

Reproduction in animal s



1. Explain the importance of reproduction in organisms.

Ans: Importance of reproduction:

- a) Human reproduction is essential for the continuance of the human species.
- b) It is the process of producing new individuals from the living organisms.
- c) Reproduction ensures the passage of traits and habitats from generation to generation.
- d) Without reproduction the species will be vanished from the earth and there is no world without species.

2. Describe the process of fertilization in human beings.

Ans: Process of fertilization in human beings:

- i. Human reproduction is brought about by formation and fusion of the male and female gametes. The male gametes, i.e. the sperms are produced by the testis and the female gametes, i.e. the ovum is produced by the ovary.
- ii. During copulation, the male releases sperm into the female reproductive tract. Since the sperm is a motile gamete, it will swim up the female reproductive tract to reach the ovum in the fallopian tube.
- iii. The process of fertilization happens when the male and female gametes fuse together in the fallopian tube. The end product of fertilization is called a zygote, which will develop further and become a foetus in the womb.

3. Choose the most appropriate answer.

a. Internal fertilisation occurs

- I. In the female body.
- II. Outside female body.
- III. In male body.
- IV. Outside male body

Ans: (I) In a female body

Internal fertilization takes place inside the female body and external fertilization takes place outside the female body.

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

- I. Fertilisation.**
- II. Metamorphosis**
- III. Embedding**
- IV. Budding**

Ans: (II) Metamorphosis

Fertilization takes place in human beings by the fusion of gametes and budding is a type of asexual reproduction takes place in plants in forming the buds.

c. The number of nuclei present in a zygote is

- I. None**
- II. One**
- III. Two**
- IV. Four**

Ans: (II) one

Only one nuclei is present in a zygote.

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

a) Oviparous animals give birth to young one.

Ans: F

Oviparous animals lay eggs and the young ones develop inside it.

b) Each sperm is a single cell.

Ans: T

c) External fertilisation takes place in frogs.

Ans: T

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

Ans: T

e) Egg laid after fertilisation is made up of a single cell.

Ans: T

f) Amoeba reproduces by budding.

Ans: F

Amoeba reproduces asexually through binary fission.

g) Fertilisation is necessary even in asexual reproduction.

Ans: T

h) Binary fission is a method of asexual reproduction.

Ans: T

i) A zygote is formed as a result of fertilisation.

Ans: T

j) An embryo is made up of a single cell.

Ans: F

Embryo is a multicellular structure.

5. Give two differences between a zygote and Foetus.

Ans: Difference between zygote and foetus:

Zygote	Foetus
Zygote is the single cell resulting from fusion of ovum and sperm.	Foetus is the much-developed form of zygote which has body parts and body organs.

It is generally observed in the fallopian tube of the female.	The foetus is a much-developed version of a baby present in the uterus.
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6. Define asexual reproduction. Describe two methods of asexual reproduction in animals.

Ans: Asexual Reproduction:

- i. It is a mode of reproduction that does not entails the union of sex cells or gametes.
- ii. There are different types of asexual reproduction, they are binary fission, budding vegetative propagation, spore formation, fragmentation. There is no gamete formation in this type of reproduction. Animals like Hydra, Amoeba undergo asexual mode of reproduction.

Two types of Asexual reproduction are:

- a) Budding: It is a type of asexual reproduction in which a new organism develops from an outgrowth or bud due to cell division at one particular site. These buds develop into tiny individuals and when fully they mature and detach from the parents body and become a new independent individual. Example: Hydra.
- b) Binary Fission: In this type of asexual reproduction the body of the organism mainly unicellular organism divides into two. Each of the two daughter cells are alike. Example: Amoeba.

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

Ans: The embryo gets embedded in the wall of the uterus for further development.

8. What is metamorphosis? Give examples.

Ans: Metamorphosis:

It means sudden change which happens while developing.

The animals that undergoes metamorphosis are

1. Butterfly (egg → larva → pupa → adult)
2. Frog (egg → tadpole → adult)

9. Difference between internal fertilisation and external fertilisation.

Ans: Difference between internal fertilization and external fertilization:

Internal fertilisation	External fertilisation
The fertilisation takes place inside the female body.	The fertilisation takes place outside the body of the female.
Union of male and female gametes occur in the female body after copulation.	Union of male and female gametes occur outside the female body.
Example- human beings, reptiles, birds.	Example- frog, fish and some of the algae etc.

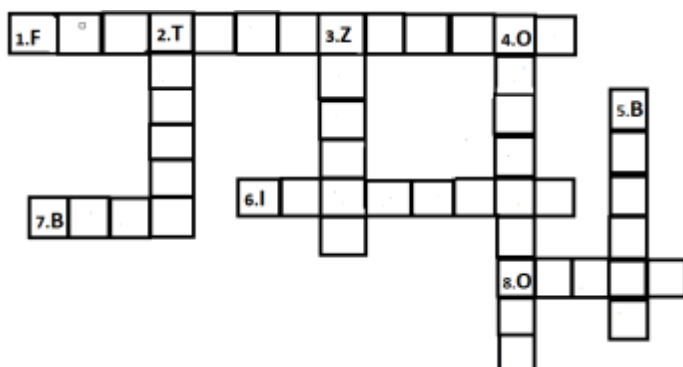
10. Complete the crossword puzzle using the hints given below.

Across

- 1. The process of the fusion of the zygotes.**
- 6. The type of fertilisation in hen.**
- 7. Term used for bulges observed on the sides of the body of hydra.**
- 8. Eggs are produced 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.**



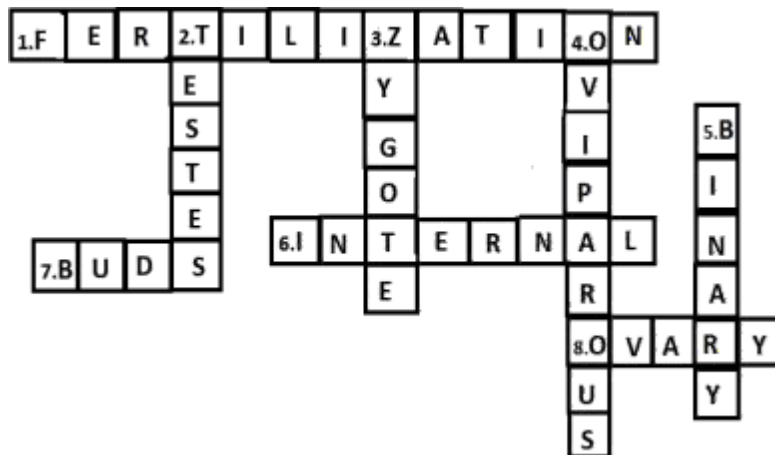
Ans:

Across

1. The process of the fusion of the zygotes - FERTILIZATION
6. The type of fertilisation in hen - INTERNAL
7. Term used for bulges observed on the sides of the body of hydra - BUDS
8. Eggs are produced here - OVARY

Down

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



Extended Learning –Activities and Projects

1. Visit a poultry farm. Talk to the manager of the farm and try to find out the answers to the following .

- (a) what layers and broilers in a poultry farm?**
- (b) do hens lay unfertilised egg?**
- (c) how can you obtain fertilised and unfertilised?**
- (d) are the eggs that we get in the stores fertilised or unfertilised ?**
- (e) can you consume fertilised egg?**
- (f) is there any difference in the nutritional value of fertilised and unfertilised egg?**

Ans: A) Layers are chickens raised for eggs and broilers are chickens raised for meat.

B) Hens lay fertilised egg. In hens internal fertilisation takes place but it comes out in the form of egg and then hatches outside the mother's body.

C) fertilised egg is when sperm of male and ovum of female unite

2. Observe live Hydra yourself and learn how they reproduce by doing the following activity: During the summer months collect water weeds from ponds or ditches along with the pond water and put them in a glass jar. After a day or so you may see several Hydra clinging to the sides of the jar.

Hydra is transparent, jelly-like and with tentacles. It clings to the jar with the base of its body. If the jar is shaken the Hydra will contract instantly into a small blob at the same time drawing its tentacles in.

Now take out few Hydras from the jar and put them on a watch glass. Using a hand lens or a binocular or dissection microscope observe the changes that are taking place in their body. Note down your observations.

Ans: Hydra (/ˈhaɪdrə/ h-EYE-dr ə) is a genus of small, fresh-water organisms of the phylum Cnidaria and class Hydrozoa. They are native to the temperate and tropical regions. Biologists are especially interested in Hydra because of their regenerative ability – they do not appear to die of old age, or inde

3. The eggs that we get from the market are generally unfertilized, meaning they do not contain a developing embryo. However, if you wish to observe a developing chick embryo you can get a fertilized egg from a poultry or hatchery that has been incubated for 36 hours or more. After incubation, you may be able to see a white disc-like structure on the yolk, which is the developing embryo. Sometimes, if the heart and blood vessels have developed, you may even see a red spot

Ans: If you are interested in observing the development of a chick embryo, there are several ways to do so. You can observe the development of a chick embryo by shell-less hatching method 2. You can also directly observe the chick's development from 3 days post-fertilization to the point at which it would normally hatch 3. If you want to observe the external form of chicken embryos at various stages of development, you can do so by carefully breaking open an egg each day 4. I hope this helps!

4. ask a doctor. find out how twinning occurs. look for any twins in your neighborhood or among any friends. find out if the twins are identical or non-identical. also find out why identical twins are always of the same sex?

Ans: Twinning occurs when a fertilized egg splits into two or more separate embryos, resulting in the formation of twins.

Identical twins are formed when a single fertilized egg splits and develops into two separate embryos, resulting in the formation of two identical individuals.

Non-identical twins, al