

Reaching the Age of Adolescence (8th Science)

Q.1. what are hormones?

Ans: Hormones are chemical substances secreted from endocrine glands, or endocrine system. The changes which occur at adolescence are controlled by hormones.

Q.2. Define adolescence?

Ans: The period of life, when the body undergoes changes, leading to reproductive maturity, is called adolescence.

Q.3. Mention the age group for adolescence. Why this period is also called as teenager period?

Ans: Adolescence begins around the age of 11 and lasts upto 18 or 19 years of age. Since this period covers the 'teens' (13 to 18 or 19 years of age), adolescents are also called 'teenagers' and this period is also called as teenager period.

Q.4. what do you mean by puberty?

Ans: Puberty is the period during which growing boys or girls undergo the process of sexual maturation.

Q.5 . What stage of growth marks the cessation of puberty?

Ans: The most important change which marks puberty is that boys and girls become capable of reproduction. Puberty ends when an adolescent reaches reproductive maturity.

Q.6 . Mention some changes that take place in an individual during puberty?

Ans: Increase in Height, Change in Body Shape, the voice box or the larynx begins to grow, Development of Sex Organs etc.

Q.7. At what age human beings attain full height?

Ans: About 18 years

Q.8. Comment on the pattern of growth in human beings during puberty.

Ans: Initially, girls grow faster than boys but by about 18 years of age, both reach their maximum height. The rate of growth in height varies in different individuals.

Q.9. How does intake balanced diet affects the growth of an individual during puberty?

Ans: Adolescence is a stage of rapid growth and development. Hence the diet for an adolescent has to be carefully planned. This helps the bones, muscles and other parts of the body get adequate nourishment for growth.

Q.10. what are the differences noticed between the growths patterns of boys and girls at the stage of puberty?

Ans: In boys, the muscles of the body grow more prominently than in the girls. Boys have broader shoulders and wider chests where as In girls, the region below the waist becomes wider.

Q.11. what is Adam's apple?

Ans: At puberty, the voice box or the larynx begins to grow. Boys develop larger voice boxes. The growing voice box in boys can be seen as a protruding part of the throat called **Adam's apple**.

Q.12. How is the voice of girls different than that of the boys and why?

Ans: Girls have a high pitched voice, whereas boys have a deep voice. This is because boys develop larger voice boxes than girls.

Q.13. What are sebaceous glands? How are these glands affected during puberty?

Ans: The sebaceous glands (oil glands) are microscopic glands in the skin that secrete an oily or waxy matter, called sebum that helps to lubricate and waterproof the skin and hair of girls. During puberty the secretion of sebaceous glands increases. Many young people get acne and pimples on the face.

Q.14. What are the changes that take place in the reproductive organs of the boys and girls during puberty?

Ans: At puberty, male sex organs like the testes and penis develop completely. The testes also begin to produce sperm. In girls, the ovaries enlarge and eggs begin to mature. Also ovaries start releasing mature eggs.

Q.15. Mention the intellectual and emotional changes that take place in an individual during puberty?

Ans: Adolescents are more independent than before and are also self-conscious. They tend to spend considerable time thinking.

Q.16. What do you mean by secondary sexual characteristics? Mention a few of them.

Ans: Those characters which develop at the time of attaining sexual maturity and help to distinguish the male from the female are called secondary sexual characters. In girls, breasts begin to develop and boys begin to grow facial hair like moustaches and beard. In both, boys and girls, hair grows under the arms and in the region above the thighs or the pubic region.

Q.17. Name the hormone secreted by testes and ovaries.

Ans: Testes and ovaries are the reproductive organs of boys and girls which produce the gametes sperm and ova.

Q.18. Mention the changes that take place in the endocrine glands of male and female human beings.

Ans: Endocrine glands start secreting hormones. In boys the male hormone or testosterone begins to be released by the testes at the onset of puberty. In girls, ovaries begin to produce the female hormone or estrogen which makes the breasts develop.

Q.19. What are endocrine glands?

Ans: A group of cells secretes chemicals (hormones) and release these hormones directly into the blood stream without ducts are called endocrine glands.

Q.20. Name the endocrine gland which controls the secretions from other glands.

Ans: Pituitary gland

Q.21. What is a target site?

Ans: Endocrine glands release hormones into the bloodstream to reach a particular body part called target site. The target site responds to the hormone.

Q.22. What role do hormones play in the onset of puberty?

Ans: The changes which occur at adolescence are controlled by hormones. In boys the male hormone or testosterone begins to be released by the testes at the onset of puberty. In girls, ovaries begin to produce the female hormone or estrogen which makes the breasts develop.

Q.23. Define-(I) Menstruation (ii) Menarche (iii) Menopause

Ans: -(I) Menstruation : Menstruation is the release of the unfertilized ovum along with the uterine tissues.

(ii) Menarche: The first menstrual flow begins at puberty and is called menarche

(iii) Menopause: Around the age of 45 to 50 years, the menstrual cycle stops. The permanent stoppage of menstruation is called menopause

Q.24. Write the main characteristic features of menstrual cycle?

Ans: Menstruation occurs once in about 28 to 30 days. it indicates that pregnancy does not occur.

Q.25. Mention the changes that take place in the uterus if it receives an unfertile egg from the fallopian tube?

Ans: The wall of the uterus becomes thick so as to receive the egg.

Q.26. what are chromosomes?

Ans: The thread-like structures present inside the fertilised egg or zygote which help in determining the sex of the baby is called chromosomes.

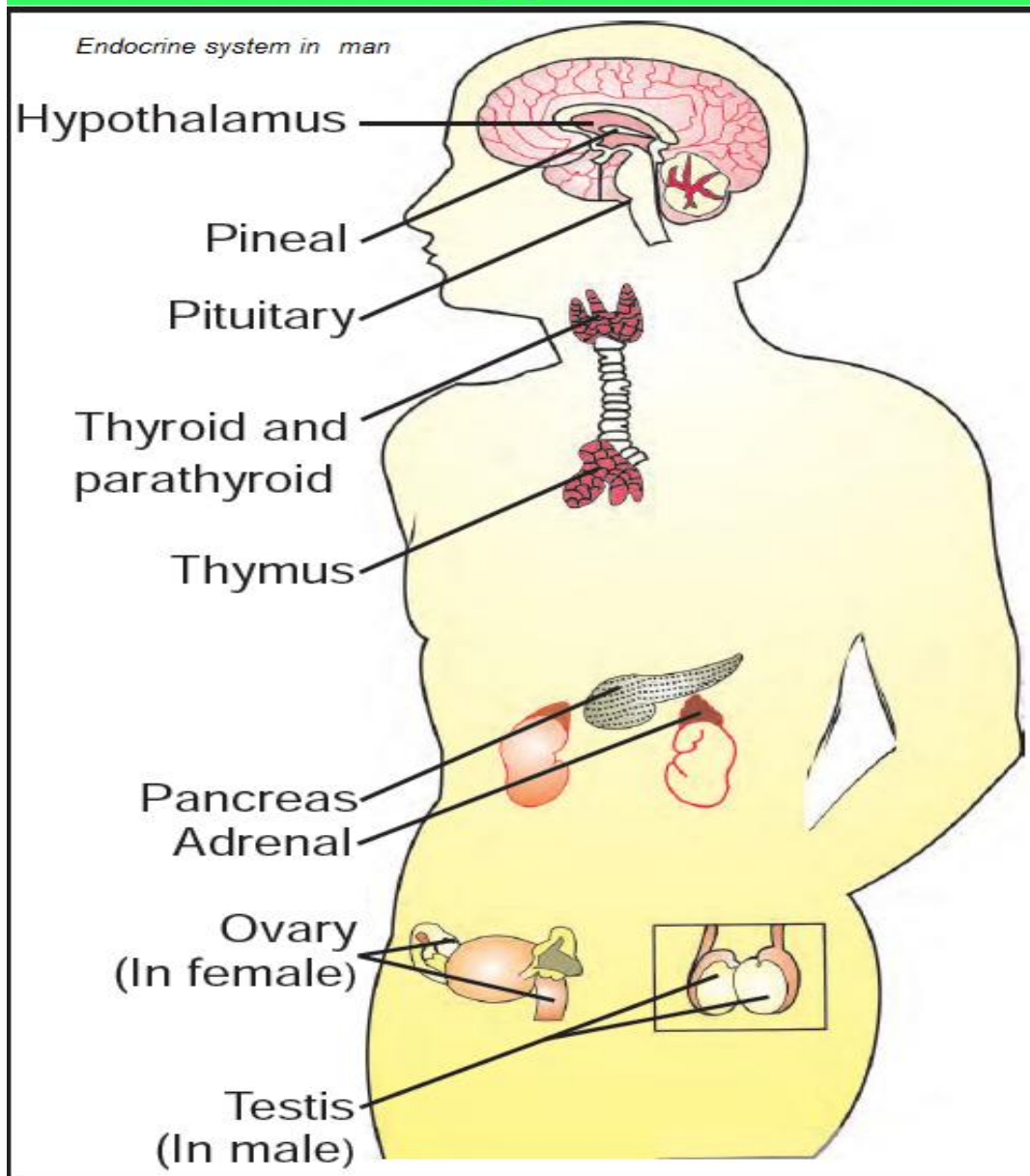
Q.27. Explain how the sex of an individual is determined?

Ans: In the males, the least pair of chromosomes consists of one X chromosome and another Y chromosome.

In the females, both the chromosomes of the last pair are same, and these of X chromosomes. So, the sex chromosomes in females are of XX type. Whether a baby is going to be a girl or a boy depends on sperm which fertilizes an ovum as shown in the following table.

| Egg | Sperm | Fertilized | Sex of child |
|-----|-------|------------|--------------|
| X | X | XX | Female |
| X | Y | XY | Male |

Q.28. Draw a neat diagram to show the location of various endocrine glands in our body.



Q.29. what is adrenalin? What is its function?

Ans: Adrenaline is a hormone produced in high-stress situations by Adrenal glands .It maintains the correct salt balance in the blood. Adrenals also produce the hormone adrenalin. It helps the body to adjust to stress when one is very angry, embarrassed or worried.

Q.30. why should a teenager be highly careful about the cleanliness of his/her body?

Ans: It is more necessary for teenagers because the increased activity of sweat glands sometimes makes the body smelly.

Q.31. Fill in the blanks:-

- a) Adolescents become capable of reproduction when their ----- and -----begin to produce gametes
[testes and ovaries]
- b) In human females the reproductive phase of life begins at----- and lasts till the age of----- years.
[puberty, 45 to 50]
- c) ----- no. of chromosomes are present in the human gametes
[46]
- d) ----- and----- are sex chromosomes.
[x and y]
- e) An ovum has -----sex chromosome while a sperm has -----sex chromosome.
[x, xy]
- f) The gametes possess only ----- set of chromosomes.
[one]
- g) Human sperms are of ----- types as they carry either -----or----- sex chromosomes.
[two, x or y]
- h) ----- glands maintain salt balance in the body.
[Adrenal]
- i) Adrenalin is secreted from the ----- gland. Growth hormone is secreted from the ----- gland.
[Adrenal , Pituitary]
- j) The change from larva to adult is called-----
[metamorphosis]
- k) Deficiency of -----mineral leads to goiter.
[iodine]
- l) ----- are considered to be protective foods.
[vitamins and minerals]

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