

Class Notes	
Class: 8	Topic: REACHING THE AGE OF ADOLESCENCE
Subject: SCIENCE	Dt- 5/10/2021

**Note- To be written in notes copy.**

**Exercise Questions- to be contd.....**

**Question 7.**

**Choose the correct option. ( answer marked in red)**

(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.

8. Write notes on—

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

Soln:

**a)** Adam's apple: In human males, the larynx grows larger at the time of puberty and can be seen as a protruding part of the throat. This protrusion is known as Adam's apple. The vocal cord becomes thicker and longer which causes the voice hoarse. On the other hand in females, the larynx is of small size and is hardly visible. Therefore, girls have a high pitched voice while the boys have a deep voice.

**b)** Secondary sexual characters: Characters which usually appear during the phase of puberty are called as secondary sexual characters. These are the features that help in distinguishing the male and female body from each other.

Characters seen in male: Hoarseness of voice, appearance of beard, broadness of chest, growth of hair in the pubic region..

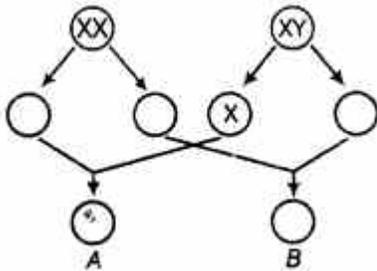
Characters seen in female: Start of menstrual cycle, growth of breast, growth of hair in the pubic region..

**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.

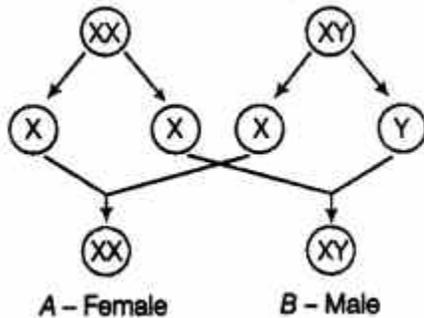
But sperms are of two kinds—One having X chromosome, and the other having Y chromosome. When a sperm containing X chromosome fertilises the egg, the zygote would have two X chromosomes and develop into a female child. If the sperm contributes a Y chromosome to the egg or ovum at fertilisation, the zygote 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.

### EXTRA QUESTIONS

1. Fill the blank circles in figure and identify the sex of child A and B.



Answer. The circle in the figure can be completed as:



A is a girl. The ovum carrying X-chromosome has been fertilised by a sperm carrying X-chromosome, resulting a zygote with XX combination of sex chromosomes. So, the child born will be a female.

B is a boy. In this case, the X-chromosome carrying ovum has been fertilised by a sperm carrying Y-chromosome. This results in formation of zygote with XY combination of sex chromosomes. So, the child born will be a male.

2. Write the location of different endocrine glands , the hormones secreted by them & their functions.

Major Endocrine Glands		Gland	Hormones produced	Effect of Hormone
Male	Female			
		Pineal gland	Melatonin	Affects reproductive development and daily physiologic cycles.
Pituitary gland		Pituitary gland	Growth hormone Anti-diuretic hormone Gonadotrophins	Controls growth of bones and muscles. Increases reabsorption of water in kidneys. Controls development of ovaries and testes
Thyroid gland		Thyroid gland	Thyroxine	Controls rate of metabolism and rate that glucose is used up in respiration, and promote growth.
		Adrenal gland	Adrenaline	Prepares the body for emergencies; increases heart rate and rate and depth of breathing, raises blood sugar level so more glucose is available for respiration, diverts blood from gut to limbs.
		Pancreas	Insulin Glucagon	Converts excess glucose into glycogen in liver. Converts glycogen back to glucose in liver.
	Ovary	Ovaries	Oestrogen Progesterone	Controls ovulation and secondary sexual characteristics. Prepares the uterus lining for receiving an embryo.
Testis		Testes	Testosterone	Controls sperm production and secondary sexual characteristics.
		Thymus	Thymosin	Promotes production and maturation of white blood cells.

Ans-

3. Name the hormone which would be released during the following situations:

- a frightened person.
- growth of a child to an adult.
- development of caterpillar to moth.
- development of tadpole to frog.

Soln:

- Adrenaline- This hormone is released when a person is frightened.
- Growth hormone- It is responsible for the growth of a child to an adult.
- Insect hormones-This hormone is responsible for the development of caterpillar to moth.
- Thyroxine –It is responsible for the development of tadpole to frog.

Find the answers of the following questions.(H.W.)

- A tadpole is kept in iodine deficient water. How will it affect its growth? Explain.
- We should avoid taking medicines/ drugs unless prescribed by a doctor. Give reasons.

#### MULTIPLE CHOICE QUESTIONS ( Answers marked in red)

- The belief that the mother is completely responsible for the sex of the child is wrong because the child
  - gets sex chromosome only from the mother.

(b) develops in the body of the mother.

(c) gets one sex chromosome from the mother and the other from the father.

(d) gets sex chromosome only from the father.

*2. AIDS can spread from an infected person to another person through:*

(a) sharing food

(b) blood transfusion

(c) sharing comb

(d) a mosquito bite

*3. Given below are events that lead to pregnancy and development of the embryo.*

i) Fertilization of egg

ii) Maturation of egg

iii) Release of egg

iv) Embedding of the embryo in the thickened uterine wall.

Which of the following options gives the correct order of sequence in which they occur?

(a) i, ii, iii, iv,

(b) ii, i, iii, iv

(c) i, iv, ii, iii

(d) ii, iii, i, iv

*4. For the metamorphosis of tadpoles which of the following elements must be available in the water?*

(a) chlorine

(b) carbon

(c) sulphur

(d) iodine

Explanation:

Metamorphosis is brought by a hormone called thyroxine. The thyroid gland needs iodine to secrete Thyroxine. Hence Iodine should be present in water for the metamorphosis of tadpoles.

*5. When embryo gets embedded in the lining of the uterus, it is said to be:*

a) Fertilisation

b) Implantation

c) Reproductive

d) Ovulation

*6. Chemical substances which co-ordinate the activities of living organisms and their growth?*

- a) Endocrine glands
- b) Nutrition
- c) Hormones**
- d) Chromosomes

*7. Which one of the following is not an endocrine gland?*

- a) Pituitary gland
- b) Sweat gland**
- c) Thyroid gland
- d) Adrenal gland

*8. Which of the following statements is incorrect?*

- a) Exocrine glands are the glands having ducts.
- b) Endocrine glands are ductless glands.
- c) Hormones are secreted by endocrine glands.
- d) None of these**

*9. The first occurrence of monthly period at puberty is called:*

- a) Menstruation
- b) Menopause
- c) Menarche**
- d) Metamorphosis

*10. The pituitary gland is located \_\_\_\_\_.*

- a) in the stomach
- b) near the sex organs

c) above the kidneys

**d) at the base of the brain**

*11. Why is a diet rich in proteins essential at puberty?*

a) For supplying sufficient energy

**b) For the formation of new cells during growth**

c) the formation of strong bones and teeth

d) protection from diseases

*12. Incomplete development of male secondary sexual characteristics is caused due to deficiency in?*

a) Estrogen.

b) Progesterone.

c) Adrenaline.

**d) Testosterone.**

Explanation

The changes which occur at adolescence are controlled by sex hormones. The male hormone or testosterone controls the development of male secondary sexual characteristics.

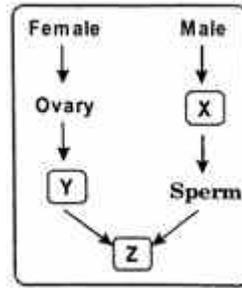
*13. Which of the following hormones controls the menstrual cycle, the ovulation process and the development of the uterus in the females?*

a) Estrogen

b) Progesterone

c) Testosterone

**d) Both (A) and (B)**



14. What do X, Y and Z represent in the figure given above?

- a) X-Ovum, Y-testes, Z-Ovulation
- b) X-Testes, Y-Ovum, Z-Implantation
- c) X-Ovum, Y-Testes, Z-Implantation
- d) X-Testes, Y-Ovum, Z-Fertilization**

15. Which of the following represents the composition of female destined zygote in human beings?

- a) 22+X.
- b) 44+XY.
- c) 33+Y.
- d) 44+XX.**

**Explanation :**

44 + XX represents the composition of female destined zygote in human being

**THIS CONTENT IS PREPARED AT HOME.**

