NCERT Exemplar for Class 8 Science Chapter-9: Reproduction in Animals

Multiple Choice Questions

Question 1

Sets of reproductive terms are given below. Choose the set that has an incorrect combination.

- (a) sperm, testis, sperm duct, penis
- (b) menstruation, egg, oviduct, uterus
- (c) sperm, oviduct, egg, uterus
- (d) ovulation, egg, oviduct, uterus

Answer: (c) sperm, oviduct, egg, uterus

Explanation: Sperm is male gamete, egg is female gamete, oviduct and uterus are part of female reproductive system. Hence option c) is incorrect combination.

Question 2

In humans, the development of fertilised egg takes place in the

- (a) ovary
- (b) testis
- (c) oviduct
- (d) uterus

Answer: (d) uterus

Explanation: The development of fertilised egg takes place in the uterus. Embryo gets embedded in the wall of uterus for development by implantation.

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Question 3

In the list of animals given below, hen is the odd one out. **Animals:** human being, cow, dog, hen

The reason for this is

- (a) it undergoes internal fertilisation
- (b) it is oviparous
- (c) it is viviparous
- (d) it undergoes external fertilisation

Answer: (b) it is oviparous

Explanation: Hen is oviparous, it lays egg and the young one gets hatched later. Rest of the animals provided are viviparous. They give birth to young ones after they are developed completely.

Question 4

Animals exhibiting external fertilisation produce a large number of gametes. Pick the appropriate reason from the following.

- (a) The animals are small in size and want to produce more offsprings
- (b) Food is available in plenty in water
- (c) To ensure better chance of fertilisation
- (d) Water promotes production of large number of gametes

Answer: (c) To ensure better chance of fertilization

Explanation: Because they release gametes in water chances of getting washed away by water, wind and rain are more. Hence to ensure better chance of fertilisation, large number of gametes are produced by animals exhibiting external fertilization.

Question 5

Reproduction by budding takes place in

- (a) hydra
- (b) amoeba
- (c) paramecium
- (d) bacteria

Answer: (a) hydra

Explanation: Paramecium, Amoeba and bacteria reproduce by binary fission. Hydra reproduce by budding where a bud detaches from the parent which grows into complete organism.

Question 6

Which of the following statements about reproduction in humans is correct?

- (a) Fertilisation takes place externally
- (b) Fertilisation takes place in the testes
- (c) During fertilisation egg moves towards the sperm
- (d) Fertilisation takes place in the human female

Answer: (d) Fertilisation takes place in the human female

Explanation: Male gametes are introduced into female's body through vagina. Sperm reach uterus through oviduct. At uterus egg gets fertilized by sperm to form a zygote.

Question 7

In human beings, after fertilisation, the structure which gets embedded in the wall of uterus is

- (a) ovum
- (b) embryo
- (c) foetus
- (d) zygote

Answer: (d) zygote

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Explanation: Egg fuses with sperm to form the zygote which will divide to form a clump of hundreds of cells which form the embryo. The process of moving down embryo from oviduct into uterus is called implantation.

Question 8

Aquatic animals in which fertilisation occurs in water are said to be:

- (a) viviparous without fertilisation
- (b) oviparous with external fertilisation
- (c) viviparous with internal fertilisation
- (d) oviparous with internal fertilisation

Answer: (b) oviparous with external fertilisation

Explanation: Aquatic animals lay eggs and release sperms into water for fertilization to take place. Young one is formed outside the body hence it is called external fertilization.

Question 9

After fertilisation, the resulting cell which gives rise to a new individual is the

- (a) embryo
- (b) ovum
- (c) foetus
- (d) zygote

Answer: (d) zygote

Explanation: Zygote is the beginning of formation of a new individual. All the multicellular organisms start their life from single celled zygote.

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Question 10

In human beings, the correct sequence of events during reproduction is

- (a) gamete formation, fertilisation, zygote, embryo
- (b) embryo, zygote, fertilisation, gamete formation
- (c) fertilisation, gamete formation, embryo, zygote
- (d) gamete formation, fertilisation, embryo, zygote

Answer: (a) gamete formation, fertilisation, zygote, embryo

Explanation: In humans male gametes fuse with female gametes to fertilise in the female ovary. Fertilised sperm and egg form zygote which will divide repeatedly to form the embryo.

Very Short Answer Questions

Question 11

Although 2 cells called gametes fuse, the product formed is a single cell called zygote. Justify.

Answer: During fertilization only nucleus of the sperm gets implanted into uterus to form zygote. Then sperm degenerates. Hence fused cell is called gamete.

Question 12
Stages in the lifecycle of silkworm are given below. Write them in sequential order. **Given stages:** pupa, silkworm, egg, silkmoth
Answer:

- a) Egg
- b) Pupa
- c) Silkmoth
- d) Silkworm

Question 13
What is the importance of reproduction?
Answer: Reproduction ensures continuation of species from generation to generation.

Short Answer Questions
Question 14
In markets, eggs of birds are available but never eggs of dogs. Why?
Answer: Because dog is viviparous. It does not lay egg. It gives birth to a new one.

Question 15
The eggs of frogs do not have shells for protection, yet they are safe in water. How?
Answer: Jelly like covering on the eggs give the protection. Hence frog's eggs are safe in water.

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Question 16
Fill up the blanks with the terms given below: **Terms:** body, asexual, binary, single, nucleus
Amoeba is a _____ celled organism. It reproduces by _____ reproduction. The process of reproduction begins by the division of its _____ into two. This is followed by the division of its _____ into two. This type of reproduction is called _____ fission.
Answer: Amoeba is a **single** celled organism. It reproduces by **asexual** reproduction. The process of reproduction begins by the division of its **nucleus** into two. This is followed by the division of its **body** into two. This type of reproduction is called **binary** fission.

Question 17
The term metamorphosis is not used while describing human development. Why?
Answer: Because body parts of humans will be present by birth. Whereas in metamorphosis parts of adults are different from the young ones.

Question 18

Mother gives birth to a baby but the baby has characters of both parents. How is this possible?
Answer: Though mother gives birth to a baby but fertilization involves fusion of gametes from both the parents. Hence characters are obtained by both the parents.

Question 19
How is reproduction in hydra different from that in amoeba?
Answer: Hydra reproduce by budding where a bud detaches from the parent which grows into complete organism. Whereas amoeba reproduces by binary fission. The process of reproduction begins by the division of its nucleus into two. This is followed by the division of its body into two.

Question 20
State whether the following statements are True or False. If false, correct the statement:

- (a) External fertilisation can occur both in water and on land
- (b) The eggs of fish are covered by hard shells for protection
- (c) Human egg has a head, middle piece and tail
- (d) In adult human females, a single mature egg is released into an oviduct every month

Answer:

- a) **False** - External fertilisation can occur only in water
- b) **False** - eggs of fish are covered by jelly like substance for protection
- c) **False** - Human sperm has a head, middle piece and tail
- d) **True**

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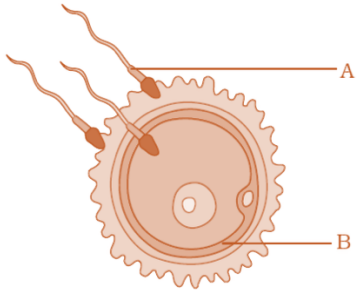
Question 21
Why do only male gametes have a tail?
Answer: Because sperm need to be motile to reach non-motile egg in the ovary of female.

Question 22
What does Fig. 9.1 represent?

Answer: Figure shows Binary fission of amoeba with dividing nucleus.

Long Answer Questions
Question 23

Observe the figure given as Fig. 9.2 and answer the questions that follow.



- (a) Label A and B
- (b) Identify the process
- (c) What happens during this process and what is formed?

Answer:

- (a) A-sperm; B-ovum (egg)
- (b) Fertilisation
- (c) Sperm nucleus fuses with the egg nucleus to form the zygote

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Question 24

How can we say that fish exhibits external fertilisation?

Answer: Female fish releases eggs into water and male fish releases sperm into water. Sperm swim randomly in water to reach egg. Nucleus of the sperm reaches egg and fuses to form the zygote. Since fertilization takes place externally, it is called external fertilization.

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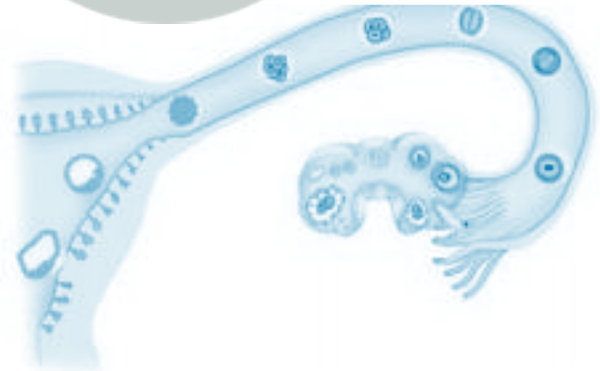
Question 25

After observing Fig. 9.3 answer the following.

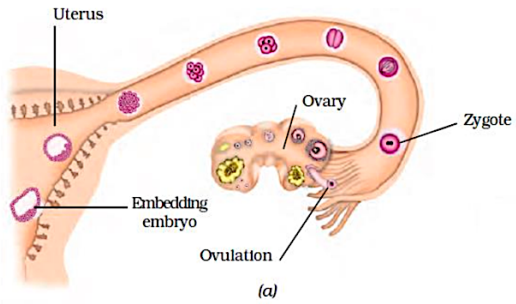


a) Read the following statements and label them in the figure:

- (i) The part which produces female gametes
- (ii) The part where development of the baby takes place
- (iii) The part through which the developing embryo passes to reach the uterus

b) (iv) Explain the future development of the embryo that would take place after it gets embedded in the uterus.

Answer:



a)

- i) Ovary
- ii) Uterus
- iii) Oviduct

b) iv) Developing embryo gets embedded in the wall of the uterus for further development. The embryo continues to develop in the uterus. It gradually develops body parts such as hands, legs, head, eyes, ears etc. The stage of the embryo in which all the body parts can be identified is called a foetus. When the development of the foetus is complete, the mother gives birth to the baby.

Question 26

Hens and frogs are both oviparous exhibiting different types of fertilisation. Explain.

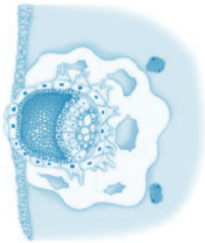
Answer: In Hens internal fertilisation takes place. Fertilised egg develops inside female body but development of chick from the embryo takes place outside the body.

On the other hand in frogs both fertilisation and development of zygote to embryo and young ones occurs outside the body.

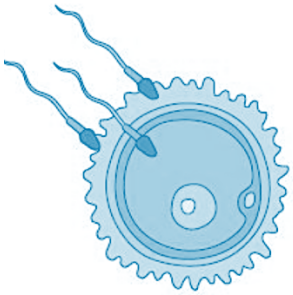
Question 27

Observe the following figures.

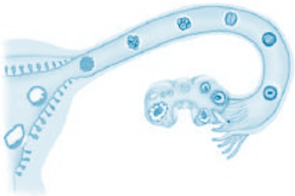
(a)



(b)



(c)



(d)

- (i) Identify the stages a to d in Fig. 9.4 during development of human baby
- (ii) Arrange the stages in correct sequence of development
- (iii) Explain the development that takes place in any one stage

Answer:

(i) Identification of stages:

- (a) Embedding of the embryo in the uterus
- (b) Fertilisation
- (c) Zygote formation and development of an embryo from the zygote
- (d) Zygote showing fusion of nuclei

(ii) The correct sequence is: c, b, d, a

(iii) Zygote formation: The sperm and the egg nuclei fuses to form a single nucleus resulting in the formation of a fertilised egg or zygote.