1. Which of the following should an adolescent choose for his/her meal?

A. Chips, noodles and aerated beverages

B. Vegetable cutlets, chips and lemonade

C. Rice, noodles and popcorn

D. Chapathi, dal and vegetables

Answer: (D) Chapathi, dal and vegetables

Solution: Adolescents, like everyone else, should have a balanced diet, which should include

all types of nutrients. Also, the diet should consist of less refined and packaged food. Hence, the best option for an adolescent's meal will be chapati, dal and vegetables.

2. The reproductive phase of a woman lies between her _____ and menopause.

A. menstrual cycle

B. menstruation

C. menarche

D. ovulation

Answer: (C) menarche

Solution: The reproductive phase of a woman starts from her first period (menarche) at around 10-12 years of age. It continues until the age of 45 to 50, when women stop releasing eggs. This is called menopause. Hence, the reproductive phase of women lies between their menarche and menopause.

3. Statement 1: Sweat glands, salivary glands and oil glands do not release their secretions directly into the blood. Statement 2: These glands do not have ducts.

A. Both statements are correct.

B. Only statement 2 is correct.

C. Both statements are incorrect.

D. Only statement 1 is correct.

Answer: (D) Only statement 1 is correct.

Solution: Endocrine glands release their secretions directly into the blood as they are ductless glands, whereas the exocrine glands like salivary glands have ducts and do not release their secretion into the blood directly.

4. Number of sex chromosomes in a human kidney cell is

A. One pair

B. Two pairs

C. Three pairs

D. Four pairs

Answer: (A) One pair

Solution: Humans have 46 chromosomes, i.e., 23 pairs of chromosomes in all cells except for the gametic cells (sperm and ova). 22 of these pairs are called autosomes and look the same in both males and females. The 23rd pair called sex chromosomes, differ in males and females. Females have two copies of the X chromosome (XX), while males have one X and one Y chromosome (XY). Thus all non-gametic cells have 2 sex chromosomes in them.

5. A female gamete carries _____ chromosome(s).

A. one Y

B. one X and one Y

C. two X

D. one X

Answer: (D) one X

Solution: Ovum, which is the female gamete, always carries an X chromosome. This is because the allosome pair in females consists of two X chromosomes (XX).

6. Which of the following is the cause of the condition shown below

A. Lack of calcium in the bones

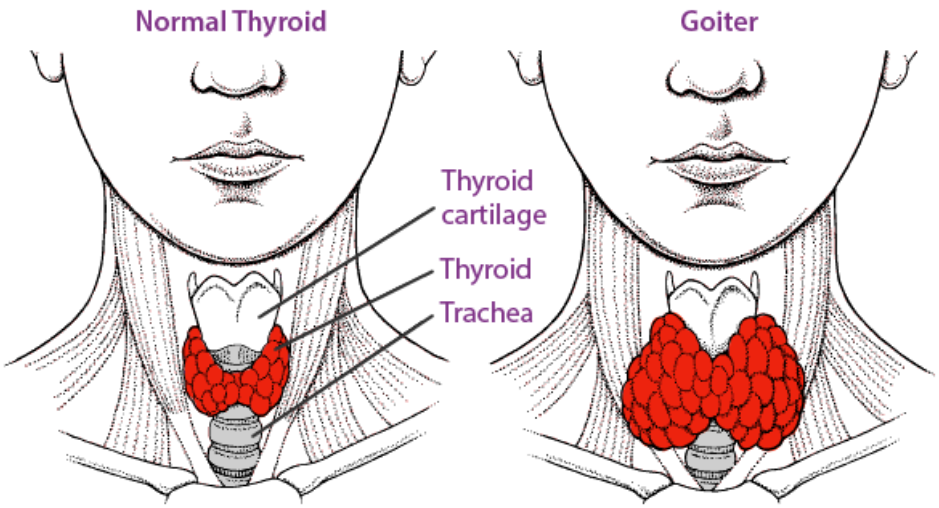
B. Excess of iron in the blood

C. Lack of iodine in the diet

D. Lack of potassium in the diet

Answer: (C) Lack of iodine in the diet

Solution:



The picture shows a condition goitre which is caused due to the deficiency of iodine in our diet. It is seen as a swelling in the neck resulting from an enlarged thyroid gland.

7. Which of the following will occur in females at puberty? (I) Ovulation (II) Enlargement of breasts (III) Broadening of hips

A. I, II and III

B. II and III only

C. I and III only

D. I and II only

Answer: (A) I, II and III

Solution: Lot of changes occur during puberty in both boys and girls. In girls, ovulation, enlargement of breasts and broadening of hips are the major changes.

8. HIV virus will not be present in which of the following?

A. Blood

B. Sweat

C. Breast milk

D. Semen

Answer: (B) Sweat

Solution: Blood, semen and breast milk all are the body's internal fluids. Once the virus enters the body, it starts dividing and spreads all over the body. It is present in internal fluids like blood and gets transmitted to other healthy individuals only through the exchange of these body fluids. HIV does not spread through sweat.

9. Puberty in females begins at the age of _____.

A. 11 to 13 years

B. 16 to 18 years

C. 14 to 16 years

D. 18 to 21 years

Answer: (A) 11 to 13 years

Solution: Puberty is the period during which girls and boys become capable of reproduction. Puberty in girls is most commonly observed when they are about 11 to 13 years old.

10. The information given below refers to which of the following hormone- (i) Glands secreting the hormone are located on top of the kidneys. (ii) Converts glycogen into glucose. (iii) Increases blood pressure.

A. Testosterone

B. Insulin

C. Adrenaline

D. Progesterone

Answer: (C) Adrenaline

Solution: Adrenaline is secreted by the adrenal glands which are located on top of the kidneys. This hormone prepares the body to fight or run away during an emergency situation. Its effects involve an increase in heart rate, blood pressure, breathing rate, blood glucose level, etc.

11. During menstrual bleeding, the fluid that comes out of the vagina contains _____, along with blood.

A. Embryo

B. ovum

C. sperm

D. zygote

Answer: (B) ovum

Solution: The vaginal fluid shed during menstrual bleeding contains the unfertilized egg and the thickened endometrial lining of the uterus along with blood vessels.

12. The time period when the body undergoes changes, leading to reproductive maturity is called_____.

A. Growth

B. senescence

C. development

D. adolescence

Answer: (D) adolescence

Solution: Adolescence is the intermediate growing stage between childhood and adulthood. During adolescence, the body undergoes many physical and psychological changes and attains reproductive maturity. This period varies from person to person.

13. Which of the following viruses causes AIDS?

A. H1N1 virus

B. Zika virus

C. HIV

D. Rhinovirus

Answer: (C) HIV

Solution: AIDS is caused by the Human Immunodeficiency Virus (HIV) virus. HIV passes from an infected person to a normal person through sexual contact, sharing syringes, breastfeeding etc.

14. In girls, the ovaries and eggs become mature and ovaries begin to release ovum by the process of _____.

A. Ovulation

B. fertilisation

C. oogamy

D. oogenesis

Answer: (A) Ovulation

Solution: Ovulation is the process in which mature ovaries release egg cell or the ovum. Usually, a single egg is produced during an ovulation cycle. The female hormone, oestrogen is released by the ovaries which promote ovulation.

15. Which among the following is the change seen in girls during puberty?

A. Broader shoulders

B. Cracking of voice

C. Breast development

D. Growth of facial hair

Answer: (C) Breast development

Solution: One of the major changes in girls during puberty is breast development. Also, in girls, the region below the waist becomes wider during puberty, while in boys, the chest becomes wider and the shoulders become broad.

16. A human gamete has _____ sex chromosome(s).

A. Four

B. Half

C. Two

D. One

Answer: (D) One

Solution: A human cell has 46 chromosomes in total. Out of these 46 chromosomes, 44 are autosomes and 2 are sex chromosomes. Chromosomes occur in pairs and thus there are 23 pairs. A cell having 23 pairs of chromosomes is called diploid. Diploid cells undergo division and their number reduces to half, i.e. produce haploid cells having only 23

chromosomes, without any pairs. These cells are also called gametes. Thus, gametes have only one sex chromosome.

17. The pituitary gland is located below the _____.

A. Thalamus

B. medulla oblongata

C. vas deferens

D. hypothalamus

Answer: (D) hypothalamus

Solution: The pituitary gland is a pea-sized gland located just below the hypothalamus which is connected to the pituitary via a bundle of nerve fibres. It is known as the master gland of the endocrine system as it produces all the critical hormones which regulate the secretions of all other endocrine glands.

18. What happens during menopause? A. No menstruation. B. No maturation of new follicles. C. The ovaries stop the secretion of oestrogen

A. C only

B. A, B and C

C. B only

D. A and B

Answer: (B) A, B and C

Solution: Menopause is the time in all women's lives when the menstrual cycle stops permanently. It typically occurs between 49 and 52 years of age. At menopause, no oestrogen is secreted by the ovaries and thus, no new follicles and hence, no ovulation occurs; therefore, menstruation stops.

19. Which of the following can spread AIDS?

A. Eating food with an infected person

B. Hugging an infected person

C. Transfusion of infected blood

D. Mosquito bites

Answer: (C) Transfusion of infected blood

Solution: AIDS is caused by the HIV virus. It can spread through various means, like i. Sexual contact with an infected person. ii. Transfusion of contaminated blood. iii. From a pregnant mother to her child during birth or breastfeeding. It does not spread by: i. Touching, kissing and socialising with the infected person. ii. Eating meals with an infected person. iii. Mosquito bites.

20. Deficiency of iodine in our diet leads to a condition called:

A. Diabetes insipidus

B. Goitre

C. Gigantism

D. Infertility

Answer: (B) Goitre

Solution: Iodine is essential for the production of thyroxine. In an attempt to produce more thyroxine, the gland enlarges. This condition is called goitre.