

## REACHING THE AGE OF ADOLESCENCE

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

Hormones are the chemicals secreted from endocrine glands. These hormones are responsible for the changes that take place in the body. For example, the growth of facial hair in boys during puberty is due to the hormone testosterone secreted from testes. Similarly breast development in girls during puberty is due to the hormone estrogen secreted from ovaries.

### **2. Define adolescence.**

*Adolescence is the period of life, when the body undergoes changes, leading to reproductive maturity.* Adolescence begins around the age of 11 and lasts upto 18 or 19 years of age.

During this age many changes take place in the body. The reproductive organs in boys and girls start working. This is called puberty.

### **3. What is menstruation? Explain.**

The bleeding that occurs from the uterus once in a month in women is called menstruation. During menstruation the uterus wall along with blood vessels breaks off. This causes blood to come out and a new wall of the uterus is formed. Menstruation generally lasts for 4 to 5 days.

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

Puberty is the stage when the sex organs start working. Many changes take place in the body at this time. These are:

- a. **Increase in height:** There is sudden increase in height of both boys and girls.
- b. **Change in body shape:** In boys shoulders become broad and the chest becomes wider. The body muscles also grow stronger in boys. In the girls the region below the waist becomes wider.
- c. **Voice change:** The boys develop deep voice with low pitch. The girls develop sharper voice with high pitch.
- d. **Increased activity of sweat and oil glands:** The sweat and oil glands become more active. Pimples are caused on the face due to these glands in the skin.
- e. **Development of sex organs:** The sex organs develop in both boys and girls. In boys the testes start producing sperms and the penis also develops completely. In the girls the ovaries start producing the eggs.
- f. **Reaching mental, intellectual and emotional maturity:** Both boys and girls start thinking independently. They become self conscious and emotional.
- g. **Development of sexual characters:** Many sexual characters develop in both boys and girls. In girls, breasts begin to develop at puberty and boys begin to grow facial hair, that moustache and beards. Boys and girls also develop hairs on other parts of the body.

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

<b>Endocrine Gland</b>	<b>Hormone</b>	<b>Function of the Hormone</b>
Pituitary gland	Growth hormone	Controls the growth of the person.
Thyroid gland	Thyroxin hormone	Normal functioning of the body and energy production.
Pancreas gland	Insulin hormone	Controls blood sugar level
Adrenal gland	Adrenalin hormone	Helps in adjusting in stress
Testes (in boys)	Testosterone hormone	Development of sex organs and sex characters
Ovaries (in girls)	Estrogen hormone	Development of sex organs and sex characters

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

Sex hormones are the chemical substances produced by the sex glands i.e., testes in boys and ovaries in girls. *Testosterone* is produced in boys and *Estrogen* hormone is produced in girls. These are called sex hormones because these hormones control the development of sex organs and sexual characters.

Testosterone controls the development of sperms and the sexual characters like growth of hairs on various parts of the body.

Estrogen controls the development of eggs and the sexual characters like development of breasts.

**7. Choose the correct option.**

**a. Adolescents should be careful about what they eat, because**

Proper diet develops their brains.

Proper diet is needed for the rapid growth taking place in their body.✓

Adolescents feel hungry all the time.

Taste buds are well developed in teenagers.

**b. Reproductive age in women starts when their**

Menstruation starts.✓

Breasts start developing.

Body weight increases.

Height increases.

**c. The right meal for adolescents consists of**

Chips, noodles, cakes.

Chapati, dal, vegetables.✓

Rice, noodles and burger.

Vegetable cutlets, chips and lemon drink.

**8. Write notes on-**

**a. Adam's apple:** Adams apple is seen in the boys. It is the large voice box that is seen as a protruding part of the throat in boys. Adam's apple is seen at the time of puberty in boys because the voice box becomes large.

**b. Secondary sexual characters:** These characters are seen in boys and girls at the time of puberty and help to distinguish male and female. In boys the secondary sexual characters are development of facial hair i.e., mustache and beards and development of hairs on the chest. In the girls the secondary sexual characters are development of breasts. In both boys and girls hair grows in different parts of the body.

**c. Sex determination in the unborn baby:** Sex of the unborn baby depends upon the pair of sex chromosomes that are present in the cells of the baby. The two sex chromosomes are X and Y.

If both the chromosomes are X then the baby is a female i.e., a girl.

If one of the chromosomes is X and the other is Y then the baby is a male i.e., a boy.