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NCERT Class X Science Class: Chapter – 8. How Do Organisms Reproduce? – Part-10

Question 52:

Distinguish between a gamete and zygote. Explain their roles in sexual reproduction.

Answer:

Gamete represents the sex cell or germ cell in sexual reproduction. There are two types of gametes, male and female.

Zygote is the product of fertilization in which a male and a female gamete fuse with each other.

The two fusing gametes possess characters of their parents in their DNA. Fertilization brings characters of both parents into one zygote cell.

Zygote is the first cell of the next generation. It divides to form an embryo which subsequently grows into a new individual.

**Question 53:**

Draw the diagram of a flower and label the four whorls. Write the names of gamete producing organs in the flower.

Answer:

**Gametes producing organs:**

Anthers (Part of androecium) - male gametes

Ovary (Part of gynoecium) - female gametes

Question 54:

What is placenta? Mention its role during pregnancy?

Answer:

- (a) Special tissue connection between embryo and uterine wall
- (b) Possesses villi that increases the surface area.
- (c) Facilitate passage of nutrition and oxygen to embryo from mother through blood.
- (d) Waste substances produced by embryo are removed through placenta into mother's blood.

Question 55:

What are various ways to avoid pregnancy? Elaborate any one method.

Answer:**(a) Contraceptive methods are used such as :**

- (i) Mechanical
 - (ii) Drugs (as pills)
 - (iii) Loop or copper T and
 - (iv) Surgical method
- (b)** Pills change the hormonal balance and thus prevent the release of egg, hence fertilization is prevented

Question 56:

How does fertilization take place? Fertilization occurs once in a month. Comment.

Answer:

- (a) Sperm enters through the vaginal passage during sexual intercourse and moves upwards.
- (b) Egg released from the ovary reaches the oviduct.

- (c) Sperm encounters egg in the oviduct and fertilization takes place.
- (d) Egg is released once every month by ovary.

Question 57:

Reproduction is essentially a phenomenon that is not for survival of an individual but for the stability of a species. Justify.

Answer:

- (a) Organisms need energy for survival which they obtain from life processes such as nutrition and respiration.
- (b) Reproduction needs a lot of energy.
- (c) Genetic material is transferred from one generation to the next as a result of reproduction through DNA copying.
- (d) DNA copying takes place with high constancy and considerable variations, that is, advantages to the species for stability in the changing environment.

Question 58:

Describe sexually transmitted diseases and mention the ways to prevent them.

Answer:

- (a) These are infectious diseases transmitted during sexual contact
- (b) They may be bacterial like or viral like
- (c) Use of mechanical barrier like condom prevents transmission of infection