

Chapter 10 Reaching the Age of Adolescence

Question 1.

What is the term used for secretions of endocrine glands responsible for changes taking place in the body?

Answer:

Hormones

Question 2.

Define adolescence.

Answer:

The period of life, when the body undergoes changes, leading to reproductive maturity, is called adolescence. The period of adolescence is normally 11 years to 19 years.

Question 3.

What is menstruation? Explain.

Answer:

In females, the ova or eggs begin to mature with the onset of puberty (10 to 12 years of age) one egg get matured and is released by one of the ovaries once in about 28 to 30 days. During this period, the wall of the uterus becomes thick so as to receive the fertilized egg. In case it is fertilized, it begins to develop. This results in pregnancy. If the fertilization fails to take place, the ovum or the released egg and the thickened lining of the uterus along with its blood vessels are shed off. This causes bleeding in women. This is called menstruation. It occurs once in 28 to 30 days.

Question 4.

List changes in the body that take place at puberty.

Answer:

The changes take place differently in the body of boys and girls at puberty. These change may be listed as below:

- There is sudden increase in the height of both boys and girls. However, both reach their maximum height at the age of 17 to 18 years.
- The voice of boys become hoarse and that of girls become shrill.
- Shoulders become broader and muscles grow more prominently in boys. In girls, the regions below the waist becomes wider.
- Hair start growing in different parts of boys and girls.
- In most of the teenagers, due to increased secretion of sweat and sebaceous gland, get acne and pimples on their face.
- Onset of puberty brings changes in secondary sexual characters in both male and female.
- Boys and girls become capable of reproduction.
- In girls, menstruation starts.
- Different types of hormones start to release in initiating a reproductive function.

Question 5.

Prepare a table having two columns depicting names of endocrine glands and hormones secreted by them.

Answer:

Endocrine glands	Hormones
1. Pituitary gland	(i) Growth hormones
2. Ovaries	(ii) Estrogen
3. Testes	(iii) Testosterone

4. Thyroid	(iv) Thyroxine
5. Pancreas	(v) Insulin
6. Adrenal glands	(vi) Adrenaline

Question 6.

What are sex hormones? Why are they named so? State their function.

Answer:

The hormones which help and control the formation of secondary sexual characters are called sex hormones. They are named so because they control the sexual activities and are secreted by males and females separately.

Functions of sex hormones are given below separately:

Male sex hormone: It is also called testosterone. It is secreted by testes and causes changes in secondary sexual character of boys like growth of facial hair like moustache, beard, etc. It also stimulates spermatogenesis.

Female sex hormone: It is also called estrogen. It is secreted by ovaries and controls the secondary sexual characters in females, appearance of mammary glands, etc. It also maintains pregnancy.

Question 7.

Choose the correct option.

(a) Adolescents should be careful about what they eat, because:

- (i) proper diet develops their brains.
- (ii) proper diet is needed for the rapid growth taking place in their body.
- (iii) adolescents feel hungry all the time.
- (iv) taste buds are well developed in teenagers.

(b) Reproductive age in women starts when their:

- (i) menstruation starts.
- (ii) breasts start developing.
- (iii) body weight increases.
- (iv) height increases.

(c) The right meal for adolescents consists of:

- (i) chips, noodles, coke.
- (ii) chapati, dal, vegetables.
- (iii) rice, noodles and burger.
- (iv) vegetable cutlets, chips and lemon drink.

Answer:

- (a) (ii)
- (b) (i)
- (c) (ii)

Question 8.

Write notes on:

- (a) Adam's apple
- (b) Secondary sexual characters.
- (c) Sex determination in the unborn baby.

Answer:

(a) Adam's apple: During puberty, a change in the voice of boys and girls takes place due to increase in the size of the voice box or larynx. In boys, the voice box tends to protrude out on the upper part of the neck, below the chin and is often referred to as Adam's apple.

(b) Secondary sexual characters: Those characters which are visible more apparently and help in distinguishing a male from a female are called secondary sexual characters. For example, in girls, breasts and in boys, facial hair, i.e., moustache and beard.

(c) Sex determination in the unborn baby: The sex of a child, i.e., whether it is a male or a female is determined at the time of fertilisation when a male gametes fuse with a female gamete. All human beings have 23 pairs of chromosomes in the nuclei of their cells. Two chromosomes out of these are sex chromosomes. A female has two X chromosomes, while a male has one X and one Y chromosome. The gametes (egg and sperm) have only one set of chromosomes. The unfertilised egg always has one X chromosome.

But sperms are of two kinds—One having X chromosome, and the other having Y chromosome. When a sperm containing X chromosome fertilises the egg, the zygote would have two X chromosomes and develop into a female child. If the sperm contributes a Y chromosome to the egg or ovum at fertilisation, the zygote would develop into a male child. It is thus also clear that the sex chromosomes of the father determine the sex of an unborn baby.

Question 9.

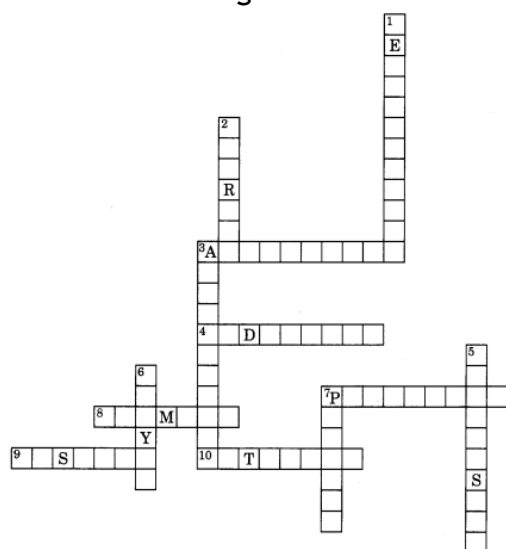
Word game: Use the clues to work out the words.

Across:

3. Protruding voice box in boys
4. Glands without ducts
7. Endocrine gland attached to brain
8. Secretion of endocrine glands
9. Pancreatic hormone
10. Female hormone

Down:

1. Male hormone
2. Secretes thyroxine
3. Another term for teenage
5. Hormone reaches here through blood stream
6. Voice box
7. Term for changes at adolescence



Answer:

