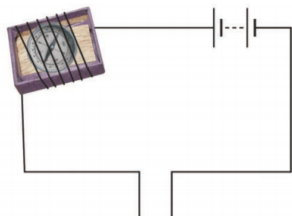


7. Cessation of menstrual cycle in female is known as [1]
 a) Menarche b) Ovulation
 c) Menopause d) Parturition
8. The disease diabetes mellitus is the result of [1]
 a) More secretion of insulin b) Under secretion of thyroxin
 c) Under secretion of estrogen d) Under secretion of insulin
9. At higher altitude, nose bleeding is a common problem because [1]
 a) Blood pressure increase at higher altitude b) Atmospheric pressure is less at higher altitude
 c) Atmospheric pressure is more at higher altitude d) Blood pressure decreases at higher altitude
10. Fluids are [1]
 a) Liquids and gases b) Semisolids only
 c) Gases only d) Liquids only
11. The force responsible for changing the state of motion of an object is [1]
 a) Molecular force b) Muscular force
 c) Friction d) Gravitational force
12. To increase loudness of sound _____ of vibration of sound. [1]
 a) decrease its amplitude b) decrease its frequency
 c) increase its frequency d) increase its amplitude
13. Distilled water bad conductor of electricity but vinegar is good conductor as it contain [1]
 a) Tartaric acid b) Oxalic acid
 c) Acetic acid d) Sulphuric acid
14. Which natural disaster is very rare in India? [1]
 a) Earthquake b) Thunderstorm
 c) Tornado d) Cyclone
15. After looking sun the colour of other things appears [1]
 a) black b) white
 c) yellow d) red

Section B

16. Sunlight and air are inexhaustible natural resources. Comment. [2]
17. Why is natural gas considered the best fuel for transportation? [2]
18. What will happen if we go on cutting trees? [2]
19. Name the female hormone produced by ovaries that helps in the development of mammary glands. [2]
20. You spill a bucket of soapy water on a marble floor accidentally. Would it make it easier or more difficult for you to walk on the floor? Why? [2]

21. Observe the following circuit given in figure. [2]

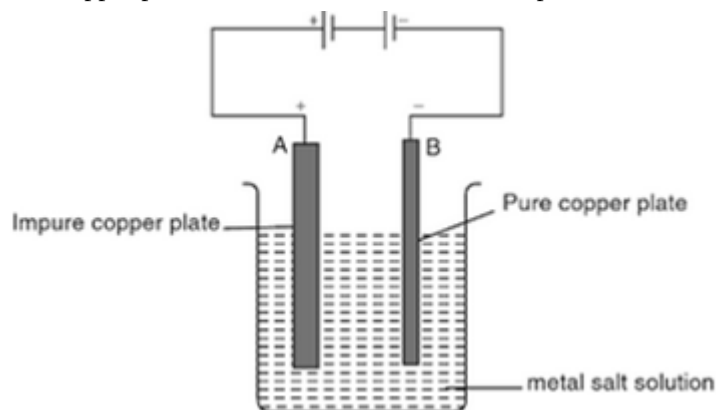


Current does not flow in the circuit if there is a gap between the two wires. Does it indicate that air is a poor conductor of electricity? Does air never conduct electricity? Explain.

22. What is the Braille system? [2]

Section C

23. Write the important differences between manures and fertilisers. [4]
24. Write diseases causing microorganisms in animals and plants. [4]
25. How was petroleum formed? How was it converted into its useful components? [4]
26. What is asexual reproduction? Write various methods of asexual reproduction. [4]
27. Name the forces act on a plastic bucket containing water held above the ground level in your hand. Explain why the forces acting on the bucket do not bring a change in the state of motion. [4]
28. What would happen if there were no voice boxes in our throat? [4]
29. The diagram shows the process of purification of copper metal. A thick copper plate A of impure copper and thin copper plate B are immersed in a metal sulphate solution and an electric current is passed through it. [4]



Answer the following question:

- Which metal solution is taken as electrolyte?
 - Which electrode is connected to the positive terminal of the battery?
 - What is liberated at the cathode? Explain.
 - Does the copper anode (increase/decrease/ remains unchanged) in weight?
30. What suggestions will you give to the people living in seismic areas? So that the destructive due to earthquake may be minimized. [4]
31. Name the following: [4]
- The dark muscular part of eyes behind the cornea.
 - The small opening in the iris.
 - The part of eyes which gives it distinctive colour.
 - The nerve which helps in the sense of vision.

Section D

32. Read the text carefully and answer the questions: [5]

Coal is processed in industry to get some useful products such as coke, coal tar and coal gas. Coal gas was used for street lighting for the first time in London in 1810 and in New York around 1820. Nowadays, it is used as a source of heat rather than light. These days, bitumen, a petroleum product, is used in place of coal tar for metalling the roads.

- (i) Which of the following minerals is present in coal?
 - a) All of these
 - b) Oxygen
 - c) Hydrogen
 - d) Sulphur
- (ii) Which is the best type of coal?
 - a) Bituminous
 - b) Anthracite
 - c) Peat
 - d) Lignite
- (iii) Coal mainly contains
 - a) oxygen
 - b) carbon
 - c) hydrogen
 - d) sodium
- (iv) _____ is a black, thick liquid with an unpleasant smell.
- (v) Coal gas is obtained during the processing of coal to get coke.
 - a) True
 - b) False

33. **Read the text carefully and answer the questions:**

[5]

Anita study about the sex hormones. Now she want to know that there are other hormones too. So she ask her teacher about this. Her teacher told her that apart from the pituitary, the testes and the ovaries, there are other endocrine glands in the body such as thyroid, pancreas and adrenals gland and she also told her that these hormones deficiency caused various diseases.

- (i) Which of the following disease caused if thyroid gland not produce the hormone thyroxine.
 - a) None of these
 - b) Survey
 - c) Night blindness
 - d) Goiter
- (ii) Pituitary also secretes
 - a) Growth hormone
 - b) Oestrogen
 - c) Insulin
 - d) Adrenaline
- (iii) Thyroid and adrenals secrete their hormones when they receive orders from the
 - a) Pituitary
 - b) Ovary
 - c) Adrenal
 - d) Pencrease
- (iv) If pancreas not producing the hormone insulin it will caused _____.
- (v) Adrenal helps the body to adjust to stress when one is very angry.
 - a) True
 - b) False

34. **Read the text carefully and answer the questions:**

[5]

Sunita has buy a new house near industrial area. She is very fed-up as during day as well as night unnecessary sound come. They are the loud sound which usually irritate her. She want to create awareness so she gathered

the neighbouring people and write slogan about what are the harmful effect of the sound and she also files complaint about this.

- (i) Which of the following does not produce noise pollution?
- a) Reading book
 - b) Television at high volume
 - c) burning of crackers
 - d) loudspeakers
- (ii) Which of the following measure can be taken to limits the noise pollution?
- a. Noise producing industries should be set up away residential area
 - b. Use of automobile horns should be minimised.
 - c. Both (a) and (b)
 - d. Deforestation
- a) Option (c)
 - b) Option (b)
 - c) Option (d)
 - d) Option (a)
- (iii) Noise pollution can leads to
- a) Anxiety
 - b) Low vision
 - c) Hypertension
 - d) All of these
- (iv) Too much noise in our surroundings that causes discomfort is called _____.
- (v) Above 80db the noise becomes physically painful.
- a) True
 - b) False

Solution

Section A

1.
(b) Stem (rhizome)
Explanation: Stem (rhizome)
2.
(b) antibodies
Explanation: antibodies
3.
(b) bitumen
Explanation: Bitumen is used for construction of surface roads. Bitumen is obtained as residual product of the fractional distillation of petroleum.
4.
(a) soot
Explanation: Yellow flame is formed due to incomplete combustion of fuel. Yellow flame leaves behind black residue which is also called as soot.
5.
(c) Soil erosion
Explanation: Cutting of forests result in soil erosion. This causes flood and other major problems.
6.
(a) Bharatpur sanctuary, Rajasthan
Explanation: Bharatpur sanctuary, Rajasthan
7.
(c) Menopause
Explanation: Cessation of menstrual cycle in female is known as menopause. Menopause occurs at the age of about 50 years.
8.
(d) Under secretion of insulin
Explanation: The disease diabetes mellitus is the result of under secretion of insulin hormone from the pancreas. Insulin controls the sugar level in blood.
9.
(b) Atmospheric pressure is less at higher altitude
Explanation: Nose bleeding occurs at high altitudes is due to the difference in the atmospheric pressure and internal pressure developed by the fluids inside the body cells. At higher altitudes, atmospheric pressure is less, and pressure inside our body remains the same. The blood pressure in our body equal is to atmospheric pressure on earth.
10.
(a) Liquids and gases
Explanation: The liquid and gases together called fluids. They have nature to flow due to less intermolecular force of attraction between their molecules.
11.
(c) Friction
Explanation: The force responsible for changing the state of motion of an object is friction. Moving body slows down due to friction and finally come to rest.
12.
(d) increase its amplitude
Explanation: To increase loudness of sound, increase its amplitude of vibration of sound because loudness of sound is depend on amplitude of vibration of sound.
13.
(c) Acetic acid

Explanation: Distilled water is bad conductor of electricity because it do not contain salts but vinegar contain acetic acid that give hydrogen ions to conduct electricity.

14. (c) Tornado
Explanation: Thunderstorm, cyclone, and earthquake are common natural disaster in India but tornado is common in Japan.
15. (a) black
Explanation: black

Section B

16. These resources are present in an unlimited quantity in nature and are not likely to be exhausted by human activities. There is a never-ending supply of these resources in nature. These resources can be used again and again. They last forever.
17. It is considered the best fuel for transportation because it can be directly supplied from the gas well to the factories or homes through underground pipelines.
18. If we go on cutting trees, then
- (i) Survival of the mankind will become a threat, because of low oxygen concentration.
 - (ii) We have to face high temperature and pollution level.
 - (iii) Natural calamities will disrupt our life.
 - (iv) The water cycle will be disturbed.
19. Oestrogen Is the female hormone produced by ovaries that help in the development of breasts/mammary glands. It also produces female secondary sexual characteristics and causes the growth and development of female sex organs.
20. We are able to walk because of the friction present between our feet and the ground.
In order to walk, we push the ground in the backward direction with our feet. The force of friction pushes it in the forward direction and allows us to walk. The force of friction between the ground and feet decreases when there is soapy water spilled on the floor. Hence, it becomes difficult to walk on the soapy floor.
21. Although air is a very bad conductor of electricity, but in certain conditions such as lightning, it helps to conduct electricity.
22. Braille system has 63 dot patterns or characters. Each character represents a letter, a combination of letters, a common word or a grammatical sign. Dots are arranged in cells of two vertical rows of three dots each. Patterns of dots to represent some English alphabets and some common words are shown below. These patterns when embossed on Braille sheets help visually challenged to recognize words by touching. To make them easier to touch, the dots are raised slightly.

Section C

23. Differences between manures and fertilisers:

Manures	Fertilisers
<ul style="list-style-type: none">1. Manure is a natural substance obtained by the decomposition of animal wastes like cow dung, human waste and plant residues.2. It is not very rich in essential plant nutrients like nitrogen, phosphorous and potassium.3. It provides a lot of organic matter like humus to the soil.4. It can be prepared in the fields.	<ul style="list-style-type: none">1. A fertilizer is a salt or an organic compound.2. It is very rich in essential plant nutrients like nitrogen, phosphorous and potassium.3. It does not provide any organic matter like humus to the soil.4. These are prepared in factories.

24. There are some microorganisms that cause disease in animals also like anthrax is a very dangerous human and cattle disease caused by a bacterium. Foot and mouth disease of cattle is caused by a virus.
There are some microorganisms that cause disease in plants like wheat, sugarcane, rice, potato, orange, and apple. Like citrus canker disease caused by bacteria in plant, rust of wheat disease in wheat plant caused by fungi. These diseases reduce the yield of crops and can be controlled by using certain chemicals that kill microbes.
25. Petroleum was formed from the remains of dead sea animals when their bodies got burried under the layers of sand. These remains got converted into petroleum under high pressure and temperature.
It is a dark coloured viscous liquid having foul smell called crude oil. Many useful components are derived from the crude oil with the help of fractional distillation.
The process of converting petroleum into useful products by fractional distillation is called refining of petroleum.
26. Asexual reproduction is a mode of reproduction in which the new offspring are produced from a single parent. The offspring produced are identical to each other, both physically as well as genetically. They are the exact copies of their parent cell. Hence, they are called clones. Asexual reproduction is observed in both unicellular and multicellular organisms.

(i) By budding: Some organisms develop buds on their body. These buds develop into a new individual. This is called budding. An example is a hydra. From the parent hydra, a bud arises which eventually matures into a new hydra. Once it is matured, it detaches from the parent body.

(ii) By binary fission: In binary fission, parent cell divides into two equal halves called daughter cells. Daughter cells are identical to each other and to their parent cell. Organisms like amoeba, bacteria, euglena, etc., exhibit binary fission.

(iii) By vegetative reproduction: Plants reproduce asexually through their vegetative parts such as leaves, roots, stem, and buds. This is called vegetative propagation. For example, onion bulbs, tubers of potato, runners/stolon, etc. Vegetative propagation is much faster than the sexual reproduction in plants. This can be done artificially as well, which is widely employed in horticulture.

27. When a bucket full of water is held in our hand above the ground, there will be a muscular force applied by the hand and downward gravitational force applied by the earth. There will be no change in the state of motion because the two forces are equal and opposite to each other, hence they will balance each other.
28. If there were no voice box in our throat, we would not be able to speak or talk because there is nothing to vibrate through which sound can be produced. In voice box there are two vocal cords. When lungs force out air through voice box, the vocal cords vibrate to produce sound.
29. i. Copper sulphate solution is taken as electrolyte.
ii. The thin plate of pure copper is made the negative electrode (cathode)
iii. Copper is liberated at the cathode, impure copper metal of anode goes on dissolving in copper sulphate solution making it thinner whereas the pure copper from copper sulphate solution goes on depositing on pure copper plate making it thicker.
iv. The copper anode decreases in weight.
30. We have learnt above that earthquakes cannot be predicted. We have also seen that they can be highly destructive. It is, therefore, important that we take necessary precautions to protect ourselves all the time. People living in seismic zones, where the earthquakes are more likely to occur, have to be specially prepared. First of all, the buildings in these zones should be designed so that they can withstand major tremors. Modern building technology can make it possible.
- We know that earthquakes can vary a great deal in intensity and duration. Therefore, the response of a building or a structure, however well-built it may be, will also be uncertain. A lot will depend upon the site of the structure, the soil on which it stands and many other factors. The best we can do is to make the structure simple so that it is 'Quake Safe'. Some suggestions :
1. Consult qualified architects and structural engineers.
 2. Make the structure symmetrical so that the mass is distributed uniformly.
 3. In highly seismic areas, the use of mud or timber is better than the heavy construction material. Make roofs as light as possible. In case the structure falls, the damage will not be heavy.
 4. It is better if the cupboards and shelves are fixed to the walls, so that they do not fall easily.
 5. Be careful where you hang wall clocks, photoframes, water heaters, etc., so that in the event of an earthquake they do not fall on people.
 6. Since some building may catch fire due to an earthquake, it is necessary that all buildings, especially tall buildings, have fire fighting equipment installed. This equipment must be checked from time to time to ensure that it is in working order.
- The Central Building Research Institute, Roorkee, has developed know how to make quake proof houses. It is advocating the use of special materials to make low cost houses which are quake proof.
31. i. Iris
ii. Pupil
iii. Iris
iv. Optic nerve

Section D

32. **Read the text carefully and answer the questions:**

Coal is processed in industry to get some useful products such as coke, coal tar and coal gas. Coal gas was used for street lighting for the first time in London in 1810 and in New York around 1820. Nowadays, it is used as a source of heat rather than light. These days, bitumen, a petroleum product, is used in place of coal tar for metalling the roads.

- (i) **(a)** All of these

Explanation: All of these

- (ii) **(b)** Anthracite

Explanation: Anthracite

- (iii) **(b)** carbon

Explanation: carbon

(iv) 1. Coal tar

(v) (a) True

Explanation: True

33. Read the text carefully and answer the questions:

Anita study about the sex hormones. Now she want to know that there are other hormones too. So she ask her teacher about this. Her teacher told her that apart from the pituitary, the testes and the ovaries, there are other endocrine glands in the body such as thyroid, pancreas and adrenals gland and she also told her that these hormones deficiency caused various diseases.

(i) (d) Goiter

Explanation: Goiter

(ii) (a) Growth hormone

Explanation: Growth hormone

(iii) (a) Pituitary

Explanation: Pituitary

(iv) 1. Diabeties

(v) (a) True

Explanation: True

34. Read the text carefully and answer the questions:

Sunita has buy a new house near industrial area. She is very fed-up as during day as well as night unnecessary sound come. They are the loud sound which usually irritate her. She want to create awareness so she gathered the neighbouring people and write slogan about what are the harmful effect of the sound and she also filles complaint about this.

(i) (a) Reading book

Explanation: Reading book

(ii) (a) Option (c)

Explanation: Both Noise producing industries should be set up away residential area and Use of automobile horns should be minimised.

(iii) (d) All of these

Explanation: All of these

(iv) 1. Noise pollution

(v) (a) True

Explanation: True