



CLASS - VIII SCIENCE NOTES OCTOBER

7. Reaching the Age of Adolescence

I. Assertion and Reasoning Type Questions:

Note: Mark the correct choice as.

OPTION A - Both assertion and reason are true and reason is the correct explanation of assertion.

OPTION B - Both assertion and reason are true but reason is not the correct explanation of assertion.

OPTION C - Assertion is true but reason is false.

OPTION D - Assertion is false but reason is true.

1. Assertion- change in height, voice, in body shape are the sign of puberty.
Reason- the several changes observed during adolescence are called puberty.

Ans - A

2. Assertion- the growth of hairs on the face that is moustaches and beard.
Reason- this is the primary sexual character in male.

Ans - C

II. Answer the following Questions:

- 1. What is the term used for chemical secretions of endocrine glands responsible for changes taking place in the body?**

Hormones

- 2. Define adolescence.**

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.

- 3. What is menstruation? Explain.**

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.

4. List changes in the body that take place at puberty.

The changes take place differently in the body of boys and girls at puberty. These changes 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 becomes hoarse and that of girls becomes shrill.
- Shoulders become broader and muscles grow more prominently in boys. In girls, the regions below the waist become wider.
- Hair starts growing in different parts of boys and girls.
- In most of the teenagers, due to increased secretion of sweat and sebaceous glands, they 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.

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

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

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

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.

7. Write notes on—

(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.