Chapter - 8

How Do Organisms Reproduce?

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1. What is the importance of DNA copying in reproduction?

Ans. DNA contains information for the inheritance of features from parents to next generation. DNA presents in nucleus of cells are the information source for making protein. If information is different, different protein will be made that lead to altered body design.

2. Why is variation beneficial to the species but not necessarily for the individual?

Ans. Variations are useful for the survival of species in changed environmental situations. If a population of reproducing organism were suited to a particular niche and if the niche is drastically altered the population could be wiped out. However,if some variations are present some species will survive. Thus, variation is useful to species but not the individual.

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1. How does binary fission differ from multiple fissions?

Ans. Difference between binary fission and multiple fission:

Binary fission	Multiple fission
Splitting of unicellular organisms like amoeba into two equal halves during cell division is termed binary fission.	Division of single-celled organisms such as malarial parasites into many daughter cells simultaneously is termed multiple fission.

2. How will an organism be benefited if it reproduces through spores?

Ans. The spores are covered by thick walls that protect them until they come into contact with suitable moist surface and can begin to grow.Large number of spores also provide survival benefits.

3. Can you think of reasons why more complex organism cannot give rise to new individuals through regeneration?

Ans. Complex organisms are not merely random collection of cells. Specialized cells are organized in them as tissues are organized in organs. These organs have to be placed at definite positions in the body. So, regeneration is not possible in multicellular organism.

4. Why is vegetative propagation practiced for growing some types of plants?

Ans. (i) Plants raised by vegetative propagation can bear flower and fruits earlier than those produced from seeds.

(ii) Such methods also make possible the propagation of plants such as banana, orange, rose and jasmine that have lost the capacity to produce seeds

.**(iii)** All plants produced by this method are genetically similar enough to the parent plant to have its all characteristics.

5. Why is DNA coping essential part of the process of reproduction?

Ans. DNA contains information for the inheritance of features from parents to next generation. DNA presents in nucleus of cells are the information source for making protein. If information is different, different protein will be made that lead to altered body design.

Page No. 140

1. How is process of pollination different from fertilization?

Ans. Distinction between pollination and fertilisation:

Pollination	Fertilisation
Pollination refers to the process of transfer of pollen grains from anther to stigma of flower.	Fertilisation refers to fusion of male and female gamete to form a zygote.

2. What is the role of the seminal vesicles and the prostate gland?

Ans. Secretions of seminal vesicles and prostate gland provide fluid medium to sperm to move and also provide nutrition to them.

3. What are the changes seen in girls at the time of puberty?

Ans. During puberty breast size begins to increase with darkening of the skin of the nipples at the tip of breasts. Also, girls begin to menstruate at around this time.

4. How does the embryo get nourishment inside the mother's body?

Ans. The embryo gets nutrition from the mother's blood with the help of a special tissue called placenta. This is a disc which is embedded in the wall of uterus. It contains finger-like projections villi on the embryo's side of the tissue. On mother's sides are blood spaces, which surround the villi. This provides a large surface area for glucose and oxygen to pass the mother to the embryo and waste products from embryo to mother.

5. If a woman is using a Copper-T, will it help in protecting her from sexually transmitted diseases?

Ans. Copper-T cannot protect the woman from acquiring sexually transmitted disease. It will protect her from only unwanted pregnancy.

TEXTBOOK EXERCISE

1. Asexual reproduction takes place through budding in

(a) Amoeba

(b) Yeast

(c) Plasmodium

(d) Leishmania.

Ans. (b) Yeast

2. Which of the following is not a part of female reproductive system in human beings?

(a) Ovary

(b) Uterus

(c) Vas deferens

(d) Fallopian tube

Ans. (c) Vas deferens, it is a male reproductive part.

3. The anther contains

(a) Sepals

(b) Ovules

(c) Carpel

(d) Pollen grains.

Ans. (d) Pollen grains.

4. What are the advantages of sexual reproduction over asexual reproduction?

Ans. Sexual reproduction leads to variation due to recombination of genetic material DNA. These variations are essential for survival of species. On the contrary, asexual reproduction does not bring about variations.

5. What are the functions performed by the testis in human beings?

Ans. In human beings, testes perform dual function:

(i) Production of sperms

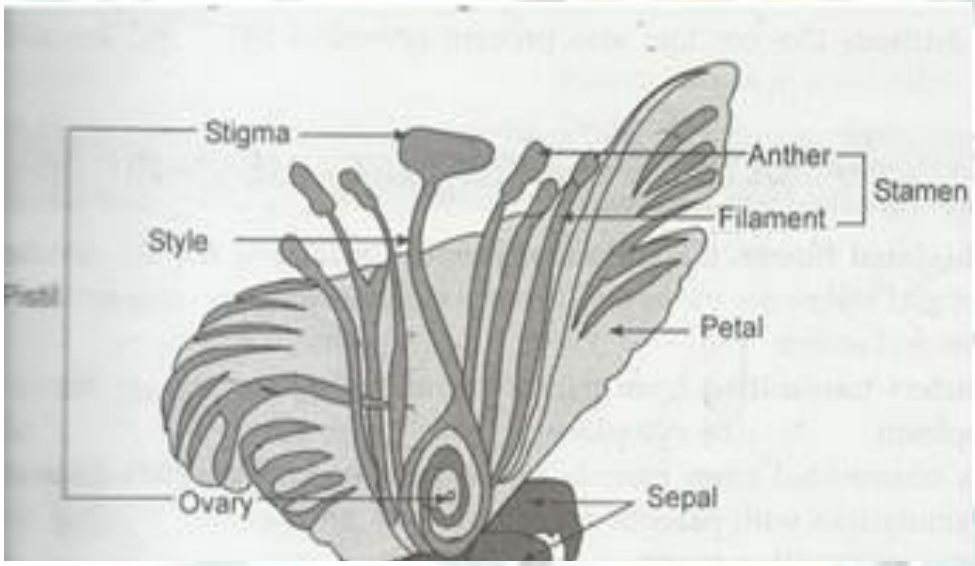
(ii) Secretion of male hormone testosterone.

6. Why does menstruation occurs.

Ans. When in human female, egg is not fertilized, it lives for about one day. Since the ovary releases one egg every month, the uterus also prepares itself every month to receive a fertilized egg. Thus, its lining becomes thick and spongy. This would be required for nourishing the embryo if had fertilized. However, this lining is not required any longer if fertilisation has not occured. So, the lining slowly breaks and comes out through the vagina as blood and mucous. This cycle takes roughly every month and is known as menstruation.

7. Draw a labeled diagram of the longitudinal section of a flower.

Ans.



8. What are the different methods of contraception?

Ans. Various methods used for regulation of child birth can broadly categories as:

(i) Barrier methods: In this method, physical devices such as condom, diaphragm, cervical cap and Copper-T are used.

(ii) Chemical method: use of spermicidal jelly by woman, oral pills and vaginal pills.

(iii) Surgical method: In surgical method, a small portion of vas deferens in male and the oviduct of female, is surgically removed or ligated. It is called vasectomy in male and Tubectomy in females.

9. How are the modes of reproduction different in unicellular and multicellular organism?

Ans. In unicellular organisms, cell division, or fusion leads to the creation of new individuals.In multicellular organisms with simple body organization budding, fragmentation may work but in complex multicellular organisms only sexual reproduction takes place.

10. How does reproduction help in providing stability to populations of species?

Ans. The consistency of DNA copying during reproduction is important for the maintenance of body designand other features that allow the organism to use the particular niche. Reproduction is, therefore, linked to the stability to populations of species.

11. What could be the reasons for adopting contraceptive methods?

Ans. The sexual act always has the potential to lead to pregnancy. Pregnancy will make major demands on the body and the mind of the woman and if she is not ready for it, her health will adversely affected. Therefore, adopting contraceptive methods are essential. Some

contraceptive methods like condom also prevent spread of STDs and lethal diseases like HIV-AIDS.