

1. Explain the importance of reproduction in organism.

Sol. Reproduction helps to complete the life cycle of any species. Reproduction is essential for the continuation of a species. It ensures the continuation of similar kind of individuals; generation after generation. Reproduction is also responsible for bringing variations in subsequent generations and ultimately evolution of a new species.

2. Describe the process of fertilization in human beings.

Sol. Fertilization: The fusion of male and female gametes is called fertilization. In humans, internal fertilization occurs. During each ovulation cycle, usually one egg is released from the ovary and is transferred to the fallopian tube. The sperm travels to the fallopian tube. Fertilization takes place in the fallopian tube.

3. Choose the most appropriate answer.

(a) Internal fertilization occurs

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|--------------------|-------------------------|
| 1. In female body. | 2. Outside female body. |
| 3. In male body. | 4. Outside male body |

Sol. In female body.

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

- | | |
|------------------|------------------|
| 1. Fertilization | 2. Metamorphosis |
| 3. Embedding | 4. Budding |

Sol. Metamorphosis

(c) The number of nuclei present in a zygote.

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|---------|---------|
| 1. None | 2. One |
| 3. Two | 4. Four |

Sol. One

4. Indicate whether the following statements are true (T) or false (F):

(a) Oviparous animals give birth to young ones.

Sol. (F)

(b) Each sperm is a single cell.

Sol. (T)

(d) External fertilization takes place in frog.

Sol. (T)

(e) A new human individual develops from a cell called gamete.

Sol. (F)

(f) Egg laid after fertilization is made up of a single cell.

Sol. (T)

(g) Amoeba reproduces by budding.

Sol. (F)

(h) Fertilization is necessary even in asexual reproduction.

Sol. (F)

(i) Binary fission is a result of asexual reproduction.

Sol. (T)

(j) A zygote is formed as a result of fertilization.

Sol. (T)

(k) An embryo is made up of a single cell.

Sol. (F)

5. Give two differences between a zygote and a foetus.

Sol.

| <i>Zygote</i> | <i>Foetus</i> |
|--|---|
| The product of fusion of the nuclei of the sperm and egg is called zygote. | The stage of the embryo which resembles a human being is called a foetus. |
| It is a unicellular structure. | It is a multicellular structure. |

6. Define asexual reproduction. Describe two methods of asexual reproduction.

Sol. The reproduction in which a single parent is involved is called asexual reproduction. Budding and Binary fission are the methods of asexual reproduction.

Budding - Hydra reproduces by budding. Many bulges develop on the body of hydra. Each bulge grows into a new individual. Bulges are called buds.

Binary fission - Amoeba reproduces by binary fission. At first the nucleus divides into two nuclei and then the mother cell divides into two; with each part receiving a nucleus.

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

Sol. The embryo gets embedded in the wall of the uterus.

8. What is metamorphosis? Give examples.

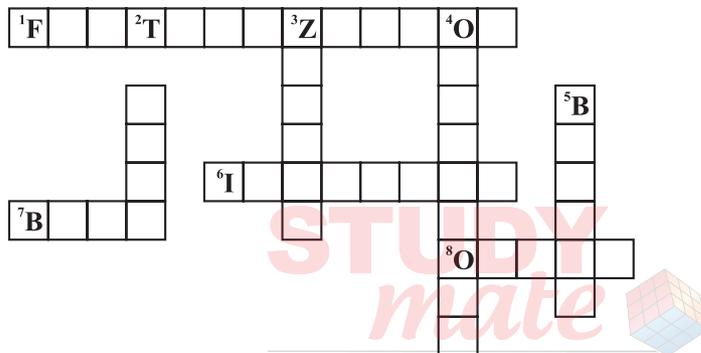
Sol. The transformation of the larva into adult through drastic change is called metamorphosis. Metamorphosis can be seen in many animals, e.g. frog and silkworm. The tadpole stage of frog is different from an adult frog. It metamorphoses into an adult frog. The larva of silkworm undergoes pupa stage and later on develops into a moth.

9. Differentiate between internal fertilization and external fertilization.

Sol.

| <i>Internal fertilization</i> | <i>External fertilization</i> |
|-------------------------------------|-----------------------------------|
| Takes place inside the body. | Takes place out of the body. |
| Less number of eggs is formed. | A large number of eggs is formed. |
| Examples: crocodile, bird, mammals. | Examples: fish, frog. |

10. Complete the cross- word puzzle using the hints given below



Across:

- (1) The process of the fusion of the gametes.
- (6) The type of fertilization in hen
- (7) The term used for bulges observed on the sides of the body of hydra.
- (8) Eggs are produce here.

Down:

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

Sol. Across:

- (1) Fertilization
- (6) Internal fertilization
- (7) Bud
- (8) Ovary

Down:

- (2) Testis
- (3) Zygote
- (4) Oviparous
- (5) Binary fission