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Exercise

1. Explain the importance of reproduction in organisms.

Answer:

Reproduction is very important for the organisms. The organisms reproduce to produce young ones like them. It helps to carry on their generation. If reproduction does not take place, no living being will survive on the earth. Had the process of reproduction not been there then all the plants and animals would have become extinct. Secondly, special characters of an organism are carried over to its next generation through reproduction only.

2. Describe the process of fertilization in human beings.

Answer:

Fertilization involves the fusion of the male and the female gamete. The male and the female gametes are released from the male and the female reproductive organs. Sperms or male gametes are released from the male reproductive organ i.e., the penis. These sperms then enter the female body through the vagina. Then, they travel through the fallopian tubes where they meet the eggs. Hence, the process of fertilization takes place in the fallopian tubes. During fertilization, the haploid nucleus of the sperm and that of the ovum fuse with each other to form the zygote. This zygote divides to form an embryo which in turn develops into a foetus.

3. Choose the most appropriate answer.

(a) Internal fertilization occurs

(i) in female body.

(ii) outside female body.

(iii) in male body.

(iv) outside male body.

Answer: (i) in female body.

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

(i) fertilization

(ii) metamorphosis

(iii) embedding

(iv) budding

Answer: (ii) metamorphosis

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

(i) none

(ii) one

(iii) two

(iv) four

Answer: (ii) one

4. Indicate whether the following statements are True (T) or False (F).

(a) Oviparous animals give birth to young ones. (False)

(b) Each sperm is a single cell. (True)

(c) External fertilization takes place in frogs. (True)

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

- (e) Egg laid after fertilization is made up of a single cell. (True)
- (f) Amoeba reproduces by budding. (False)
- (g) Fertilization is necessary even in asexual reproduction. (False)
- (h) Binary fission is a method of asexual reproduction. (True)
- (i) A zygote is formed as a result of fertilization. (True)
- (j) An embryo is made up of a single cell. (False)

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

Answer:

Zygote	Foetus
It is a fertilized egg formed after the fusion of the sperm with the egg.	It is a stage of the embryo that shows all the main recognizable body parts of a mature organism.
The zygote divides several times to form an embryo.	An embryo gradually develops into a foetus.

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