**Chapter 15**

**Reaching the Age of Adolescence**

1. The student should find the sex-ratio in 3 classes of their school. Note it down and discuss the probable reasons for the sex-ratio.
2. Geeta went to village of her grandparents. She observed that in many houses young girls during menstruation were not allowed to enter the kitchen. She was confused so asked her grandmother for reason. Her grandmother told her that the menstruating girl was impure and therefore should not enter the kitchen. Suggest the reason given by Geeta’s grandmother was a myth or not and give reason for the answer.
3. Fill in the blanks
4. \_\_\_\_\_\_\_\_\_\_ is the transitional stage that occurs between childhood and adulthood.
5. An adolescent is neither a \_\_\_\_\_\_\_\_ nor an\_\_\_\_\_\_\_\_.
6. The onset of the puberty period usually results in a dramatic, sudden and visible increase in \_\_\_\_\_\_\_ and \_\_\_\_\_\_\_\_\_.
7. During puberty, in girl the breast start developing and the appearance of \_\_\_\_\_\_\_\_\_\_ takes place.
8. One ovum in one of the ovaries becomes mature in about \_\_\_\_\_\_\_\_ days.
9. The first menstrual flow that begins in a girl at puberty, is termed as \_\_\_\_\_\_\_\_\_\_.
10. \_\_\_\_\_\_\_ glands are known as ductless glands as they do not have any ducts.
11. One of the hormones released by pituitary gland is the \_\_\_\_\_\_\_\_\_\_ hormone.
12. A balanced and healthy diet during adolescence promotes\_\_\_\_\_\_ growth and overall \_\_\_\_\_\_\_\_\_.
13. State whether given statements are true/false
14. Consuming cold drinks and canned fruit juices instead of milk during adolescence may lead to osteoporosis and bone fractures during old age.
15. Scientific evidence indicates that jogging, running and playing games hinder the growth process.
16. The hormone thyroxine produced by thyroid gland of frog is essential for the process of metamorphosis.
17. The father of a child is responsible for determining the sex of a child.
18. In general the menstruation occurs at the intervals of 28-30 days.
19. Define the following
20. Adolescence
21. Adam’s apple
22. Menopause
23. Metamorphosis
24. Obesity
25. Multiple choice questions
26. The hormone responsible for the metamorphosis in frog is
27. Growth hormone b) Insulin c) thyroxine d) adrenaline
28. Failure to build healthy bones may increase the risk of \_\_\_\_\_\_\_\_ in later stages.
29. Obesity b) Oesteoporosis c) full maturity of gonads d) none of the above
30. The menstrual cycle stops when the women reaches 45-50 years of age and is termed as
31. Menarche b)menstruation c) menopause d) Puberty
32. The spurt in the physical growth at puberty in girls is evident \_\_\_\_\_.
33. Between11-13 years b) below 10 years c) between 16-18 years d) between 9-10 years.
34. Give reasons for the following
35. There is often disproportionate size among adolescents before full growth is attained.
36. Adam’s apple is seen in boys only.
37. Acne and pimples are common among adolescents.
38. At puberty there is rapid maturation of gonads in both boys and girls.
39. The endocrine glands pour their secretions directly into blood stream.
40. Complete this

A B

1. What will be the sex of A and B.
2. A couple had 3 daughters and the husband always blamed his wife for the birth of daughter. Suggest was he doing the right thing or not and give reason for it.
3. Complete the given table

|  |  |  |  |
| --- | --- | --- | --- |
| S.N | Name of gland | Name of hormone | Function controlled by hormone |
| 1 |  | Growth hormone |  |
| 2 | Thyroid gland |  |  |
| 3 |  |  | Lowers the blood glucose level |
| 4 | Adrenal gland |  | Controls response of body to stress |

1. What is puberty? Mention the age at which there is onset of puberty in male and female.
2. Discuss the various changes that occur in the body of an individual at puberty.
3. The voice of child is high pitched than that of an adult, why?
4. What happens to the sex organs at puberty?
5. What kind of development of secondary sexual characters occurs in a girl at puberty?
6. What are hormones? What happens to its balance in adolescents?
7. What happens to uterus before the embryo enters it?
8. What changes will occur in the uterus if fertilisation does not occur in the oviduct?
9. ‘Poor nutrition in adolescence can have adverse health consequences in adulthood’, explain.
10. Why is vitamin D and K, calcium, magnesium, boron needed by adolescents?
11. Why is physical activity and exercise like food a daily requirement of adolescents?
12. What are reasons that may lead the adolescents to smoke or take drugs and alcohol?

**Chapter 16**

**Electric Current and its Chemical effects**

1. You are provided with a magnetic compass, an empty match box, a battery of two cells and connecting wires. Using these things how will you make a tester for testing an electric circuit.
2. Ram took a lemon ,2 connecting wires and bulb then he made a circuit in such a way that the one end of both wires were connected to the Bulb the other free end of both the wire is dipped into the lime. State what will happen to the bulb and why?
3. Fill in the blanks
4. Materials which do not allow the electricity to pass through them easily are called \_\_\_\_\_\_\_\_\_\_\_.
5. The molecules of salts, acids and bases on being dissolved in water are known to break up into \_\_\_\_\_\_\_\_\_\_\_\_.
6. Sea water and \_\_\_\_\_\_\_\_\_\_\_ are examples of \_\_\_\_\_\_\_\_\_ electrolytes.
7. The electric cell gives us electrical energy at the expense of \_\_\_\_\_\_\_\_\_ energy.
8. Faraday called the phenomenon resulting from the passage of electricity through liquid as \_\_\_\_\_\_\_\_\_\_\_.
9. \_\_\_\_\_\_\_\_\_\_\_\_ of metals is the process of obtaining pure metal from impure metal by electrolysis.
10. The flow of current \_\_\_\_\_\_\_\_\_\_as soon as the magnet and the coil are at rest with respect to each other.
11. The article to be electroplated should be made the \_\_\_\_\_\_\_\_\_\_ of an electrolytic cell.
12. In electrolysis change of colour of solution may occur due to \_\_\_\_\_\_\_\_\_\_ of different ions.
13. State whether given statements are true/ false
14. Certain metals like aluminium and calcium are extracted from their ores by process of electrolysis.
15. The chemical reaction occurring during electrolysis does not depend on nature of electrodes.
16. Electroplating sometimes also helps to increase the strength of base metal.
17. Plastic and wood are better known good conductors of electricity.
18. The phenomenon of electromagnetic induction forms the underlying principle of all modern day generators and transformers.
19. Multiple choice questions
20. Which one of them is good conductor of electricity?
21. Wood b) Plastic c) pure sulphuric acid d) Bakelite
22. The generators help us to convert
23. Mechanical energy to electrical energy b) Electrical energy to mechanical c)chemical to electrical energy d) electrical to chemical energy.
24. The phenomenon in which electric current can be generated by changing magnetic field is
25. Electrolysis b) electromagnetic induction c) electroplating d) none of the above
26. The article to be electroplated during electrolysis is
27. Anode of electrolytic cell b) Cathode of the electrolytic cell c) electrolyte d) none of the above
28. Define the following terms
29. Electro refining
30. Electro plating
31. Electromagnetic induction
32. Electrolysis
33. Electrolyte
34. You are given following substances- distilled water, tap water, Nitric acid, Copper sulphate solution, Carbonic acid. Classify them as strong and weak electrolyte. State one difference between strong and weak electrolyte.
35. Name the person who gave the practical source of conversion of chemical energy to electrical energy.
36. How is electrolysis different from conduction of electricity through metals?
37. Rita wants to deposit silver on an iron stick. She took silver nitrate solution in a beaker and set up simple circuit for electroplating. Which terminal of battery should the stick be connected to? Of which material the other electrode made up of?
38. Give reasons for the following
39. We should never handle electrical appliances with wet hands?
40. When salt is added to water it makes water better conductor of electricity.
41. Tin layer is electroplated over iron in the cans used for storage of food.
42. A suitable soluble salt of the anode metal is taken as electrolyte.
43. Artificial jewellery is often made by electroplating gold or silver on less expensive metal.
44. List 3 applications of electroplating
45. An artificial satellite may have long metallic chains or cables attached to it, why?
46. Name the 2 equipment that are part of our daily life and are based on electro-magnetic induction.
47. What decides the direction of current during electro-magnetic induction?
48. It is often said that ‘Had there been no Faraday, there would be no electricity’, justify,
49. Many a time the taps which are normally made of iron are electroplated with chromium or nickel, why?
50. Complete the flow chart

Aluminium, Sodium

Application of Electrolysis

Electro plating platingg

Electroplating

Zinc over iron

1. What are the conditions on which chemical changes during electrolysis depend on?
2. List the main effects of the chemical reactions during electrolysis have on electrode.
3. In case of a fire before using the water from the hose for dousing the fire, the electric supply of the area is switched off. Explain why this is done?
4. When electric current flows through a pure metallic conductor there is no chemical effect, why?