

Chapter 9

MULTIPLE CHOICE QUESTIONS

- | | | | |
|------|-------|------|------|
| 1. c | 2. d | 3. b | 4. c |
| 5. a | 6. d | 7. b | 8. b |
| 9. d | 10. a | | |

VERY SHORT ANSWER QUESTIONS

11. During fertilisation, only the nucleus of the sperm moves into the egg cell and fuses with the egg nucleus to form the zygote. The sperm degenerates.
12. egg, caterpillar, pupa, silk moth
13. It ensures the continuation of species generation after generation.
14. Dogs do not lay eggs.
15. A layer of jelly covers the eggs of frog and provides protection.

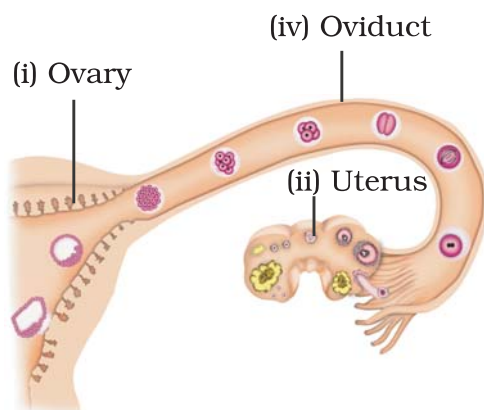
SHORT ANSWER QUESTIONS

16. Single, asexual, nucleus, body, binary
17. In human beings, body parts of an adult are present from the time of birth itself. Whereas, in metamorphosis, the parts of the adult are different from those at the time of birth.
18. Although mother gives birth to a child, fertilisation involves two gametes, one from the mother and the other from father. The zygote, therefore has both father and mother's contribution. Since the zygote develops into the baby it has characters of both parents.
19. Hydra reproduces by budding where an outgrowth arises from the parent and develops into a new individual. Amoeba reproduces by binary fission in which the division of nucleus is followed by division of the cell resulting in two individuals.

20. (a) F; External fertilisation occurs only in water.
(b) F; The eggs of fish are covered by a jelly for protection.
(c) F; Human sperm has a head, middle piece and tail.
(d) T
21. Because they have to be motile and reach the non-motile female gamete.
22. The figure shows an amoeba undergoing binary fissions with a dividing nucleus.
23. (a) A-sperm; B-ovum (egg)
(b) Fertilisation
(c) Sperm nucleus fuses with the egg nucleus to form the zygote.

LONG ANSWER QUESTIONS

24. Female fish release eggs into water and male fish releases sperms. Sperms swim randomly in water and comes in contact with the eggs. The nucleus of the sperm moves into the egg and fuses with it. Since fertilisation occurs in water, outside the female body, it is external fertilisation.
- 25.



26. Hens are oviparous in which internal fertilisation takes place. The fertilised egg develops into an embryo inside the body. However, the development of chick from the embryo takes place outside the body.

Frogs are oviparous in which both fertilisation and development of zygote to embryo and young ones occurs outside the body.

27. (i) (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.
(Note: One step is explained as an example. Students may explain any other step.)