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Science

6th Standard

Based on the New Syllabus for 2019-20.

TERM - III

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- Term-wise Guide for the year 2019-20, for Term - III
- Complete Solutions to Textbook Exercises.
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- Chapter-wise Unit Tests with answers.
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SURA PUBLICATIONS

Chennai

2019 - 2020 Edition

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ISBN : 978-81-8449-630-7

Code No. : T3-6-S (EM)

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(ii)

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It gives me great pride and pleasure in bringing to you **Sura's Science Guide** for **Third Term** for **6th Standard** for the year 2019-20, under Uniform System of School Education Scheme in Trimester Pattern.

This guide encompasses all the requirements of the students to comprehend the text and the evaluation of the textbook.

- ◆ Additional questions have been provided exhaustively for clear understanding of the units under study.
- ◆ Chapter-wise Unit Tests are given with answers.

In order to learn effectively, I advise students to learn the subject section-wise and practice the exercises given. It will be a teaching companion to teachers and a learning companion to students.

Though these salient features are available in this Guide, I cannot negate the indispensable role of the teachers in assisting the student to understand the subject thoroughly.

I sincerely believe this guide satisfies the needs of the students and bolsters the teaching methodologies of the teachers.

I pray the almighty to bless the students for consummate success in their examinations.

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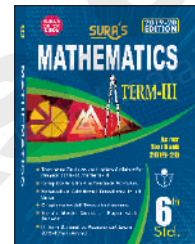


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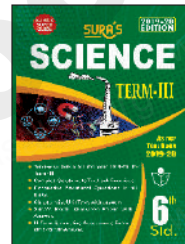
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6th Std. - Term - III

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6th
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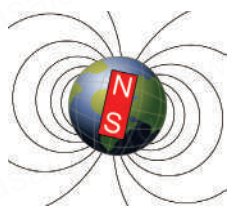
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Magnetism

Unit

01

LEARNING OBJECTIVES

- ☐ To know about the discovery of magnets
- ☐ To identify Magnetic and Non Magnetic Materials
- ☐ To distinguish between north and south poles
- ☐ To list out the properties of magnets
- ☐ To explain the principle of Maglev Train



Evaluation

I. Choose the appropriate answer:

1. An object that is attracted by magnet.

- (a) wooden piece
- (b) plain pins
- (c) eraser
- (d) a piece of paper

[Ans : (b) plain pins]

2. People who made mariner's compass for the first time.

- (a) Indians
- (b) Europeans
- (c) Chinese
- (d) Egyptians

[Ans : (c) Chinese]

3. A freely suspended magnet always comes to rest in the _____ direction.

- (a) North - East
- (b) South - West
- (c) East - West
- (d) North - South

[Ans : (d) North-South]

4. Magnets lose their properties when they are

- (a) used
- (b) stored
- (c) hit with a hammer
- (d) cleaned

[Ans : (c) hit with a hammer]

5. Mariner's compass is used to find the

- (a) speed
- (b) displacement
- (c) direction
- (d) motion

[Ans : (c) direction]

II. Fill in the blanks:

1. Artificial magnets are made in different shapes such as _____, _____ and _____.

[Ans : Oval, disc, cylindrical]

2. The materials which are attracted towards the magnet are called _____.

[Ans : magnetic substances]

2. A student who checked some magnets in the school laboratory found out that their magnetic force is worn out. Give three reasons for that?

Ans : Magnets lose their properties if they are

- i. heated
- ii. dropped from a height
- iii. hit with a hammer

These are the reasons for that their magnetic force is worn out.

IX. Answer in detail:

1. You are provided with an iron needle. How will you magnetize it?

Ans :

- i. Take the given iron needle.
- ii. Place it on a table.
- iii. Take a bar magnet and place one of its poles near one edge of the needle.
- iv. Rub from one end to another end without changing the direction of the pole of the magnet.
- v. Repeat the process for 30 to 40 times.
- vi. Bring a pin near the needle.
- vii. Now the needle attracts the pin. So needle is magnetized.

2. How does the electromagnetic train work?

Ans :

- i. Electromagnets are used in Electromagnetic train.
- ii. Electromagnets are magnetised only when current flows through them.
- iii. When the direction of current is changed the poles of the electromagnets are also changed.
- iv. Like poles of the magnets which are attached at the bottom of the train and rail track repel each other.
- v. So, the train is lifted from the track up to a height of 10 cm.
- vi. We know that we can move any magnetic object with the force of attraction or repulsion properties of magnets.
- vii. This train also moves with the help of the magnets attached on the sides of track and the magnets fitted at the bottom sideways of the train.
- viii. By controlling the current, we can control the magnets and movement of the train.

X. Questions based on Higher Order Thinking Skills:

1. You are provided with iron filings and a bar magnet without labelling the poles of the magnet. Using this

a. How will you identify the poles of the magnet?

Ans : Tie a piece of thread to the centre of bar magnet and suspend it. After some rotation, the magnet stops at a position. The end of the magnet that points to the north is called north pole.

The end of the magnet that points to the south is called South pole.

b. Which part of the bar magnet attracts more iron filings? Why?

Ans : The more iron filings are attracted by the poles of the magnet, because the poles have more concentrated magnetic power.

2. Two bar magnets are given in the figure A and B. By the property of attraction, identify the North pole and the South pole in the bar magnet (B)

2. How will you make levitating propeller?

- Ans :**
1. Make a propeller from a 500-ml plastic bottle. Make a hole in the bottle lid.
 2. Screw the lid with the hole on a bottle half filled with sand. Press fit a stiff straw in the lid. Embed the straw in the sand to make it stand erect. Place a few ring magnets in the straw. Similar poles will repel each other.
 3. Place two magnets each inside and outside the propeller lid. These magnets will automatically stick to each other.
 4. Like poles repel and this levitates the bottle fan. The ceiling fan makes it spin.
 5. Place the propeller on the stiff straw. The magnets in the straw and the propeller should repel each other. This will make the propeller levitate. On placing it under a ceiling fan the propeller will spin very fast.

Intext Activities

ACTIVITY - 1

Take a magnet. Take the magnet Closer to the objects surrounding you.

What happens? Observe and note.

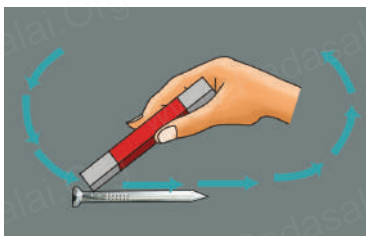
- i. The objects attracted by the magnet : _____
- ii. The objects, not attracted by the magnet : _____
- iii. Which substance is used to make the objects attracted by the magnet?

- Ans :**
- i. The objects attracted by the magnet : irons nail, iron rod, pins, needle, key, iron filings.
 - ii. The objects, not attracted by the magnets : rubber, paper, plastic pen, scale, pencil, water bottle.
 - iii. Which substance is used to make the objects attracted by the magnet?
Iron is used to make the objects attracted by the magnet.

ACTIVITY - 2

LET US MAKE MAGNETS

Take a nail / a piece of Iron and place it on a table. Now take a bar magnet and place one of its poles near one edge of the nail / piece of Iron and rub from one end to another end without changing the direction of the pole of the magnet. Repeat the process for 30 to 40 times.



Bring a pin or some iron filings near the nail / piece of Iron to check whether it has become a magnet. Does the nail/piece of iron attract the pin / iron filings? If not, continue the same process for some more time.

- Ans :** Yes, The nail / a piece of Iron acquires the same ability to attract other pieces of pin/ iron filings.

4. The large water droplets become heavy and the air cannot hold them, therefore, they fall as rains.
5. Water vapour is also continuously added to the atmosphere through transpiration from the surface of the leaves of trees.
6. Warm air carrying clouds rises up.
7. Higher up in the atmosphere, the air is cool.
8. These droplets floating in the air along with the dust particles form clouds.

Ans : 1. The heat of the sun causes evaporation of water from the surface of the earth, oceans, lakes, rivers and other water bodies.
2. Water vapour is also continuously added to the atmosphere through transpiration from the surface of the leaves of trees.
3. Higher up in the atmosphere, the air is cool.
4. These vapours condense to form tiny droplets of water.
5. These droplets floating in the air along with the dust particles form clouds.
6. Warm air carrying clouds rises up.
7. The water droplets come together to form large water droplets.
8. The large water droplets become heavy and the air cannot hold them, therefore, they fall as rains.

VI. Analogy :

1. Population explosion : Water scarcity :: Recycle : _____

Ans : Reuse

2. Ground water : _____ :: Surface water : lakes

Ans : Tube wells

VII. Give very short answer:

1. Name four different sources of water.

Ans : Different sources of water are wells, canals, tanks, ponds, rivers, water tanks, hand pipes.

2. How do people in cities and rural areas get water for various purposes?

Ans : In city, people get water from water tanks, hand pipes and bore wells.
In rural area, people get water from wells, canals, ponds and rivers.

3. Take out of cooled bottle of water from refrigerator and keep it on a table. After some time you notice a puddle of water around it. Why?

Ans : The cold surface of the glass containing icy water cools the air around it and the water vapour of the air condenses on the surface of the glass. This process is called condensation of water. In this method the cooled bottle has puddle of water around it.

4. We could see clouds almost every day. Why doesn't it rain daily?

Ans : The rain came whenever the clouds will condense. If it will not occur, the rain will not come. So the process of condensation is essential so it does not rain daily.

X. Questions based on Higher Order Thinking Skills :

1. When there is no pond or lake in an area, will there be formation of clouds possible in that area?

Ans : Yes, the formation of clouds is possible at that area because of the plants also release the water drops by transpiration. This water will form the clouds.

2. To clean the spectacles, people often breathe out on glasses to make them wet. Explain why do the glasses become wet.

Ans : After clean the spectacles, people often breath out on glasses to make them wet because of releasing the hot air from the mouth will be changed into water vapour by condensation process. Then the hot air will condense the atmospheric water vapour. So the water vapour is settled on the spectacles.

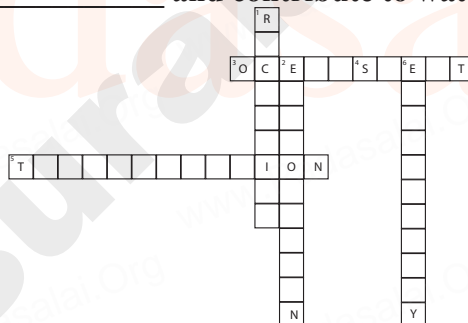
XI. CROSSWORD :

DOWN

1. A method of water conservation.
2. Process of getting water vapour from sea water.
6. Water stored in dams is used for generation of _____.

ACROSS

3. _____ is a large body of non-potable water found in nature.
4. In summer, the body loses water as _____.
5. Plants undergo _____ and contribute to water cycle.

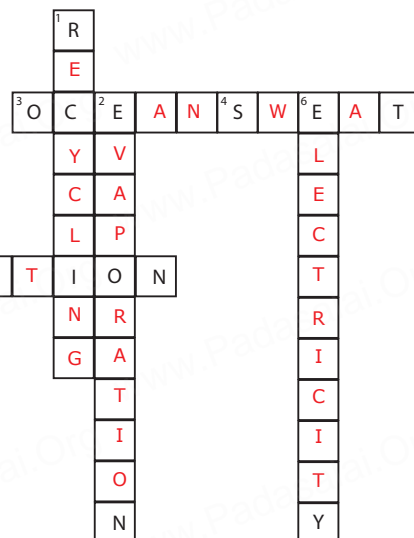


Ans : Down

1. RECYCLING
2. EVAPORATION
6. ELECTRICITY

Across

3. OCEAN
4. SWEAT
5. TRANSPIRATION



II. Fill up the blanks:

- _____ plays a vital role in the evolution and survival of life. [Ans : **Water**]
- _____ is present in the air around us. [Ans : **Vapour**]
- In the distribution of total 0.3% of surface water, _____ have 87% surface water. [Ans : **Lakes**]
- The molecular formula of water is _____. [Ans : **H₂O**]
- The oceanic volcanoes which are present inside also add _____ to the sea. [Ans : **Salt**]
- Every year _____ is observed as the world water day. [Ans : **March 22nd**]
- The water vapour gets cooled and changes into tiny water droplets that form _____ in the sky. [Ans : **Clouds**]
- A larger portion of water is _____ % of the total available fresh water in frozen state. [Ans : **68.7**]
- Water level in the reservoirs is measured in _____. [Ans : **Cubic feet per second (cusecs)**]
- Adoption of _____ and _____ irrigation in agriculture. [Ans : **Drip, Sprinkler**]

III. True or False. If False, give the correct statement:

- Mountains helps to regulate the temperature of our earth.
Ans : False. **Water** helps to regulate the temperature of our earth.
- Solid form of water is present in underground.
Ans : False. **Liquid** form of water is present in underground.
- Water while passing through layers of soil dissolves salt and minerals to a maximum extent.
Ans : True.
- Water freeze at 100° celsius at normal pressure.
Ans : False. Water freeze at **0°** celsius at normal pressure.
- When the air around the clouds is cool, these drops of water fall in the form of snow or rain.
Ans : True.
- Direct collection and use of rain water is called rain water harvesting.
Ans : True.
- Estuaries are harmful to unique plants and animal species.
Ans : False. Estuaries are **home** to unique plants and animal species.

IV. Analogy:

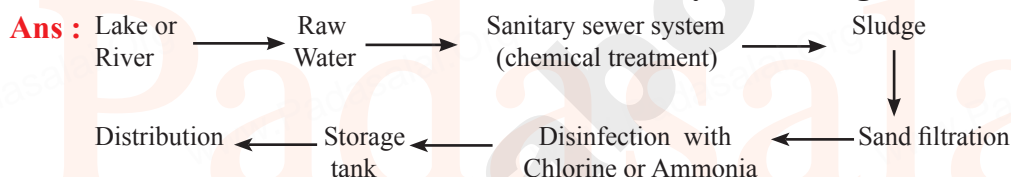
- Ice berg : Solid form :: Water vapour : _____.**
Ans : Gaseous form.
- Contain more than 3% of salt : _____ :: upto 3% of salt dissolved : Brackish water.**
Ans : Sea water.

2. How water is conserved by water management method?**Ans :** Water management consists of the following factors :

- Bringing awareness about the bad effects of throwing wastes into the water bodies.
- Recycling of water by separating pollutants.
- Minimizing the use of chemical fertilizers in agriculture. It reduces the pollution of underground water.
- Controlling deforestation.
- Adopting drip irrigation and sprinkler irrigation in agriculture. By this way lesser amount of water can be used for the irrigation.

3. Give the importance of water.**Ans :** Human body :

- Our body uses water in all its cells, organs and tissues to help regulate its temperature and maintain other bodily functions.
- On an average, the human body requires 2-3 litres of water per day for proper functioning.
- Water helps in digestion of food and removal of toxins from the body.
- It helps the domestic activities like cooking, bathing, washing clothes, washing utensils, keeping houses and common places clean, watering plants, etc.
- It is also essential for the healthy growth of farm crops and farm stock and is used in the manufacture of many products.

4. Describe water distribution and treatment system through flow chart.**5. What are the reasons for scarcity of water?****Ans :** The main reasons for scarcity of water are

- Population explosion.
- Uneven distribution of rainfall.
- Decline of ground water table.
- Pollution of water.
- Careless use of water.

**Intext Activities****ACTIVITY - 1****Relative amount of water at various sources**

Take a 20 litre bucket, a 500 ml mug, a 150 ml tumbler and a 1 ml spoon. If the capacity of the bucket is 20 litre, then it represents the total amount of water present on the Earth. Now, transfer a mug of water from the bucket and it is 500 ml and then it represents the total amount of fresh water present in the Earth. The water left in the bucket represents seas and oceans. This water is not fit for human use.

13. Name the places where water is found as ice?
14. Differentiate between surface water and ground water.
15. Which places have fresh water?
16. What are the salts dissolved in sea water?
17. List any two wet-land in Tamilnadu.

V. Write in detail. (Only one)

(1 × 5 = 5)

18. Give the importance of water.
19. What is rainwater harvesting? Explain in a few sentences how it can be used in houses.

★ ★ ★

Answer Key

- I. 1. (c) 2. (b) 3. (c) 4. (d).
- II. 5. Hydrological cycle.
6. H₂O.
7. March 22.
- III. 8. False. Ponds are formed when the water table meets the land surface.
9. False. Sea water cannot be used for irrigation as such.
10. True.
- IV. 11. 1. (d) 2. (a) 3. (b) 4. (c).
12. a. Tube wells. b. Estuary
13. Refer Sura's Guide Page No.14, Q.No.VII - 5.
14. Refer Sura's Guide Page No.14, Q.No. VIII - 1
15. Refer Sura's Guide Page No.20, Q.No.V - 3.
16. Refer Sura's Guide Page No.20, Q.No.V - 7.
17. Refer Sura's Guide Page No.21, Q.No.V - 13.
- V. 18. Refer Sura's Guide Page No.22, Q.No VI - 3.
19. Refer Sura's Guide Page No.15, Q.No.3.

★ ★ ★

- Ans :**
1. Cover your work area with old newspaper.
 2. Take necessary quantity of water in a jar.
 3. Add concentrated sodium hydroxide in the jar and allow it to cool.
 4. Then add coconut oil drop by drop and stir it well.
 5. Pour that solution into an empty match box, soap can be obtained after drying.
 6. Try this soap to wash your hand kerchief.

VI. Analogy :

1. Urea : Inorganic fertilizer :

Vermi compost : _____.

Ans : Organic fertilizer.

2. _____ : Natural adhesives :

Cello tape : Artificial adhesives.

Ans : Starch dissolved in water.

VII. Give very short answer:

1. What are the three main constituents of soap?

Ans : The three main constituents of soap are Lye (Sodium hydroxide), coconut oil and water.

2. What are the two different types of molecules found in the soap?

Ans : The two types of molecules found in the soap are (i) water loving, (ii) water hating.

3. Give an example for inorganic fertilizer.

Ans : The Inorganic fertilizers are Urea, Ammonium sulphate and Super phosphate.

4. Mention any three physical properties of phenol.

Ans : Phenol properties :

- i. It is a weak acid.
- ii. It is a volatile, white crystalline powder.
- iii. It is a colourless solution, but changes into red in the presence of dust.

5. Explain the uses of plaster of paris.

Ans : Uses of plaster of paris :

1. In making black board chalks.
2. In surgery for setting fractured bones.
3. For making casts for statues and toys etc.
4. In construction industry.

6. What are the ingredients of the cement?

Ans : The ingredients of the cement are lime, clay and gypsum.

7. Why gypsum is used in cement production?

Ans : Gypsum is added to control the setting of cement.

8. Reinforced Cement Concrete is a mixture of cement, sand and gravel.

Ans : False. **Concrete** is a mixture of cement, sand and gravel.

9. Gypsum is used in the process of making cement.

Ans : True.

10. Gypsum is used in improving plant growth in agriculture.

Ans : False. **Epsom** is used in improving plant growth in agriculture.

IV. Match the following :

1.	Sodium Chloride	–	a)	$\text{CaSO}_4 \cdot \frac{1}{2}\text{H}_2\text{O}$
2.	Calcium sulphate dihydrate	–	b)	$\text{C}_2\text{H}_5\text{OH}$
3.	Magnesium sulphate hydrate	–	c)	$\text{CaSO}_4 \cdot 2\text{H}_2\text{O}$
4.	Calcium sulphate hemihydrate	–	d)	NaCl
5.	Phenol	–	e)	$\text{MgSO}_4 \cdot \text{H}_2\text{O}$

Ans : 1 - d, 2 - c, 3 - e, 4 - a, 5 - b.

V. Analogy:

1. H_2O : Water :: NaCl : _____

Ans : Sodium Chloride.

2. Used to join components : Adhesives :: Clean the body : _____

Ans : Soaps.

3. Organic fertilizer : Compost :: Inorganic fertilizer : _____

Ans : Super phosphate.

4. Used as fertilizer : Gypsum :: Helps nerves function properly : _____

Ans : Epsom.

5. Making casts for statues : Plaster of paris :: Used as mouthwash : _____

Ans : Phenol.

VI. Give short answer :

1. Define physical change.

Ans : In Physical change only the shape, size (or) volume changes; the state of the matter may also change.

2. What is the use of indicator?

Ans : The use of indicator is to identify whether material is acid (or) base medium.

3. How to prepare soft idly?

Ans : We could prepare soft idly as a result of chemical change named fermentation takes place in the idly batter. During fermentation the idly batter undergoes a chemical change by bacteria.

4. If we soak onion in water the irritation is reduced. Why?

Ans : It is due to the presence of a chemical, propanethial s-oxide in onion. This is easily volatile. When we cut onion, some of the cells are damaged and the chemical come out. It becomes vapour and reach our eyes result in irritation and tears in eyes. If we soak onion in water, the chemical is diluted and it cannot reach our eyes. So the irritation is reduced.

UNIT TEST

Time : 60 min.

Marks : 25

I. Choose the correct answer.

(4 × 1 = 4)

1. Soaps were originally made from _____.
(a) Proteins (b) animal fats and vegetable oils
(c) Chemical extracted from the soil (d) Foam booster
2. Phenol _____.
(a) Carbolic acid (b) Acetic acid
(c) Benzoic acid (d) Hydrochloric acid
3. All the plants get their _____ from the soil.
(a) Nutrients (b) Water
(c) Nitrogen (d) All the above
4. _____ is used as surgical antiseptic.
(a) Epsom (b) Phenol
(c) Gypsum (d) None of these

II. Fill in the blanks.

(3 × 1 = 3)

5. _____ is called as farmer's best friend.
6. We could prepare soft idly as a result of a chemical change named _____ takes place in the idly batter.
7. _____ invented Portland cement.

III. Find whether the following sentences are true or false. If false correct the statement.

(3 × 1 = 3)

8. Gypsum is largely used in medical industries.
9. If we soak onion in water, then the irritation will be increased.
10. NPK are the primary nutrients for plants.

IV. Answer any five only.

(5 × 2 = 10)

11. Match the following.

1. Soap	a. $\text{CaSO}_4 \cdot 2\text{H}_2\text{O}$
2. Cement	b. NaOH
3. Fertilizers	c. RCC
4. Gypsum	d. NPK

12. What are the three main constituents of soap?
13. Explain the uses of plaster of paris.
14. Why earthworm is called as farmer's friend?



Our Environment

LEARNING OBJECTIVES

- ☐ To acquire knowledge about ecosystems and their components
- ☐ To understand food chains and their role in ecosystems
- ☐ To learn about waste, its management and recycling
- ☐ To find out the difference between biodegradable and non-biodegradable waste
- ☐ To study different types of pollution and their impact on environment



Evaluation

I. Choose the appropriate answer :

1. Identify the fresh water ecosystem.

- (a) Pond (b) Lake
(c) River (d) All of them

[Ans : (d) All of them]

2. Producers are _____.

- (a) Animals (b) Birds
(c) Plants (d) Snakes

[Ans : (c) Plants]

3. It is a biodegradable waste

- (a) Plastic (b) Coconut Shell
(c) Glass (d) Aluminium

[Ans : (b) Coconut shell]

4. It is an undesirable change that occurs in air and water.

- (a) Recycling (b) Reuse
(c) Pollution (d) Reduce

[Ans : (c) Pollution]

5. Usage of chemical pesticides and fertilisers causes _____ pollution.

- (a) Air pollution (b) Water pollution
(c) Noise pollution (d) None of the above

[Ans : (b) Water pollution]

II. Fill in the blanks :

1. Primary consumers that eat plants are called _____.

[Ans : Herbivores]

2. Temperature, light and wind are _____ factors.

[Ans : Abiotic]

3. _____ is the process of converting waste materials into new materials.

[Ans : Recycling]

4. Water pollution can spread _____ diseases in man.

[Ans : Diarrhea]

5. The 3R's are Reduce, _____ and Recycle.

[Ans : Reuse]

III. True or False. If False, give the correct statement :

1. The Pacific ocean is an example of an marina ecosystem.

Ans : True.

1. Explain what is happening in the picture?

- Ans :** (i) The atmosphere is polluted in this picture. It is due to the smoke arising from burning Garbage.
(ii) Land and water would be polluted because of leaching the toxins into the soil and water.

2. What types of pollution are caused by open dumps?

Ans : The following types of pollution are caused by open dumps:-

- i. Water pollution ii. Land pollution iii. Air pollution

Additional Questions

I. Choose the appropriate answer:

1. These are abiotic factors.

- i. Sunlight ii. Bacteria iii. Air iv. Plants

- (a) i and ii (b) i and iii
(c) ii and iv (d) iii and iv **[Ans : (b) i and iii]**

2. An example for artificial aquatic ecosystem is _____.

- (a) Forest (b) Pond
(c) Garden (d) Aquarium **[Ans : (d) Aquarium]**

3. _____ are organisms that are able to produce their own Organic food.

- (a) Producers (b) Consumers
(c) Decomposer (d) Omnivores **[Ans : (a) Producers]**

4. Plants are producers because they make their own food by _____.

- (a) Respiration (b) Consumer
(c) Photosynthesis (d) Decomposing **[Ans : (c) Photosynthesis]**

5. Natural agents like _____ are the decomposition factors breaking complex forms to simpler unit.

- (a) Oxygen (b) Water
(c) micro organisms (d) All the above **[Ans : (d) All the above]**

6. The average person in India produces _____ kg of waste everyday.

- (a) 0.45 (b) 0.50
(c) 0.40 (d) 0.55 **[Ans : (a) 0.45]**

7. Most _____ pollution is caused by the burning these fossil fuels.

- (a) Water (b) Land
(c) Air (d) Noise **[Ans : (c) Air]**

8. Among the following which one is not polluted by noise pollution?

- (a) Sounds of motor vehicles (b) Music from radio
(c) Firing crackers (d) Loud music

[Ans : (b) Music from radio]

2. How can we reduce air pollution?

- Ans :**
1. Cycle or walk short distances instead of using a motor vehicle.
 2. Travel by public transport (bus or train)
 3. Do not burn solid waste.
 4. Avoid fireworks.

3. Classify the most significant sources of water pollutants.

- Ans :** The most significant sources of water pollutants are
1. Sewage (water we use at home for bathing, cleaning, cooking).
 2. Industrial effluents (liquid wastes from factories).
 3. Agricultural pollutants (chemical pesticides and fertilisers that get washed from farms).
 4. Solid waste (when waste gets dumped into water bodies).

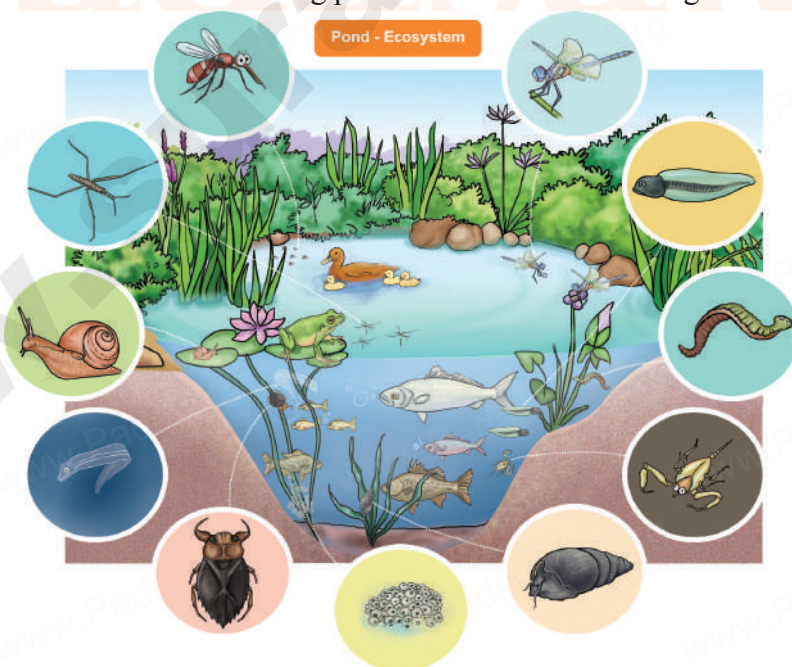
4. How do we reduce noise pollution?

- Ans :**
1. Turn off your electronics when you do not use them.
 2. Lower the volume when you watch TV or listen to music.
 3. Remind drivers not to use the horn too much.
 4. Avoid fireworks.
 5. Speak, do not shout (try to set an example).

Intext Activities

ACTIVITY - 1

Think of the objects in your home. Just keep in mind, the books, toys, furniture, food materials and even pets of your home. These living and non-living things together make your home. Look at the following picture and list out the living and non-living things.



Ans : Living things : Plants, Beetle, Mosquito, Larva, Water snake, Water scorpion, Snail, Fish, Duck and Frog etc.,

Non- living things : Sun, Air, Water, Chemicals, Soil, Rocks and Temperature etc.



Plants in Daily Life

Unit 05

LEARNING OBJECTIVES

- ❑ Able to acquire knowledge about various types and uses of plants
- ❑ Able to understand the economic importance of plants
- ❑ Able to appreciate the interrelationship between plants and animals and its economical importance



Evaluation

I. Choose the correct answer :

1. One of the following birds is an example of plant pollinator

- (a) Duck (b) Parrot
(c) Humming bird (d) Dove

[Ans : (c) Humming bird]

2. Natural Mosquito repellent is

- (a) Nutmag (b) Bamboo
(c) Ginger (d) Neem

[Ans : (d) Neem]

3. Which of following is not a root?

- (a) Potato (b) Carrot
(c) Radish (d) Turnip

[Ans : (a) Potato]

4. Which of the following medicinal plants has anticancer properties?

- (a) Amla (b) Tulasi
(c) Turmeric (d) Aloe

[Ans : (c) Turmeric]

5. Which is the national tree of India?

- (a) Neem tree (b) Jack tree
(c) Banyan tree (d) Mango tree

[Ans : (c) Banyan tree]

II. Fill in the blanks :

1. Every year, October _____ is celebrated as world food day. [Ans : Sixteenth]

2. _____ is an example of textile fibre. [Ans : Cotton]

3. I am the state tree of Tamilnadu. Who am I _____? [Ans : Palm tree]

4. The juice of the leaves of _____ plant relieves cough and bronchitis. [Ans : Tulasi]

5. The edible seeds of leguminous plants are called _____. [Ans : Pulses]

3. Look at the diagram given below and answer the following questions.

a. Soil fertility is increased by bacteria. How?



Ans : Bacteria like Pseudomonas are used to fix atmospheric nitrogen in the soil for agriculture. So they increase the soil fertility.

b. Honey bees are essential for the reproduction of the plants. Why?



Ans : (i) Bees are the best pollinators. Bright colour of flower, smell and honey attract honey bees.
 (ii) The bees go from one flower to another they leave the pollen grains from their legs.
 (iii) It results in cross pollination takes place and the formation of vegetable and fruit.
 So honey bees are essential for the reproduction of the plants.

Additional Questions

I. Choose the appropriate answer:

1. From the earliest time _____ have been the staple food of India.

i. Rice ii. Millet iii. Oats iv. Pulses.

(a) i and ii

(b) ii and iii

(c) i and iv

(d) i and iii

[Ans : (a) i and ii]

2. Aloe _____ are used as Laxative

(a) Roots

(b) Stem

(c) Leaves

(d) All the above

[Ans : (c) Leaves]

8. Name some states in which jute crop is grown.

Ans : Jute crop is grown in seven states - West Bengal, Assam, Odisha, Bihar, Uttar Pradesh, Tripura and Meghalaya.

9. Classify the Ornamental plants.

Ans : i) Shrubs - Hibiscus, Crape Jasmine and Crotons
 ii) Climbers - Mullai, Allamanda and Bougainvilleam
 iii) Trees - Golden shower tree, Mandarai, Delonix tree

10. How pollination takes place by insects?

Ans : Bright colored flowers, smell and honey attract insects. As the insects go from one flower to another they leave the pollen grains from their body. This results in cross pollination.

11. Define - Osteoarthritis.

Ans : Osteoarthritis is a joint disease affecting joints and knee in old age and any age people. Pala spinach is used to cure the disease.

VII. Answer in detail :**1. Classify the plants as food with example.**

Ans : 1. Vegetables
 2. Cereals
 3. Pulses

Plants also give us coffee, tea, sugar and raw materials for oil.

1. Vegetables : We get vegetables from different parts of the plants.

Roots : eg : Beetroot, Carrot.

Leaves : eg : Curry Leaves, Cabbage.

Stems : eg : Potato, Yam.

Flowers : eg : Banana flower, Cauliflower.

Fruits : eg : Amla, Guava.

2. Cereals : Cereals are edible components of grain of cultivated grass.

Example : Rice, Wheat, Bajra, Millet.

3. Pulses: (i) Pulses are edible seeds of plants legume family. Pulses are secured in pods.

(ii) Example : Bengal gram, Green mung bean.

4. Spices : Spices are aromatic parts of tropical plants traditionally used to flavour the food. Spices come from the bark or roots of certain plants, leaves, flowers, or stems of plants primarily used for flavoring, coloring or preserving food.

Spices used in India: Following spices are included in a variety of Indian dishes Cardamom, black pepper, curry leaves, fenugreek, fennel, ajwain, bay leaves, cumin, coriander seeds, turmeric, cloves, ginger, nutmeg, and cinnamon.

2. Give any five medicinal plants and their medicinal use.

Ans : Here is a list of plants that have the highest medicinal value.

Plant Name	Parts used	Medicinal use
Amla	Fruit	Cure Vitamin "C" deficiency diseases like Scurvy. Improve immunity.
Tulsi	Leaves, Seed	Cough, cold, bronchitis, expectorant.
Aloe	Leaves	Laxative, wound healing, skin burns and ulcer.
Neem	Bark, leaf and seed	Skin diseases
Turmeric	Rhizome	Helps body to fight foreign invaders



Hardware and Software

Unit

06

LEARNING OBJECTIVES

- ☐ To identify Software and Hardware of a computer.
- ☐ To distinguish the features of Hardware and Software.
- ☐ To recognize different types of Software.
- ☐ To identify some Open source Software and utilize them effectively.



Evaluation

I. Choose the correct answer :

1. Find out the part that is not found in CPU?

- (a) Mother Board
- (b) SMPS
- (c) RAM
- (d) Mouse

[Ans : (d) Mouse]

2. Which of the following is correct?

- (a) Free and Open source
- (b) Free and Traditional software
- (c) Passive and Open source
- (d) Passive and Traditional source

[Ans : (a) Free and Open source]

3. LINUX is a

- (a) Paid Software
- (b) Licensed Software
- (c) Free and Proprietary software
- (d) Free and Open source software

[Ans : (d) Free and Open source software]

4. Find out Paid and Proprietary software from the given list

- (a) Windows
- (b) MAC OS
- (c) Adobe Photoshop
- (d) All the above

[Ans : (d) All the above]

5. _____ is a Operating System

- (a) Android
- (b) Chrome
- (c) Internet
- (d) Pendrive

[Ans : (a) Android]

IV. Match the following :

1. MAC OS	Free and Open source Software
2. Software	Paid and Proprietary Software
3. Hardware	Input Device
4. Keyboard	RAM
5. LINUX	Geogebra

UNIT TEST

Time : 60 min.

Marks : 25

I. Choose the correct answer.

(5 × 1 = 5)

1. Find out the part that is not found in CPU?
(a) Mother board (b) SMPS
(c) RAM (d) Mouse
2. Find out Paid and Proprietary software from the given list.
(a) Windows (b) MAC OS
(c) Adobe Photoshop (d) All the above
3. _____ is a Operating System.
(a) Android (b) Chrome
(c) Internet (d) Pendrive
4. A _____ device helps to enter input information.
(a) Hardware (b) Software
(c) Monitor (d) Modem
5. _____ is one of the example of application program.
(a) Drawing tools (b) Language
(c) Linker (d) Device driver

II. Fill in the blanks.

(5 × 1 = 5)

6. _____ is lifeless without software in a computer.
7. Software is divided into _____ types based on the process.
8. _____ is a developing software to control the internal computer operation.
9. _____ Software is available at free of cost and can be shared to many end users.
10. _____ is the Paid and Proprietary Software.

III. Answer any five only.

(5 × 2 = 10)

11. What is Hardware?.
12. What is Software?
13. Give some examples of System Softwares.
14. Give some examples of Application Software.
15. Define - Application Software.
16. What is the classification of System Software?
17. What are the two forms of System and Application software?

IV. Write in detail. (Only one)

(1 × 5 = 5)

18. Draw the flow chart of software classification?
19. What is Free and Open Source Software? Give any two examples each.



37.

Sl.No.	Surface water	Ground water
1.	Water present on the surface of the earth.	Water present beneath Earth's surface in soil.
2.	Ex : River, lake, ponds, streams or freshwater.	Ex : open wells, tube wells (or) hand pumps, Springs etc.,

38. Manufacture of Detergents:-

Materials used :

Acid slurry, Soda ash (or) Sodium Carbonate, Trisodium phosphate (TSP), sodium tripolyphosphate (STPP), Carboxy Methyl Chloride (or) Cellulose, Glauber's salt, colour perfume and brightner.

Preparation:

- Acid slurry is first neutralised.
- Then neutralised Acid Slurry is mixed with Soda ash and kept for one hour for completion of reaction.
- Other ingredients such as Trisodium phosphate (TSP), Sodium tripolyphosphate (STPP), Carboxy Methyl Chloride (or) Cellulose,

Glauber's salt, colour, perfume, brightner are then blended to the neutralised Acid Slurry with continuous mixing.

iv. Then the mixture is dried.

v. Now we get detergent powder.

39. i. Do not pour left-over oil, old medicines or waste down the drain or into the toilet.

ii. Reduce the use of chemical pesticides and fertilizers to grow crops.

iii. Use waste water for garden in home.

iv. Do not litter or dump waste - always use a waste bin.

40. a) Fibre yielding plant - Hemp

b) Hard wood - Teak wood

c) Neem - Chloramine

d) Clove - Spice

e) Millet - Cereals

41. i. System Software (Operating System) is software that makes the hardware devices process the data inputted by the user and to display the result on the output devices like Monitor.

ii. Without the operating system, computer cannot function on its own.

iii. Some of the popular operating system are Linux, Windows, Mac, Android etc.

