Reproduction in Animals

Check point 1

Q. 1. In which type of reproduction, gametes are involved?

Answer: Gametes are involved in sexual mode of reproduction. The plants reproducing by sexual mode have both male and female reproductive parts and the animals have organs which produce gametes. In both cases, fusion of gametes is required for reproduction.

Q. 2. Do all organisms give birth to young ones?

Answer: No. There are two modes of reproduction in organisms – asexual and sexual. The animals reproducing by sexual reproduction only give birth to young ones. Those reproducing by asexual mode adopt different methods but don't give birth to young ones directly.

Q. 3. Give the name of young one of cat and frog.

Answer: The young one of a cat is called a kitten and the young one of a frog is called a tadpole.

Q. 4. Two types of individuals on the basis of sexuality are present. Name them.

Answer: The two types of individuals based on sexuality are – male and female.

Check point 2

Q. 1. Name the male organ that produces sperms.

Answer: Sperms, which are male gametes are produced by testes.

Q. 2. In males, urine and sperms pass through a common part of outside. What is this part know as?

Answer: The part in males through which both sperms and urine are passed out is called urethra.

Q. 3. In which part of the females, sperms are introduced?

Answer: Sperms are introduced into the vagina of a female, from where they quickly move to cervix.

Q. 4. Implantation is important for development of embryo. What happens during this process?

Answer: Implantation is the stage in pregnancy where the rapidly growing and dividing embryo gets attached to the wall of uterus of the mother.

Check point 3

Q. 1. Give the time taken by an embryo to develop into chick.

Answer: An embryo takes around 21days to completely develop into a chick. It is depicted by the hatching of egg that has been fertilized, and the emergence of chick from it.

Q. 2. Mention the functions of albumin in egg.

Answer: Albumin in an egg functions to protect the embryo against external shock by forming a layer around it. It also provides nutrition to the growing embryo.

Q. 3. Are all mammals viviparous?

Answer: All mammals except platypus and echidnas are viviparous, that is they give birth to young ones.

Q. 4. Give the stages of growth in silkworm.

Answer: There are four stages in the lifecycle of a silkworm.

1. Ova or egg

2. Larva, with five instars.

3. Pupae

4. Imago or adult.

Check point 4

Q. 1. Amoeba is a unicellular organism. How does a single cell produce its copies?

Answer: Amoeba exhibits asexual mode of reproduction. It reproduces by binary fission, where a single organism, divides to form two new organisms or progeny.

Q. 2. List the various types of asexual reproduction.

Answer: There are five types of asexual reproduction. They are:

1. Budding

2. Binary fission

3. Fragmentation

4. Spore formation

5. Vegetative reproduction.

Q. 3. Name some animals which reproduce by budding.

Answer: Animals which reproduce by budding are:

1. Hydra

2. Sea anemone

3. Corals

4. Sponges

5. Starfish

Chapter Test

Q. 1. List modes of reproduction present in animals.

Answer: There are two modes of reproduction present in animals:

1. Asexual reproduction

2. Sexual reproduction

Q. 2. Name the organs of the female reproductive system in humans.

Answer: The female reproductive organs include a pair of ovaries, fallopian tubes, and a cervix.

Q. 3. Is binary fission, sexual or asexual?

Answer: Binary fission is an asexual mode of reproduction because it involves production of progeny from one single organism only, and no gametes are formed.

Q. 4. What do you understand by foetus?

Answer: In the life inside uterus of the mother that is in intrauterine life, when the body parts of an embryo can be identified and differentiated, like the eyes, ears, hands, legs, etc. the embryo is called foetus. A mother gives delivery to a fully grown foetus.

Q. 5. Write the name of an animal which is hermaphrodite.

Answer: Snail is hermaphrodite animal, as it has both male and female reproductive organs.

Q. 6. What do you understand by viviparous animals?

Answer: The animals that give birth to young ones directly, that is they do not pay eggs are called viviparous animals. The development of embryo, in this case, takes place inside the parental body, generally, of mothers.

Q. 7. Define budding.

Answer: Budding is a form of asexual reproduction, where new individuals develop from bulges or outgrowths on the parent body. These bulges are called buds, and hence the

process is called budding. Being an asexual form of reproduction, it requires only one parent for the process.

Q. 8. In sexual reproduction, does fertilisation take place or not?

Answer: Fertilisation has to take place for sexual reproduction to occur. It is one of the most vital steps in sexual reproduction. Fertilisation is the process of fusion of male and female gametes, to produce a new generation.

Q. 9. Discuss the advantages of asexual reproduction.

Answer: The advantages of reproduction are:

● It is a very rapid process, i.e. the progeny are produced very fast.

● A large number of progeny is produced in a single reproductive process.

● The new individuals are an exact copy of the parent, hence beneficial traits can be preserved.

● No mate is required, and they can reproduce in a wide range of environment.

Q. 10. Explain what happens after a hen lays a fertilised egg.

Answer: After a fertilized egg is layer, the embryo takes around three weeks to develop into a chick. It requires the warmth provided by the hen sitting on it, to develop into a chick. As it develops completely, the egg hatches and the chick comes out.

Q. 11. Human male gamete has a tail but female gamete does not. Why?

Answer: The human male gamete, the sperm has to flow through the female reproductive tract to reach the fallopian tube, where it can fuse with the ovum. Thus, it requires an organ for rapid and efficient motility for transportation. The tail provides this function. The female gamete or the ovum has to travel very little distance, in which it is helped by the ovary and fallopian tube. Thus, it doesn't require any tail.

Q. 12. Testes produce male germ cells. What are these cells called? Name its parts.

Answer: The male gametes produced by testes are called sperms. These are small in size, single cells, with all the usual cell components. The sperms have three parts:

• Head

• Middle piece

• Tail.

Q. 13. Write two ways by which AIDS is transmitted.

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• Unprotected sexual intercourse

• Through infected needle or syringe.

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Q. 15. Which cell do organelles find only in plant cells?

Answer: Plastids, such as chloroplasts are four only in plant cells. Also, the plant cells have vacuoles and cell wall.

Q. 16. Elucidate the life cycle of frog.

Answer: The life cycle of a frog is comprised of three stages, namely the egg, tadpole (larva) and the adult frog. In its life cycle, the frog shows drastic changes in the physical appearance of each stage. That is, the tadpole undergoes drastic changes to transform into an adult frog, in terms of body parts. This change is termed as metamorphosis.

- The first stage of life cycle of a frog is the egg. Eggs of a frog are present as a cluster and are slimy in nature. They hatch in around 3-25 days, depending on species and temperature of water. The hatched egg proceed to next stage, the tadpole.
- The second stage is the tadpole. These are long, slender organisms, which metamorphose into an adult frog, over weeks. It has an ill-defined head-body and tail, as body parts.
- The last stage is of the adult frog, which is the transformed tadpole. It has no tail, but limbs, and a properly differentiated body and head.

Q. 17. Give details of two different ways in which a zygote develops in case of internal fertilisation.

Answer: The two different ways in which zygote develops following an internal fertilisation is:

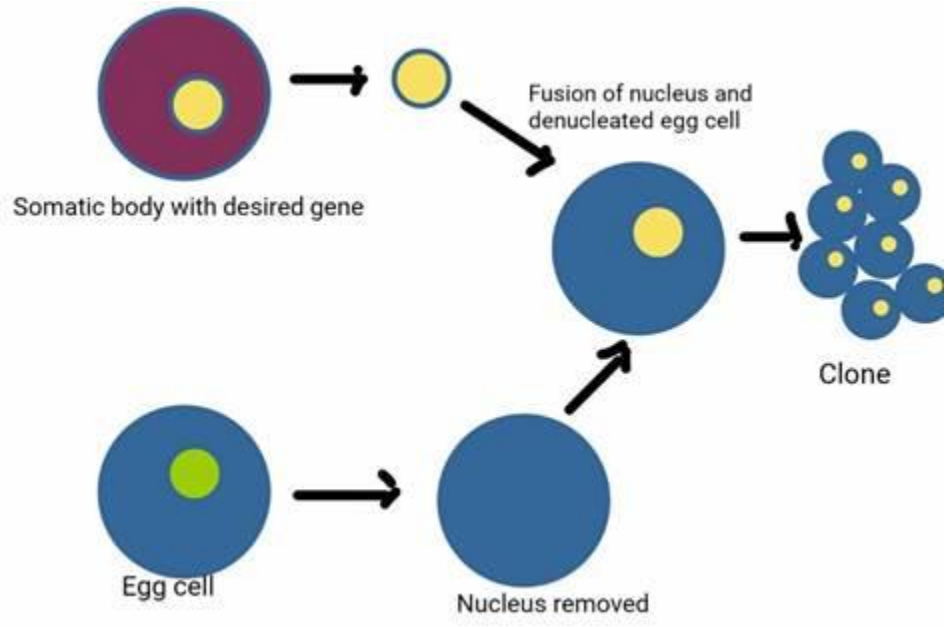
1. By oviparity; where the fertilized zygote after being coated with protective layers, is laid out as an egg, and the further development of the zygote takes place outside the body of the mother.

Example: Hen.

2. By viviparity; where the fertilized zygote gets implanted in the maternal body, and the development takes place inside the mother's body. In this, the mother gives birth to young ones.

Q. 18. Describe cloning with diagram.

Answer: Cloning is defined as the process of generating copy of a cell, part of body, or a complete organism, which is genetically identical to the parent organism. It is a natural phenomenon seen in asexual reproduction. In artificial biological processes, the generation of an identical copy of desired cell or organism, which in nature show variations due to sexual reproduction, is called cloning. The process is generally used to produce cell or cell products with desirable traits. In molecular biology, the process of cloning is used to replicate DNA and RNA. The first successfully cloned animal was a sheep named Dolly.



Q. 19. Write five differences between menarche and menopause.

Answer: The differences between menarche and menopause are as follows:

MENARCHE	MENOPAUSE
It is the first menstrual period or start of menstruation in human females.	It is the end of menstrual period or menstruation in human females.
It occurs at around 11-16 years of age.	It occurs at around 45-50 years of age.
It marks the beginning of reproductive phase of a female.	It marks the end of reproductive phase of a female.
There is elevated level of oestrogen.	There is decline in the level of oestrogen.
Symptoms such as irritability, moodiness, acne, irregularity in periods are seen.	Symptoms such as bloating, lack of sleep, weight gain, hair loss and skin dryness are seen.

Q. 20. List some points about the discovery of cell.

Answer:

● Cell, the basic structural and functional unit of life, was discovered by Robert Hooke in 1665.

● He observed dead cells of a cork under magnifying device.

● The structure appeared to be like that of small rooms, arranged in a honeycomb pattern. Hence, the name cell.

● Further advancements in microscopy have led to description of cell in more details.