CLASS : VIII SUB. : BIOLOGY

Chap. 2 : Reproduction in Plants & in Animals

1. Read the chap. & do all the objective Q/A. in your book.
2. Do the exercises in Bio copy given below & learn ↓

Exercises of Page 28 & 29.

Q-C. Define the following terms :-

1. Binary fission → Binary fission is a type of asexual reproduction in which a cell divides into two daughter cells.
2. Vegetative Propagation → The method of reproduction in plants that involves the vegetative parts of the plant is called vegetative propagation.
3. Androecium → Androecium is the male part of the flower and consists of the stamens which contains the male gametes.
4. Gynoecium → Gynoecium is the female part of the flower and consists of the carpels which contain the female gametes.
5. Pollination → The transfer of pollen grains from the anther to the stigma of a flower belonging to the same species is called pollination.
6. Fertilisation → The fusion of the male and the female gametes is called fertilisation.

Q.D. Differentiate between the terms :—

1. Sexual reproduction and asexual reproduction.

Ans. In sexual reproduction, two parents are required and male and female gametes are involved.

whereas

In asexual reproduction, only one parent is required and there is no gamete or sex cell involved.

2. Pollination and fertilisation.

Ans. The transfer of pollen grains from the anther to the stigma of a flower belonging to the same species is called pollination.

whereas

The fusion of the male and female gametes is called fertilisation.

3. Pollen germination and seed germination.

Ans. Pollen germination is the growing of a pollen tube, which grows into the stigma and style to reach the ovary and the ovule.

whereas

Seed germination is the process of the sprouting of a seedling from a seed.

Q.E. Short-answer questions :—

1. What is a spore? How it is useful for reproduction?

A. A spore is a tiny, single-celled unit that is produced by some plants for the purpose of reproduction. It is useful for reproduction as these are light and thus can be carried away easily by water and wind.

Q.2. Name two plants that are propagated through roots and through leaves?

Ans: (i) Two plants that are propagated through roots are sweet potato and carrot.

(ii) Two plants that are propagated through leaves are bryophyllum and kalanchoe.

Q3. How is layering used to propagate plants?

Ans. In layering, a branch of a plant is bent down and covered with soil. Roots start to grow from that point which can be cut and the new plant moved somewhere else.

Q4. Name the two kinds of pollination.

Ans. The two kinds of pollination are self-pollination and cross-pollination.

Q5. Name three agents of pollination. Give an example of a plant pollinated through each agent.

Ans. Three agents of pollination are—

(i) Insects → Eg.- orchids.

(ii) Air → Eg.- wheat.

(iii) Water → Eg.- hydrilla.

Q.F. Long-answer questions :-

Q1. How does a plant reproduce through its leaves?

Ans. The fleshy leaves of some plants like Bryophyllum, kalanchoe etc. involved in reproduction. Small plantlets grow from the edges of these leaves. When a plantlet falls to the ground, it grows into a new plant. Many succulents can propagate through fallen leaves.

Q2. X

Q3. List the advantages and disadvantages of tissue culture.

Ans. Some advantages of tissue culture are as follows :-

(i) Tissue culture can be used to propagate plants quickly.

(ii) It can be used to propagate hybrid varieties of plants.

(iii) It can be used to propagate plants that do not have viable seeds.

Some disadvantages of tissue culture are-

(i) It is an expensive process.

(ii) The failure rate of this technique may be high.

Q4. X

Q5. List the advantages and disadvantages of vegetative propagation.

Ans. The advantages of vegetative propagation are-

(i) Since the plant grows from a single parent, it is identical to the parent.

(ii) This process can be used to grow plants quickly.

(iii) This method does not depend on the quality of the seeds used.

The disadvantages of vegetative propagation are-

(i) The inherited diseases and undesirable characteristics of the parent plant are seen in the new plant too.

(ii) Since seeds or spores are not involved, the new plants do not get dispersed and could cause overcrowding.

Q.F Q6. Draw a diagram to show the structure of a bisexual flower.

Ans. Draw from page 24 (Fig - 2.12) in white side.

Q7. Give three characteristics of flowers that are pollinated by the wind and three characteristics of flowers that are pollinated by water.

Ans. The characteristics of flowers that are pollinated by the wind are —

(i) The pollen grains ~~can~~ are dry, light and can be easily carried by the wind.

(ii) The flowers also produce large quantities of pollen.

(iii) The stigma may be lobed, branched or feathery to catch ~~fotten~~ pollen.

The characteristics of flowers that are pollinated by water are —

(i) Usually, these plants have separate male and female flowers.

(ii) The pollen grains are usually waterproof and light so that they can float on water.

(iii) The pollen is produced in large quantities.

Q8. What is artificial pollination? How it is done and what is its use?

Ans. Write from page 26. (Topic: Artificial pollination)
1st part → Artificial pollination ------ characteristics.
2nd part → Second paragraph (whole paragraph)
3rd part → It has been used for hundreds of years to get the desired type of plants.

Q9. X (Not required).

Excercises of Page 34 & 35

Qc. Define the terms :—

1. Implantation → The process by which the zygote gets fixed to the wall of the uterus is called implantation.
2. Gestation → The development of the foetus into the baby in the uterus is called gestation.
3. Placenta → Placenta is a special tissue which develops at the point where the zygote is connected to the uterus.
4. Umbilical cord → The umbilical cord is a tube like structure that connects the foetus to the mother's body through the placenta.

Qd. Differentiate between the terms :—

1. Budding and regeneration

Ans Budding is a type of asexual reproduction in which a small bud develops on the body of the individual which breaks off from the parent and becomes a seprate individual.

whereas

Regeneration is another type of asexual reproduction by which some animals regenerate their whole organs or body, if some part of their body is damaged or cut off.

2. Sperm and ovum.

Ans- Sperm is the male reproductive cell (gamete) produced by the testis and participates in sexual reproduction.

whereas

Ovum is the female reproductive cell (gamete) produced by the ovary and also participates in sexual reproduction.

3. Epididymis and vas deferens

Ans: Epididymis is a tube like structure of male reproductive system which collects the sperms produced by the testis and stores them.

whereas

Vas deference is another tube like structure of male reproductive system which carries the sperms from the epididymis to the urethra.

Q.F: Give reasons for the following :—

1. The sperms are mixed with fluids before ejaculation.

Ans: Because these secretions act as a medium of transport for the sperms and help in lubrication.

2. The sperms have tails.

Ans: Because the tail helps the sperm to swim to meet the ovum.

3. The uterus is muscular.

Ans: Because it allow to expand as the embryo grows and also to push the baby out of the body at the time of birth.

Date
Page

Q.F. Short-answer questions :-

Q1. How does sexual reproduction occur in animals?

Ans. In animals, sexual reproduction occurs by the fusion of the male (sperm) and female (egg) gametes to form a zygote. This zygote divides many times to form an embryo, which grows into the individual.

Q2. Why was the testes held outside the body?

Ans. The testes are held outside the body to keep the temperature of the testes a few degrees cooler than that of the rest of the body since the normal temperature of the body will kill the sperm cells before they mature.

Q3. Describe the structure of a sperm with a neat, labelled diagram.

Ans. The sperm is a single cell. It is divided into three parts — the head, middle piece and tail. The tail helps the sperm to swim to meet the ovum.

[Diagram draw from Page 31. Fig - 2.25]

Q4. Name the organs of the (i) male reproductive system and (ii) female reproductive system.

Ans (i) The organs of the male reproductive system are — a pair of testes, secretory glands, the urethra and the penis.

(ii) The organs of the female reproductive system are — a pair of ovaries, the uterus and the vagina.

Q5. Describe the structure of the uterus.
Ans. The uterus is a hollow organ that is shaped roughly like an inverted triangle. It has thick muscular walls to allow it to expand as the embryo grows and also to push the baby out of the body at the time of birth.

Q.G. Long answer questions :-
Q1. Describe budding in Hydra with a diagram.
Ans. Hydra reproduce by budding in which a small bud develops on the body of the Hydra. The bud grows larger and develops tentacles. Once the bud is large enough, it breaks off from the parend Hydra and becomes a separate individual.

[Diagram draw from page 29 (Fig 2.23)]

Q.2. Draw a neat, labelled diagram of the male reproductive system.
Ans. Draw this diagram from page 31 (Fig 2.26)

Q3. Draw a neat, labelled diagram of the female reproductive system.
Ans. Draw this diagram from page 32. (Fig. 2.28)

VIII Biology

Q4. Describe how the human zygote grows into a foetus.

Ans.- After the formation of zygote after ferti-lisation, it starts to divide immediately. The rapid dividing zygote moves down the oviduct and reaches the uterus. Once in the uterus, the zygote gets fixed to the wall of the uterus, It continues to divide further. The cells of the zygote also begin to differentiate into different types of cells that can carry out specific functions.

The zygote begins to look like a tiny baby around two months after implan-tation. The zygote is now called the foetus.

X X