



CLASS NOTES-ANSWERS

1) Explain the importance of reproduction in organisms.

Answer:

- Reproduction is termed to be a biological process in which organisms produce more of their own kind.
- It helps in maintaining the continuity of a particular race and in increasing the population of the species.
- Reproduction is meant for the survival of all living things and it is essential for existence and continuity of life.

2) Describe the process of fertilisation in human beings.

Answer: Fertilisation is defined as the process in which there is a fusion of male gamete and female gamete. The male gametes or sperms are released from the male reproductive organ called the penis. The sperms enter the female body through the vagina. From the vagina, sperms travel through the fallopian tubes, where they meet the egg, which is released by one of the ovaries.

From there on, the process of fertilisation takes place in the fallopian tube.

The male gamete cell (sperm) and female gamete cell (egg) fuse together to form a fertilized egg called zygote. The zygote divides rapidly to form a group of cells, which becomes the embryo. In human being, the fertilisation takes place inside the female body, known as internal fertilisation.

3) Choose the most appropriate answer.

a) Internal fertilisation occurs

i) in the female body

ii) outside the female body

iii) in the male body

iv) outside male body

b) A tadpole develops into an adult frog by the process of

i) fertilisation

ii) metamorphosis

iii) embedding

iv) budding



- c) The number of nuclei present in a zygote is
- | | |
|---------|----------|
| i) none | iii) two |
| ii) one | iv) four |
- 4) Indicate whether the following statements are True (T) or False (F).
- a) Oviparous animals give birth to young ones. (F)
- b) Each sperm is a single cell. ()
- c) External fertilisation takes place in the frog. (T)
- d) A new human individual develops from a cell called a gamete. (F)
- e) Egg laid after fertilisation is made up of a single cell. (T)
- f) Amoeba reproduces by budding. (F)
- g) Fertilisation is necessary even in asexual reproduction. (F)
- h) Binary fission is a method of asexual reproduction. (T)
- i) A zygote is formed as a result of fertilisation. (T)
- j) An embryo is made up of a single cell. (F)
- 5) Give the differences between a zygote and a foetus.

Answer:

Zygote:

- It is the earliest stage of development.
- It is formed by the fusion of male and female gametes.
- It is a single cell.
- The zygote divides several times to form an embryo.

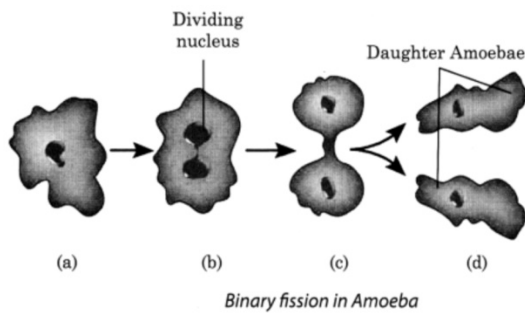
Foetus:

- It is the last developmental stage of an organism.
- The stage of the embryo shows all the main recognisable body parts of a mature organism.
- The foetus stage occurs after the embryo stage
- It is multicelled.

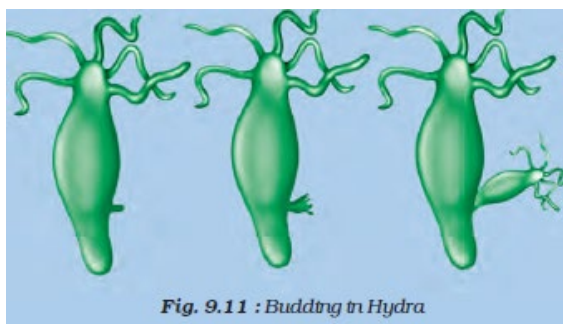
6) Define asexual reproduction. Describe two methods of asexual reproduction in animals.

Answer: The mode of reproduction in which the offspring arises from a single organism without the fusion of male and female gametes is called asexual reproduction. It never changes the number of chromosomes.

- Binary fission in amoeba: It is a kind of asexual reproduction in which a single parent cell is divided into two equal individual cells. In this process, the nucleus of the amoeba first divides to form two daughter nuclei. Finally, the division of the body into two halves having a nucleus takes place.



- Budding in hydra: The first step is the formation of buds, which develops as a small outgrowth on the parent's body. Once it is developed, it will be detached from the parent body and develop into a new individual.



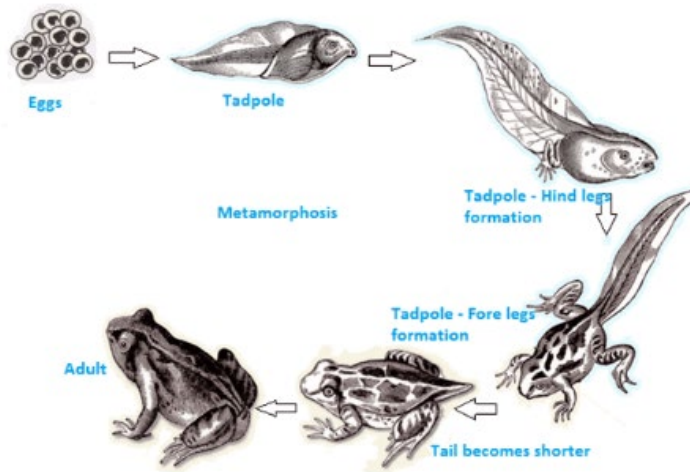
7) In which female reproductive organ does the embryo get embedded?

Answer: Uterus.

8) What is metamorphosis? Give examples.

Answer: Metamorphosis is defined as the process in which an animal's body structure abruptly changes through cell growth and differentiation.

It is a biological process. Examples of this kind are frog and butterfly.



9) Differentiate between internal fertilisation and external fertilisation.

Answer:

Fertilisation is defined as the fusion of a male and a female gamete.

Internal Fertilisation	External Fertilisation
The fusion of male gamete or sperm and female gamete or ova occurs inside the body of a female partner, such as humans and birds.	The fusion of male gamete and female gamete takes place outside the body of a female partner, such as frog and fish.
The female partner lays either fertilised eggs or a fully grown young one.	The female partner discharges unfertilised eggs.
There are high chances of survival of the offspring.	There are low chances of survival of the offspring.

10) Complete the crossword puzzle using the hints given below.

Across

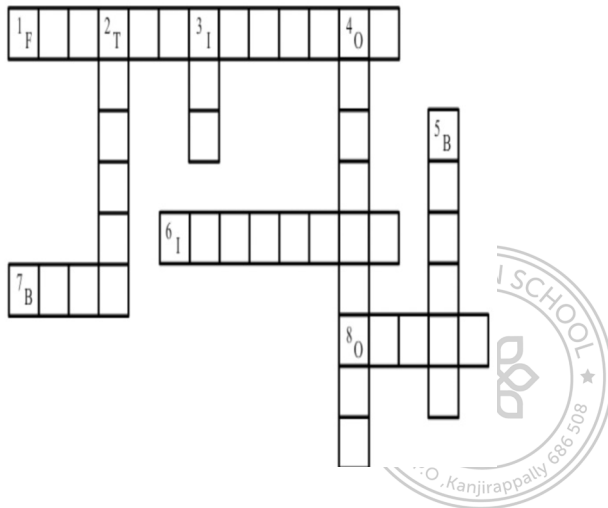
1) The process of the fusion of the gametes.



- 6) The type of fertilisation in a hen.
- 7) The term used for bulges observed on the sides of the body of a hydra.
- 8) Eggs are produced here.

Down

- 2) Sperms are produced in these male reproductive organs.
- 3) Another term for in vitro fertilisation.
- 4) These animals lay eggs.
- 5) A type of fission in amoeba



Answer:

Across

- 1) Fertilization
- 6) Internal
- 7) Buds
- 8) Ovary

Down

- 2) Testis
- 3) IVF
- 4) Oviparous
- 5) Binary

