes produce male gametes called sperms. Millions of sperms are produced by it.
- Each sperm is a single cell and has a head, a middle piece and a tail.

Female reproductive organs

- The female reproductive organs are a pair of ovaries, oviducts (fallopian tube) and the uterus.
- The ovary produces female gametes called ova (singular ovum) or eggs.
- In humans, a single matured egg or ovum is released into the oviduct by one of the ovaries every month.

Fertilisation

- The fusion of the egg and the sperm is called fertilisation.
- The fertilised egg is called zygote. It is single celled

Types of fertilisation

- (i) Internal Fertilisation
- (ii) External Fertilisation

Internal fertilisation

- Fertilisation which takes place inside the female body is called internal fertilisation.
- The gametes and the developing embryo are protected from the external environment.
- This is observed in human beings and other animals such as hens, cows, dogs, etc.

External fertilization

- Fertilisation that takes place outside the female body is called external fertilisation.
- The eggs, sperms and the developing embryos are exposed to external environment.
- This is observed in frogs, fish, starfish, etc.

Development of embryo

- Fertilisation results in the formation of zygote.
- The zygote divides repeatedly to give rise to an embryo.
- The embryo gets embedded in the wall of the uterus (womb) for further development.
- The stage of the embryo in which all the body parts are identifiable is called foetus.
- When the development of the foetus is complete, the mother gives birth to the baby.

Viviparous animals

- The animals which give birth to young ones are called viviparous animals.
- This is observed in humans, cow, dog, cat, etc.

Oviparous animals

- The animals which lay eggs are called oviparous animals.
- This is observed in frog, hen, lizard, etc.

Metamorphosis

The transformation of the larva into adult through drastic changes is called metamorphosis.

Examples: (a) The life cycle of silkworm

Egg → Caterpillar/Larva → Pupa → Adult

(b) The life cycle of frog

Egg → Tadpole/Larva → Adult

Asexual reproduction

Some methods of asexual reproduction are:

- (i) Budding
- (ii) Binary fission

Budding

In this type of reproduction, a part of the organism starts bulging out called buds. These buds grow and develop into new individuals. This is observed in *Hydra*, yeast, etc.

Binary fission

In this type of reproduction, a single celled organism divides into two new individuals. This is observed in unicellular organism like *Amoeba*, bacteria, etc.

Test tube babies

Babies born through *IVF* or *in vitro fertilisation* (fertilisation outside the body) technique are called test-tube babies. In this, freshly released egg and sperms are collected from the parents and keep them together for few hours. If fertilisation occurs, the zygote is allowed to develop for about one week and then it is placed in the mother's uterus. Complete development takes place in the uterus and the baby is born like any other baby.

Cloning

- It is the production of an exact copy of a cell, any other living part or a complete organism.

Dolly, the sheep was the first cloned animal. It was born on 5th July, 1996

