Question:1
Fill in the blanks with the correct words.

1. Green plants make their own food through a process called ..... (photosynthesis/autotrophs).
2. ..... (Canines/Molars) are large back teeth having a wide grinding surface and are used primarily to chew food.
3. Wool is a/an ..... (plant/animal) fibre.
4. The number of atoms present in one molecule of an element is known as its ..... (monotony/atomicity).
5. Materials containing an acid are called ..... (basic/acidic) substances.

Solution:

1. Green plants make their own food through a process called photosynthesis.
2. Molars are large back teeth having a wide grinding surface and are used primarily to chew food.
3. Wool is an animal fibre.
4. The number of atoms present in one molecule of an element is known as its atomicity.
5. Materials containing an acid are called acidic substances.

Question:2
Write T for the true statement and F for the false one. Correct the false statement(s).

1. The degree of hotness or coldness of a body is measured by heat.
2. The hump of the camel is a reservoir of water.
3. Mammals such as polar bears and seals have a thick layer of fat called blubber.
4. Soil formation is a slow process.
5. Plants respire with the help of tiny holes called stomata.

Solution:

1. F
The degree of hotness or coldness of a body is measured by temperature.

2. F
A camel hump is a reservoir of fatty tissues.

3. T
Mammals such as polar bears and seals have a thick layer of fat called blubber.

4. T
Soil formation is a slow process.

5. T

Plants respire with the help of tiny holes called stomata.

Question:3

Fill in the blanks with the correct words.

1. ..... (Saprophytic/parasitic) plants are those that live off rotting materials.
2. ..... (Copper/Wool) is a bad conductor of heat.
3. ..... (Alcohol scale/Clinical thermometer) is used to measure body temperature.
4. Rain gauge is used to measure ..... (rainfall/humidity).
5. Celsius scale is indicated by ..... (degree F/degree C).

Solution:

1. Saprophytic plants are those that live off rotting materials..
2. Wool is a bad conductor of heat.
3. Clinical thermometer is used to measure body temperature.
4. Rain gauge is used to measure rainfall.
5. Celsius scale is indicated by degree C.

Question:4

Write T for the true statement and F for the false one. Correct the false statement(s).

1. Clayey soil becomes sticky and like plastic when wet.
2. Respiration in the absence of oxygen is called aerobic.
3. Lungs are the breathing organs of plants.
4. Subsoil is rich in minerals and other materials.
5. Respiration is primarily of two types.

Solution:

1. T

Clayey soil becomes sticky and like plastic when wet.

2. F

Respiration in the absence of oxygen is called anaerobic respiration.

3. F

Stomata are the breathing organs of plants.

4. F

Top soil is rich in minerals and other materials.

5. T
Respiration is primarily of two types.

Question:5
Which of these carries water up the roots to the leaves?

(a) Phloem
(b) Xylem
(c) Stomata
(d) None of these
Solution:
(b) Xylem.
Xylem carries water up from the roots to the leaves.

Question:6
These are an association between a fungus and an alga.

(a) Lichens
(b) Mushrooms
(c) Peas
(d) All of these
Solution:
(a) Lichens.
Lichens are an association between fungi and algae.

Question:7
An *amoeba* forms a ..... around its food.

(a) villi
(b) soil
(c) food vacuole
(d) none of these
Solution:
(c) Food vacuole.
An *Amoeba* forms a food vacuole around its food.

Question:8
Animals that bring back swallowed food to chew it again are called

(a) rodents
(b) ruminants
(c) carnivores
(d) none of these
Solution:
(b) Ruminants.
Animals that bring back swallowed food to chew it again are called ruminants.

Question:9
The stomach of a ruminant has

(a) two chambers
(b) four chambers
(c) five chambers
(d) none of these
Solution:
(b) Four chambers.
The stomach of a ruminant has four chambers.

Question:10
The animal that gives us cashmere fibre is the

(a) cashmere sheep
(b) cashmere goat
(c) cashmere camel
(d) cashmere worm
Solution:
(b) Cashmere goat.
The Cashmere fibre is obtained from the Cashmere goat.

Question:11
This is the smallest particle of a substance

(a) Atom
(b) Molecule

(c) Element
(d) Compound
Solution:
(a) Atom.
Atom is the smallest particle of a substance.

Question:12
Substance containing bases are called

(a) basic substances
(b) acidic substances
(c) neutral substances
(d) none of these
Solution:
(a) Basic substances.
Substances containing bases are called basic substances.

Question:13
What is the chemical formula of sulphuric acid?

(a) HCI
(b) HNO_3
(c) H_2SO_4
(d) CH_3COOH
Solution:
(c) H_2SO_4.
H_2SO_4 is the chemical formula of sulphuric acid.

Question:14
Chemical formula of acetic acid is

(a) CH_3COOH
(b) HNO_3
(c) H_2SO_4
(d) HCI
Solution:
(a) CH_3COOH.

Chemical formula of acetic acid is CH_3COOH.

Question:15

It is used in the manufacture of drain cleaners

(a) Calcium hydroxide
(b) Magnesium hydroxide
(c) Sodium hydroxide
(d) None of these

Solution:

(c) Sodium hydroxide.
Sodium hydroxide is used in the manufacture of drain cleaners.

Question:16

The relative humidity of air is measured by the ..... .

(a) rain gauge
(b) hygrometer
(c) thermometer
(d) none of these

Solution:

(b) Hygrometer.
The relative humidity of air is measured by the hygrometer.

Question:17

This/these is/are mode(s) of heat transfer.

(a) Conduction
(b) Convection
(c) Radiation
(d) All of these

Solution:

(d) All of these.
The three modes of heat transfer are conduction, convection and radiation.

Question:18

Fennec has ....., which helps it to dissipate heat.

(a) long hair
(b) long ears
(c) small nose
(d) skin

Solution:

(b) Long ears.
Fennec has long ears, which helps it to dissipate heat.

Question:19

Leaf insects and ..... are shaped of coloured to match their surroundings.

(a) ants
(b) bees
(c) stick insects
(d) skin

Solution:

(c) Stick insects.
Leaf insects and stick insects have shapes and colours to match their surroundings.

Question:20

Write one word for the following.

1. Tiny holes of plants
2. Energy form food is released by this
3. This plant has a short root and long, thread-like stem
4. The last chamber of the stomach of a cow
5. The process of taking out filament from the cocoons

Solution:

1. Stomata.
2. Cellular respiration.
3. Creepers.
4. Abomasum
5. Reeling.

Question:21

Write T for the true statement and F for the false one. Correct the false statements

1. Air is the mixture of two gases.
2. Acids in which the amount of water is more are called organic acids.
3. Alcohol is costly and more harmful than mercury.
4. The substances that conduct heat easily are called insulators.
5. During the day, a kangaroo rat comes out from its den.

Solution:

1. F

Air is a mixture of many gases.

2. F

Organic acids are the acids that are found in plants and animals.

3. F

Mercury is costly and more harmful than alcohol.

4.F

The substances that conduct heat easily are called conductors.

5. F

A kangaroo rat comes out from its den during the night.

Question:22

Circle the odd one.

1.	Sandy	Clayey	Lime	(*Hint:* it's not a type of soil.)
2.	Wood	Silver	Plastic	(*Hint:* it's a good conductor of heat)
3.	Camel	Desert snake	Arctic fox	(*Hint:* its' not a desert animal.)
4.	Dog	Fish	Monkey	(*Hint:* it does not a breath through lungs.)
5.	Lighting	Wind	Water	(*Hint:* it does not help to from of soil.)

Solution:

1. Lime.
2. Silver
3. Arctic fox.
4. Fish.
5. Lighting.

Question:23

What do you understand by rumination? Give one example.

Solution:

Animals like cow, buffalo and other cattle while feeding, swallow the food without chewing. Later, they bring back the food from the stomach and chew it properly. Such animals are called ruminants and the process is called rumination.

Question:24

Differentiate between saprophytic and insectivorous plants. Give one example of each.

Solution:

Saprophytes	Insectivorous
They obtain the nutrients from the dead and decaying organic matter.	They feed on the insects by trapping the insects that sit on them.
They have fungi at the roots to help decompose dead plant or animal matter.	They have modified leaves or stems to help capture insects.
Indian pipe is a type of saprophytic plant.	Venus fly trap is an example of an insectivorous plant.

Question:25

What do you know about shearing? How is it helpful for animas?

Solution:

Shearing is a process which involves the removal of fleece from the animal body. The fleecing is done once in a year during spring/summer season. This helps the animals get rid of the heavy fleece coat which is not required during the summer.

Question:26

What do you understand by crystallization?

Solution:

Crystallization is a process of converting an impure compound to its crystals by dissolving the substance in water to get a saturated solution, (if it is water soluble) and then allowing the solution to stand, so that crystals of the material are formed.

Question:27

Write the difference between hydrated salts and anhydrous salts.

Solution:

Hydrated salts	Anhydrous salts
The salt crystals which contain water molecules in them are called hydrous salts.	Hydrous salt crystals when heated up, loses the water molecules in them and forms a powdery substance and are called anhydrous salts.

Question:28

Give the difference between conductors and insulators.

Solution:

Conductors	**Insulators**
Conductors allow heat and electricity to pass through them easily.	Insulators do not allow heat and electricity to pass through them easily.
Metals such as copper, silver, etc., are conductors.	Plastic, wood, paper, etc., are insulators.

Question:29

Write the uses of a hygrometer and rain gauge.

Solution:

A rain gauge is used to measure the amount of rainfall over a specific period of time.

A hygrometer is used to measure the water content in air, namely the humidity.

Question:30

Is the sandy soil different from clayey soil? If yes, write two differences.

Solution:

Sandy Soil	Clayey Soil
A greater portion of sandy soil is made up of relatively large sand particles, which cannot closely fit together.	A greater portion of clayey soil is made up of relatively fine particles, and hence have a less space between the particles.
Sandy soil is light, dry and aerated.	Clayey soil can hold more water and is heavy.

Question:31

Write the names of two animals that breathe through skin and lungs.

Solution:

Amphibians such as frogs and toads breathe through skin and lungs.

Question:32

Define anaerobic respiration. How can you represent it?

Solution:

Respiration that takes place in the absence of free oxygen is called as anaerobic respiration. The process of fermentation is a representation of anaerobic respiration.

Question:33

Are food and nutrition different from each other? It yes, how?

Solution:

Food is a source of nutrients. Foods are the substances that are used by the body to sustain life, get energy and promote growth whereas nutrients are the components present in the food, which provides us the nourishment. Food may satisfy hunger but it cannot be counted as nutrition till it supplies all the required nutrients.

Question:34

Name the five stages of the process of nutrition in animals.

Solution:

The five stages in the process of nutrition in animals are:

(i) Ingestion
(ii) Digestion
(iii) Absorption
(iv) Assimilation
(v) Egestion

Question:35

What is silk? Who produces it? Mention two of its qualities.

Solution:

Silk is an animal fibre which is used to weave fabrics. The fibre produced by silk worm is called as silk. It is obtained from the cocoon of a silk worm.
Silk has a soft and shiny nature (lustre).

Question:36

What is rusting? How does it harm object?

Solution:

Rusting is a process by which iron forms iron oxide in the presence of oxygen and water. As a result of rusting, a reddish brown layer called rust is formed on the surface of the iron, which falls off in course of time, again exposing the metal surface for further rusting. Thus, the iron object loses its durability, and becomes weak due to the repetition of this process.

Question:37

Write one use each of hydrochloric acid and sulphuric acid.

Solution:

Hydrochloric acid is used in the manufacture of sanitary ware cleaners which is used for cleaning purposes at homes, whereas sulphuric acid is used in the production of fertilizers.

Question:38

How can you say that we are dependent on soil?

Solution:

Soil is an essential natural resource. Soil is basis for agriculture. It provides the essential nutrients for the plants which are called producers. All animals including humans are dependent on plants either directly or indirectly. The source of food for both plants and animals are obtained from the soil. Hence, we can say that we are dependent on soil.

Question:39

Explain the types of temperature scale.

Solution:

Following are the type of temperature scale:

(i) Celsius scale: Swedish astronomer Anders Celsius devised this scale in 1742, in which the lower fixed point is taken as 0^0C, and upper fixed point is taken as 100^0C. The interval between 0^0C-100^0C is divided into 100 parts where each part measures 1^0C.

(ii) Fahrenheit scale: Gabriel Fahrenheit devised this scale in which the lower and upper fixed points are taken as 32^0F and 212^0F respectively. The interval between 32^0F-212^0F is divided into 180 parts where each part measures 1^0F.

Question:40

Write a short note on humidity.

Solution:

Humidity is the amount of water vapour present in the atmosphere. Humidity can be measured using a device called hygrometer. The increase in temperature results in low humidity and the decrease in temperature results in higher humidity in the atmosphere. Humidity plays an important role in the life process of plants and animals as it promotes the growth of epiphytes, regulates the evaporation of water from the body of living organisms and helps in the germination of spores in fungus.

Question:41

What is crystallization? Describe in detail.

Solution:

Crystallization is a process which involves the conversion of an impure compound to its crystals.

1. For crystallization of a substance, it is first dissolved in water to have a saturated solution. A saturated solution is the one in which no further substance will dissolve.
2. The saturated solution is left undisturbed.
3. Crystals of the dissolved substance start growing from the saturated solution by the process of crystallization.

Question:42

Are both good and bad conductors of heat useful to us? If yes explain in detail.

Solution:

Yes, both good and bad conductors of heat are useful to us. This can be explained by following points:

1. While cooking, we use the utensils which are good conductors of heat, to cook food quickly, but their handles are made of bad conductors, so that it can be handled safely.
2. Similarly, the electrical appliances we use, contains a metal core which is a good conductor, but the outside covering will be an insulated material, so as to ensure the safety of users.