Ch - 8 Reproduction in Animals

A. Define the following terms.

1. Reproduction

Ans: The process by which living organisms produce offspring of their own kind is called reproduction.

2. Gametes

Ans: The reproductive cells of organisms are called gametes.

3. Fertilization

Ans: The process of fusion of the male and female gametes is called fertilization.

4. Implantation

Ans: The process in which the zygote attaches itself to the uterine wall is called implantation.

5. Cell differentiation

Ans: Cell differentiation is a process through which the cells convert to specialized cells to perform different functions.

B. Differentiate between the following.

1. Binary fission and multiple fission

1.

Binary fission	Multiple fission
• The organism splits equally into two cells.	• The organism splits into more than two cells.

5. Fertilization and implantation

5.

Fertilization	Implantation
• The process of fusion of the two gametes, that is, the sperm and the ovum, is called fertilization.	• The process in which the zygote attaches itself to the uterine wall is called implantation.

C. Choose the odd one out. Give reasons for the choice.

1. Planarians, sea cucumbers, sponges, Amoeba

Ans: Amoeba: It undergoes binary fission to reproduce, while others reproduce through fragmentation and regeneration.

2. Testes, scrotum, fallopian tubes, vas deferens

Ans: Fallopian tube: It is a female reproductive organ, while others are male reproductive organs.

3. Zygote, embryo, foetus, adult

Ans: Adult: All others are stages of embryonic development.

4. Fertilization, budding, regeneration, binary fission

Ans: Fertilization: All others are different modes of asexual reproduction

D. Give reasons for the following.

1. In Planarians, a whole organism can grow from a fragment of the body.

Ans: Planarians undergo fragmentation and regeneration. Regeneration is a modified form of fragmentation.

2. Scrotal sacs are found outside the abdominal cavity.

Ans: Scrotum (also called scrotal sac) is a pouch-like structure that holds and protects the testes. Sperm production takes place at a temperature that is 3°C less than the normal body temperature. This is the reason why scrotal sacs are present outside the abdominal cavity.

3. The number of gametes produced by a frog is comparatively more than that produced by a bird.

Ans: Many physical, hormonal and emotional changes take place during adolescence. These sometimes cause anxiety and stress.

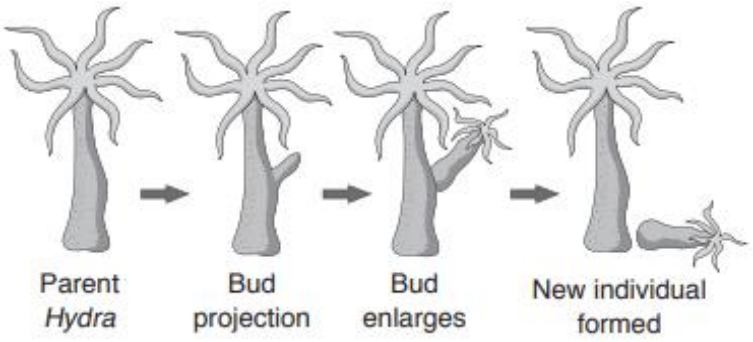
E. Answer the following questions in brief.

1. Write a note on asexual reproduction in yeast.

Ans: Organisms such as yeast reproduce through budding. Budding is a process in which a cell body branches out into a tiny outgrowth called bud. Buds grow bigger under favorable conditions and ultimately pinch off from the parent cell body, thus forming a new offspring

2. How does Hydra reproduce? Explain with the help of a diagram.

Ans: Budding is a process in which a cell body branches out into a tiny outgrowth called bud. Buds grow bigger under favorable conditions and ultimately pinch off from the parent cell body, thus forming a new offspring. Hydra reproduces by this method



4. Name the organs of the male and female reproductive system in human.

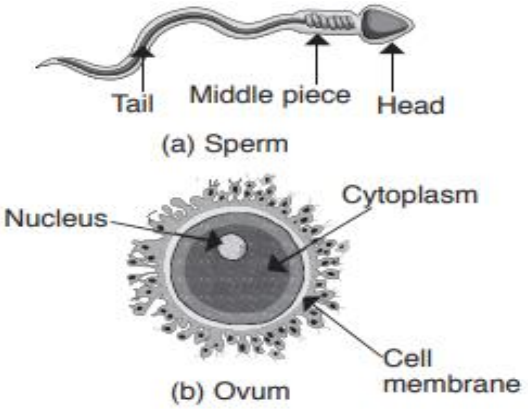
Ans: Male reproductive system: Sperm duct, testes, penis, urethra.

Female reproductive system: Fallopian tubes, ovaries, uterus, cervix, vagina.

F. Answer the following questions in detail.

2. Explain the structure of male and female gametes.

Ans: In human beings, males and females have different reproductive organs. These organs, called gonads, produce gametes. The male gamete is called a sperm. A sperm cell is a thin and elongated structure with a head, a middle piece and a tail. Sperm cells are motile (capable of moving) and swim their way to the female gamete through the female reproductive tract. Sperm cells are produced in millions in the testes. The female gamete is called an egg cell or ovum (plural: ova). It is a round structure with thick layers of cells on the outside and contains abundant cytoplasm. It is larger than the sperm cell.



3. Explain the structure and function of the male reproductive organs in human beings.

Ans: The male reproductive organs consist of the penis, a pair of testes, scrotum and vas deferens. The penis is a muscular organ, which aids in the release of sperms from the body. Testes produce sperms and a hormone called testosterone, which is responsible for secondary sexual characteristics in males, like hair on the face and body and voice becoming hoarse. Scrotum (also called scrotal sac) is a pouch-like structure that holds and protects the testes. Sperm production takes place at a temperature that is 3°C less than the normal body temperature. This is the reason why scrotal sacs are present outside the abdominal cavity. Vas deferens is a long tube-like structure through which sperms travel from the testes to the urethra, which carries the sperms outside the body.