

6TH THIRD TERM FULL GUIDE

1. MAGNETISM

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

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

- a. Indians
- b. Europeans
- c. Chinese**
- d. Egyptians

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

- a. North – east
- b. South - west
- c. East - west
- d. North – south**

4. Magnets lose their properties when they are

- a. used
- b. stored
- c. hit with a hammer**
- d. cleaned

5. Mariner's compass is used to find the

- a. speed
- b. displacement
- c. direction**

d. motion.

II. Fill in the Blanks

1. Artificial magnets are made in different shapes such as ___ and ___ (**bar, horseshoe, ring.**)
2. The Materials which are attracted towards the magnet are called ___ (**magnetic substances**).
3. Paper is not a ___ material. (**magnetic**).
4. In olden days, sailors used to find direction by suspending a piece of ___ (**magnet (Lodestone).**)
5. A magnet always has ___ poles. (**Two**)

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

1. A cylindrical magnet has only one pole. (**False**)
A cylindrical magnet has two poles.
2. Similar poles of a magnet repel each other. (**True**)
3. Maximum iron filings stick in the middle of a bar magnet when it is brought near them. (**False**)

When a magnet is brought near iron filings maximum iron filings stick to the poles.

4. A compass can be used to find East- West direction at any place. (**True**)

A compass shows north-south directions. Stretch your left hand towards north and your right hand towards south. The direction in front of our face is east and the direction at our back is west.

5. Rubber is a magnetic material. (**False**)

Rubber is not attracted by magnet It is a non-magnetic material.

IV. Match the following

1. Compass – Maximum magnetic strength
2. Attraction - Like poles
3. Repulsion - Opposite poles
4. Magnetic poles - Magnetic needle

Answer:

1. Compass - Magnetic needle

2. Attraction - Opposite poles
 3. Repulsion - Like poles
 4. Magnetic poles - Maximum magnetic strength

V. Circle the odd ones and give reasons

1. Iron nail, pins, rubber tube , needle.
 Iron nail, pins, (rubber tube), needle.

Reason: Rubber tube is a non-magnetic material. Others are magnetic materials.

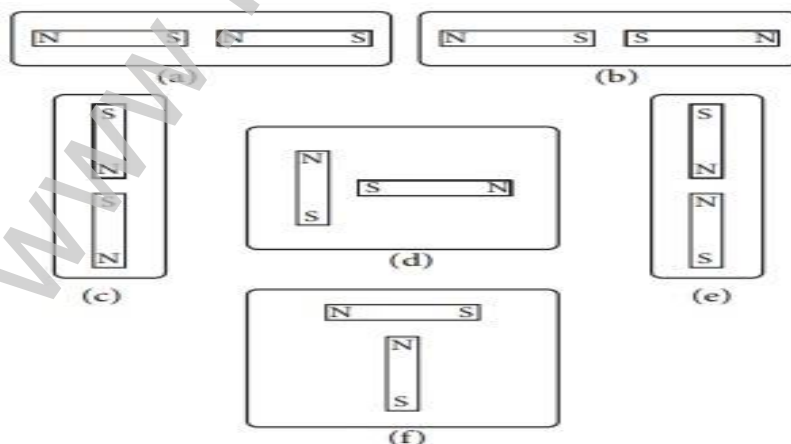
2. Lift, escalator, electromagnetic train, electric bulb.
 Lift, escalator, electromagnetic train, (electric bulb)

Reason: Magnets are not used in an electric bulb but the other devices make use of magnets.

3. Attraction, repulsion, pointing direction, illumination.
 Attraction, repulsion, pointing direction, (illumination)

Reason: Illumination is not a property of a magnet. Others are magnetic properties.

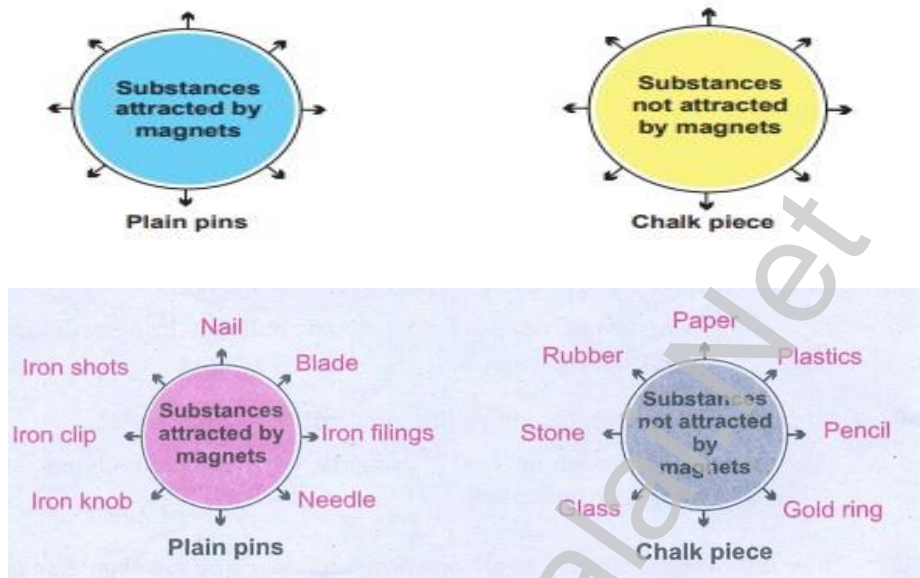
VI. The following diagrams show two magnets near one another. Use the words, 'Attract, Repel, Turn around' to describe what happens in each case.



Answer:

a) Attract b) Repel c) Attract d) Turn around e) Repel f) Turn around

VII. Write down the names of substances.



VIII. Give short answer

1. Explain the attraction and repulsion between magnetic poles.

Unlike poles (S-N, N-S) attract each other. Like Poles (N-N, S-S) repel each other.

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?

Magnets lose their properties if they are heated or dropped from a height or hit with a hammer.

IX. Answer in detail

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



Take the iron needle and place it on a table. Now take a bar magnet and place one of its poles near one edge of the needle 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 needle to check whether it has become a magnet. Does the needle attract the pin / iron filings? If not, continue the same process for some more time.

2 How does the electromagnetic train work?

Electromagnets are used in Electromagnetic trains. Electromagnets are magnetised only when current flows through them. When the direction of current is changed the poles of the electromagnets are also changed. Like poles of the magnets which are attached at the bottom of the train and rail track repel each other. So, the train is lifted from the track up to a height of 10 cm.

We know that we can move any magnetic object with the force of attraction or repulsion properties of magnets. 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. 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...

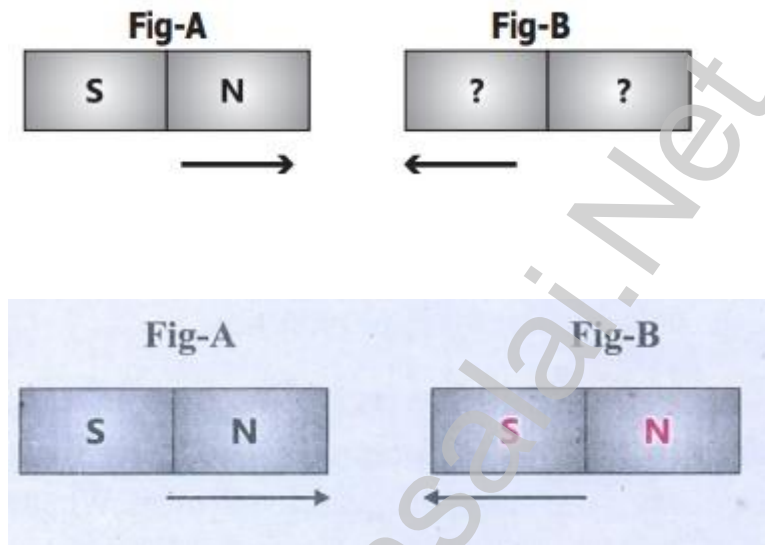
a. How will you identify the poles of the magnet?

The given bar magnet is suspended by a thread. The bar magnet comes to rest in a particular direction. The end of the magnet that points the north is marked as North Pole. The other end which points to the south is marked as South Pole.

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

We should place the bar magnet on the iron filings kept on paper. We should turn the magnet on the iron filings a few times. We find that the ends of the magnets (poles) attract more iron filings. This is because the magnetic force is very strong only at the poles of a magnet.

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)



3. Take a glass of water with a few pins inside. How will you take out the pins without dipping your hands into water?

Tilt the glass slightly without spilling the water. Hold the pole of a bar magnet close to the pins, outside the glass. Some pins will stick to the magnet outside. Drag the magnet to the surface of water close to the glass. When the pins are dragged out of the water surface we can pick them up. By repeating this process we can take all the pins out without dipping our fingers in the water.

Prepared by Subbiah Palaniyandi

2.WATER

I. Choose the correct answer

1. Around 97% of water available on earth is _____ water.

- a. fresh
- b. pure
- c. salty**
- d. polluted

2. Which of the following is not a part of water cycle?

- a. evaporation
- b. condensation
- c. rain
- d. distillation**

3. Which of the following processes add water vapour to the atmosphere?

i. Transpiration , ii. Precipitation, iii. Condensation, iv. Evaporation

- a. ii and iii
- b. ii and iv
- c. i and iv**
- d. i and ii

4. About 30% of the fresh water is found in?

- a. glaciers
- b. ground water**
- c. other sources of water
- d.0.3%

5. Using R.O. plant at home eliminates lot of non-potable water. The best way to effectively use the expelled water of R.O. plant is _____

- a. make the expelled water go and seep near the bore well
- b. use it for watering plants**
- c. to drink the expelled water after boiling and cooling

d. to use for cooking as the water is full of many nutrients

II. Fill in the blanks

1. Only ____percent of natural water is available for human consumption. (0.3)
2. The process of changing water into its vapour is called ____ (evaporation.)
3. ____ is built on rivers to regulate water flow and distribute water.(Dam)
4. Water levels in rivers increase greatly during ____ (rainy season).
5. Water cycle is also called as ____ (Hydrological cycle).

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

1. Water present in rivers, lakes and ponds is unfit for use by human beings. (False)

Water present in lakes, rivers and pond is fit for use by human beings. It is used for wasting, bathing and irrigation. It is purified and made fit for drinking.

2. Seas are formed when the water table meets the land surface. (False)

Springs are formed when the water table meets the land surface.

- 3 The evaporation of water takes place only in sunlight. (True)
4. Condensation results in the formation of dew on grass. (True)
5. Sea water can be used for irrigation as such. (False)

As sea water is salty it cannot be used for irrigation as such.

IV. Match the following

- | | |
|--------------------|---------------------|
| 1. Flood - | Lake |
| 2. Surface water - | Evaporation |
| 3. Sun light - | Water vapour |
| 4. Cloud - | Pole |
| 5. Frozen water - | Increased rain fall |

Answer:

- | | |
|--------------------|---------------------|
| 1. Flood - | Increased rain fall |
| 2. Surface water - | Lake |
| 3. Sun light - | Evaporation |
| 4. Cloud - | Water vapour |
| 5. Frozen water - | Pole |

V. Arrange the following statements in correct sequence

1. These vapours condense to form tiny droplets of water.
2. The water droplets come together to form large water droplets.
3. The heat of the sun causes evaporation of water from the surface of the earth, oceans, lakes, rivers and other water bodies.
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.

Answer:

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. These droplets floating in the air along with the dust particles form clouds.
4. Warm air carrying clouds rises up.
5. Higher up in the atmosphere, the air is cool.
6. These vapours condense to form tiny droplets of water.
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 : ____ (water management).
2. Ground water : ____ : : Surface water : lakes (wells)

VII. Give very short answer

1. Name four different sources of water

Wells, lakes, dams, rivers.

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

They get water by pumping out ground water using borewells. Water obtained from wells, borewells, rivers and lakes is purified and distributed to the people in cities and rural area.

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?

The water vapour in the air around condenses when it touches the cooled bottle. The droplets of water formed on the outside of the bottle get accumulated and become large drops. They drip down the sides of the bottle and fall to the bottom as a puddle of water.

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

Rain falls only when the air around the cloud is cool enough to change water vapour into water drops. When there is no cool air around the clouds there won't be any rain.

5. Name the places where water is found as ice.

Water is found as ice on high mountains and in polar regions.

6. How do aquatic animals manage to live in Arctic and Antarctic Circle?

The aquatic animals in Arctic and Antarctic region have thick fur on their skin and a thick layer of coat beneath. The fur and the fat protect the animals from extreme cold. These animals burrow into snow and hide into it. The snow acts as an insulator and prevents the entry of cool air in.

7. What are the types of rain water harvesting?

- (a) Collecting rain water from where it falls.
- (b) Collecting flowing rain water.

VIII. Give short answer

1. Differentiate between surface water and ground water.

Surface water

- 1. It is found on the surface of the earth.
- 2. River, lake, freshwater and swamps are sources of surface water.

Groundwater

- 1. It is found beneath the surface of the earth.
- 2. Springs and wells are the sources of ground water and it is brought out by pumps and borewells.

2. Write a few slogans of your own on the topic "Save Water".

- 1) Conserve water, that is right Or else future, full of fright.**
- 2) Waste not water, save it now. Future of man, if you love.**

3. About 71% of earth's surface is covered with water, then why do we face scarcity of water?

97% of water present on earth is found in seas and oceans. As it is salty we cannot use it for drinking or irrigation. There is only 3% of fresh water. Of this, 68.7% is present as ice and glaciers in the poles. We can use only the remaining water. Owing to population explosion we need more water as days pass by but there is only a fixed quantity of water on earth. The availability of water cannot be increased by any means. So we face water scarcity.

4. Give reason for the following statement – Sewage should not be disposed of in rivers or oceans before treatment.

Sewage contains toxic chemicals. If it is disposed of in rivers and oceans, it will kill the aquatic animals. So the sewage water should be properly treated before it is disposed of.

5. The fresh water available on earth is only 3%. We cannot increase the amount of water. In that case, how can sustain the water level?

Human activities like pollution, usage of plastics and destruction of water sources for construction purposes and sinking borewells cause the lowering of groundwater level. So we should restrict the above mentioned activities. We should pay more attention to conservation of water like rain water harvesting. We should prevent wastage of water by adopting techniques as drip irrigation and recycling of water. Awareness should be created among people to put an end to wastage of water.

IX. Answer in detail

1. What is potable water? List down its characteristics.

Potable water is drinking water safe for human beings. It does not cause any harm to the drinker. It is supplied to houses by means of taps as drinking water. The intake of drinking water is related to one's age, nature of work and his health condition. Potable water has three characteristics (i) Physical (ii) Chemical (iii) Microbiological.

The metal particles in potable water and the solids dissolved in it (TSS - Total Suspended Solids) are physical characteristics.

The dissolution of Nitrate, Nitrite, Arsenic etc in potable water determine its chemical characteristics. The micro organisms found in potable water constitute its microbiological characteristics. The bacteria and virus in potable water cause diseases as cholera and diarrhoea.

2. Who is known as waterman of India? Browse the net and find the details about the award, the waterman received for water management. State the findings by drafting a report.

Dr. Rajendrasingh of Rajasthan is regarded as the 'Waterman of India'. He is a conservationist and environmentalist of our times.

The Avari River in Northwest Rajasthan did not flow for sixty years. Thanks to the initiative and effort taken by Dr. Rajendrasingh the river started flowing and now it is a perennial river.

Dr. Rajendrasingh learned the ancient practice of building dams called 'Johads'. During rainy season he stored the rain water. Working hard for 10-14 hours a day he succeeded in rain water harvesting. With the help of the community Dr. Rajendrasingh constructed 375 Johads. So the Avari River started flowing in 1995. Because of his efforts on conservation more than 1000 villages have been benefitted. Forests began to appear anew.

In 2001 Dr. Rajendrasingh was awarded Ramoan Magsaysay Award. It is Asia's highest honour. In 2015 he was awarded Stockholm Water Prize. It is equivalent to Nobel Prize for water.

3. What is rainwater harvesting? Explain in a few sentences how it can be used in houses.

Direct collection and use of rain water is called rainwater harvesting. There are two types of rainwater harvesting.

(a) Collecting water from where it falls.

(e.g): Collecting water from the roof tops of the houses or buildings
(Roof water harvesting).

(b) Collecting flowing rain water.

(e.g): Collecting rainwater by constructing ponds with bund.

X. Question 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?

When there are no ponds or lakes in an area there won't be evaporation of surface water. So clouds cannot be formed above these places.

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

When we breathe out on glasses, the water vapour in our breath sticks to the glass. It gets condensed on the cool surface of the glass. The moisture thus formed helps us to clean the glass.

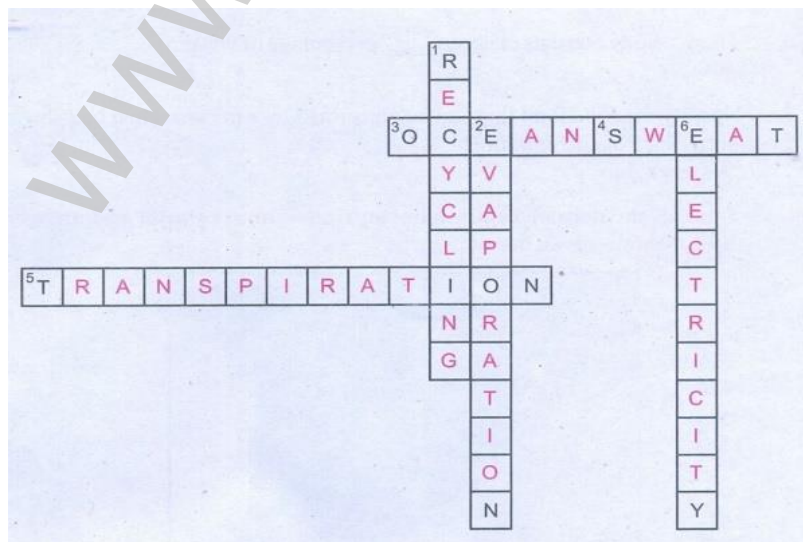
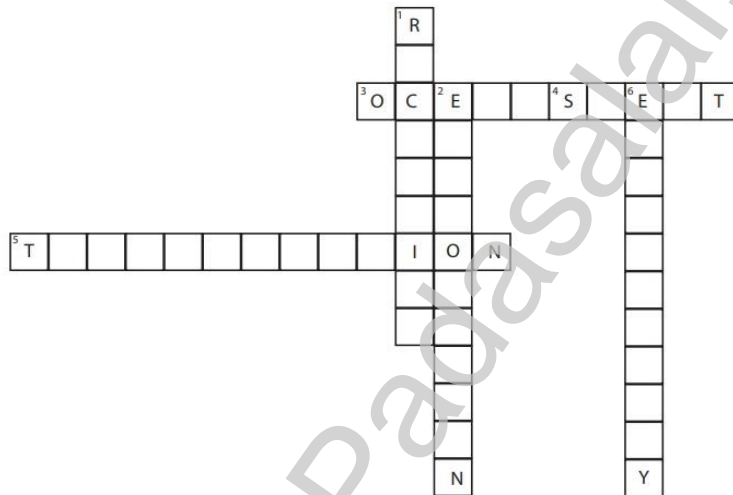
XI. CROSSWORD

DOWN

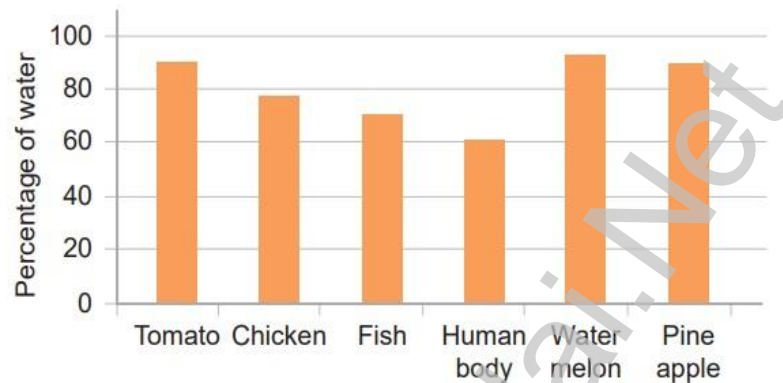
1. A method of water conservation. _____ (**Recycling**)
2. Process of getting water vapour from sea water _____ (**Evaporation**)
6. Water stored in dams is used for generation of _____ (**Electricity**)

ACROSS

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



XII. (1). Observe the given graph carefully and answer the questions.

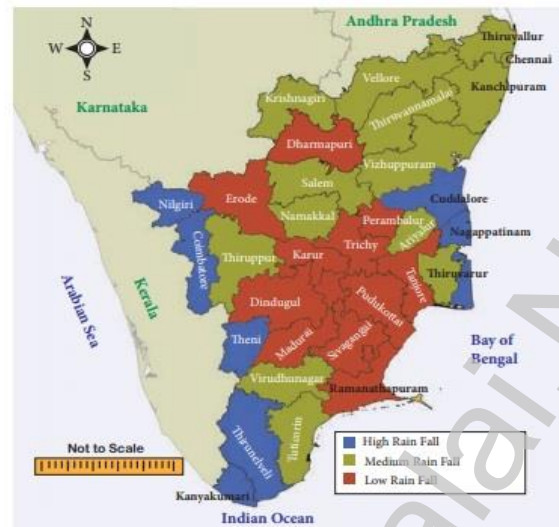


- What percentage of water is seen in fish? **70%**
- Name the food item that has maximum amount of water in its content. **Water melon**
- Name the food item that has minimum amount of water in its content. **Fish**
- Human body consists of about percentage of water. **60**
- Specify the food item that can be consumed by a person when he / she is suffering from dehydration. **Watermelon**

2. Look at the map of Tamilnadu showing annual rainfall and answer the questions given

- Identify the districts that get only low annual rainfall in Tamilnadu.
Dharmapuri, Erode, Karur, Trichy, Perambalur, Tanjore, Pudukottai, Sivagangai, Madurai, Dindigul, Ramanathapuram.
- Identify the districts that get a medium annual rainfall in Tamilnadu.
Thiruvallur, Chennai, Kancheepuram, Krishnagiri, Vellore, Thiruvannamalai, Villupuram, Salem, Namakkal, Tirupur, Ariyalur, Thiruvarur, Virudhunagar, Tuticorin.

**Nilgiri, Coimbatore, Theni, Thirunelveli, Kanyakumari, Cuddalore,
Nagapattinam.**



Prepared by Subbiah Palaniyandi

3.CHEMISTRY IN EVERYDAY LIFE

I. Choose the appropriate answer

1. Soaps were originally made from _____

a. proteins

b. animal fats and vegetable oils

c. chemicals extracted from the soil

d. foam booster

2. The saponification of a fat or _oil is done using _____ solution for hot process.

a. Potassium hydroxide

b. Sodium hydroxide

c. Hydrochloric acid

d. Sodium chloride

3. Gypsum is added to the cement for _____

a. fast setting

b. delayed setting

c. hardening

d. making paste

4. Phenol is _____

a. carbolic acid

b. acetic acid

c. benzoic acid

d. hydrochloric acid

5. Natural adhesives are made from _____

a. Protein

b. fat

c. starch

d. vitamins

II. Fill in the Blanks

1. ____ gas causes tears in our eyes while cutting onions. **(Propanethial s-oxide)**
2. Water, coconut oil and ____ are necessary for soap preparation. **(sodium hydroxide)**
3. ____ is called as farmer's best friend. **(Earthworm)**
4. ____ fertilizer is ecofriendly. **(Organic)**
5. ____ is an example for natural adhesive. **(Starch)**

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

1. Concentrated phenol is used as a disinfectant. **(False)**

Diluted phenol is used as a disinfectant.

2. Gypsum is largely used in medical industries. **(False)**

Epsom is largely used in medical industries.

3. Plaster of Paris is obtained from heating gypsum. **(True)**

4. Adhesives are the substances used to separate the components. **(False)**

Adhesives are the substances used to stick to the components.

5. NPK are the primary nutrients for plants. **(True)**

IV. Match the following

- | | |
|------------------|----------------------|
| 1. Soap - | $C_6H_5 OH$ |
| 2. Cement - | $CaSO_4 \cdot 2H_2O$ |
| 3. Fertilizers - | $NaOH$ |
| 4. Gypsum - | RCC |
| 5. Phenol - | NPK |

Answer:

- | | |
|------------------|----------------------|
| 1. Soap - | $NaOH$ |
| 2. Cement- | RCC |
| 3. Fertilizers - | NPK |
| 4. Gypsum- | $CaSO_4 \cdot 2H_2O$ |
| 5. Phenol- | C_6H_5OH |

V. Arrange the following statements in correct sequence

1. Pour that solution into an empty match box, soap can be obtained after drying.

2. Take necessary quantity of water in a jar.
3. Then add coconut oil drop by drop and stir it well.
4. Add concentrated sodium hydroxide in the jar and allow it to cool.
5. Try this soap to wash your hand kerchief.
6. Cover your work area with old newspaper.

Answer:

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: ____.(**Organic fertilizer.**)
2. ____ : Natural adhesives: Cello tape: Artificial adhesives.(**Starch**)

VII. Give very short answer

1. **What are the three main constituents of soap?**
Sodium hydroxide , Coconut oil , Water
2. **What are the two different types of molecules found in the soap?**
 - Water loving molecules
 - Water hating molecules.
3. **Give an example for inorganic fertilizer.**
Ammonia, Super phosphate, Ammonium sulphate, Potassium nitrate.
4. **Mention any three physical properties of phenol.**
 - It is a white crystalline powder.
 - It is easily volatile.
 - When mixed with water it becomes a colourless solution but it turns red in presence of dust.
5. **Explain the uses of plaster of paris.**
It is used
 - ✓ In making blackboard chalks

- ✓ In surgery for setting fractured bones.
- ✓ For making casts for statues and toys.
- ✓ In construction industry.

6. What are the ingredients of the cement?

Naturally occurring minerals like lime, clay and gypsum are the ingredients of cement.

7. Why gypsum is used in cement production?

Gypsum is added to control the setting of cement.

VIII. Give short answer

1. Why earthworm is called as farmer's friend?

Earthworms take organic wastes as food and produce compost castings. By burrowing into the soil they loosen the earth and enable aeration of the soil. So earthworms are known as Farmers' friends because of the multitude of services they provide to improve soil health and consequently plant health.

2. Explain the process of manufacturing cement.

Cement is manufactured by crushing of naturally occurring minerals such as lime, clay and gypsum through milling process.

Cement becomes hardened when it is mixed with water. Gypsum plays a very important role in controlling the rate of hardening of the cement. During the cement manufacturing process, a small amount of gypsum is added at the final grinding process. Gypsum is added to control the "setting of cement".

3. What are uses of Gypsum?

Gypsum is

- ✓ used as fertilizers.
- ✓ used in the process of making cement.
- ✓ used in the process of making plaster of paris.

IX. Answer in detail

1. How are detergents manufactured?

Calculated amount of concentrated sodium hydroxide is added to the required amount of water. It is allowed to cool. The required quantity of coconut oil is added to it drop by drop. The solution is stirred well. By stirring continuously the solution is turned into a colloidal state. It is cast in moulds and thus detergent soap is prepared.

X. Questions based on Higher Order Thinking Skills

1. Ravi is a farmer; he rears many cattle in his farm. His field has many bio wastes. Advise Ravi how to change this bio waste to compost by using vermi -composting techniques. Explain the benefits of vermi castings.

Make pits in the land and fill half of the pits with cattle waste, leaves, husk, straw and compost as layers. Some soil or sand must be sprinkled on it for the easy mobility of earthworms. Water should be sprinkled on it to make it moist. Then earthworms should be let into the pits. In order to protect the pits from sunlight they should be covered with coconut leaves or jute. After sixty days the contents of the pit will be changed into organic manure rich in nutrients. This vermicompost is an excellent organic manure for plants.

- Vermicompost is nutritious and it makes the soil fertile.
- It improves the quality of the soil, shape, aeration and its ability to retain water.
- It prevents soil erosion and improves decomposition of organic materials in the soil.
- Vermi compost contains advantageous micro organisms and it is free from disease causing germs. It is also non-toxic.

XI. Project

Take 100 ml of hot water in a glass jar.

- ✓ Add 50 gram of maida in the hot water and stir it well.
- ✓ A paste like substances are formed. Add a small quantity of copper sulphate for a long use.
- ✓ Now you test this paste by binding your damaged book

Prepared by Subbiah Palaniyandi

4.OUR ENVIRONMENT

I.Choose the appropriate answer

1. Identify the fresh _water ecosystem.

- a. Pond
- b. Lake
- c. River
- d. All of them**

2. Producers are _____

- a. Animals
- b. Birds
- c. Plants**
- d. Snakes

3. It is a biodegradable waste.

- a. Plastic
- b. Coconut Shell**
- c. Glass
- d. Aluminium

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

- a. Recycling
- b. Reuse
- c. Pollution**
- d. Reduce

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

- a. Air pollution
- b. Water pollution**
- c. Noise pollution
- d. None of the above

II. Fill in the blanks

1. Primary consumers that eat plants are called ____ (**herbivores**).
2. Temperature, light and wind are ____ factors. (**Physical**)
3. ____ is the process of converting waste materials into new materials. (**Recycle**)
4. Water pollution can spread ____ and chemicals. (**diseases**)
5. The 3R's are Reduce, ____ and Recycle. (**reuse**)

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

1. The Pacific ocean is an example of an aquatic ecosystem. (**True**)
2. Bacteria and fungi are called decomposers. (**True**)
3. Human and animal wastes are examples of non-biodegradable waste. (**False**)

Human and animal wastes are examples of biodegradable waste.

4. Excessive use of pesticides leads to air pollution. (**False**)

Excessive use of pesticides leads to land pollution and water pollution.

5. In schools, waste management rules say that we should separate waste in two categories. (**True**)

IV. Match the following

- | | |
|--------------------|-----------------------|
| 1. Biotic factor – | Terrestrial Ecosystem |
| 2. Sewage - | Land pollution |
| 3. Fertilizers - | Air pollution |
| 4. Desert - | Water Pollution |
| 5. Smoke – | Animals |

Answer:

- | | |
|--------------------|------------------------------|
| 1. Biotic factor - | Animals |
| 2. Sewage - | Water Pollution |
| 3. Fertilizers - | Land pollution |
| 4. Desert - | Terrestrial Ecosystem |
| 5. Smoke - | Air pollution |

V. Arrange the following in a correct sequence and form a food chain

1. Rabbit → Carrot → Eagle → Snake
Carrot → Rabbit → Snake → Eagle
2. Human → Insect → Algae → Fish

Algae → Insect → Fish → Human

VI. Give very short answer

1. Define ecosystem.

Ecosystem is a community of living and non-living things that work together.

2. What are the two types of ecosystems?

Ecosystems can be either natural or artificial.

3. Write any two things that can be recycled.

- We can use old clothes to make paper
- Some plastics can be used to make floor mats, plastic boards and hose pipes.

4. What are the types of pollution.

- Air pollution
- Water pollution
- Land (soil) pollution
- Noise pollution

5. Give one example of a food chain in an aquatic ecosystem?

Aquatic plant → Aquatic insect → Larva → Fish

6. Name some pollutants.

Any substance that causes pollution is called a pollutant.

e.g: smoke, fume, chemical residues, plastic waste.

7. What are the pollutions caused by the objects given below?

a. Loud Speaker b. Plastic

a. Loud Speaker - Noise pollution

b. Plastic Land pollution

VII. Give short answer

1. What is biodegradable waste?

The term 'Biodegradable' is used for those things that can be easily decomposed by natural agents like water, oxygen, ultraviolet rays of the sun, micro-organisms, etc.

One can notice that when a dead leaf or a banana peel is thrown outside, it is acted upon by several micro-organisms like bacteria, fungi or small insects in a time period. Biodegradable waste includes vegetable and fruit peels, leftover food and garden wastes (grass, leaves, weeds and twigs).

2. How can we reduce water pollution?

- ✓ Do not pour leftover oil, old medicines or waste down the drain or into the toilet.
- ✓ Reduce the use of chemical pesticides and fertilizers to grow crops.
- ✓ Use waste water for garden in home.
- ✓ Do not litter or dump waste - always use a waste bin.

3. Write the importance of the food chain.

- ✓ Learning food chain helps us to understand the feeding relationship and interaction between organisms in any ecosystem.
- ✓ Understanding the food chain also helps us to appreciate the energy flow and nutrient circulation in an ecosystem. This is important because pollution impacts the ecosystem. The food chain can be used to understand the movement of toxic substances and their impacts.

VIII. Answer in detail

1. Give two examples of how you can avoid or reduce waste?

1. Avoid : Avoid the usage of unwanted materials which create more debris. Before you buy anything, think that "Do I really need it?" (e.g) Avoid buying packaged foods. Refuse to buy use and throw plastic products.

2. Reduce : We can reduce the waste by using durable goods that last longer instead of things that are used once and thrown away, (e.g) Write on both sides of papers. Instead of unnecessary printing, use electronic facilities. Share newspapers, magazines and other things with others.

2. Write a short note on noise pollution.

Noise pollution affects the environment. We all like a quiet and peaceful place since unpleasant or loud sounds disturb us. Loud music, the sounds of motor vehicles, fire works and machines cause noise pollution. Continuous noise disturbs our sleep and does not let us to study. Noise pollution has been directly linked to stress and health impacts such as high blood pressure and hearing loss. Loud noise or even loud music can damage our ears. Noise pollution also disturbs animals. Birds have to communicate (talk) louder so that, they can hear each other in noisy areas. Even underwater noise pollution from ships, can make whales lose their way as they use sounds to navigate.

IX. Question based on Higher Order Thinking Skills

1. What would happen if an organism is removed from the food chain?

When an organism is removed from the food chain there occurs a break in the transmission of energy. Some species do not get food and they become extinct. The other species which depend on them also become extinct. Thus it leads to the death and annihilation of many plants and animals on earth.

2. Explain the link between waste and dangerous diseases like dengue and malaria?

The soil gets polluted by plastic wastes. These plastic wastes are non- biodegradable. They prevent the infiltration and percolation of rain _water. As a result the rain water stagnates on the soil. It creates ditches which become a breeding spot for flies and mosquitoes. They breed in these ditches in abundance and spread dangerous diseases like malaria and dengue.

X. See the diagram and answer the following questions



1. Explain what is happening in the picture?

This is the picture of an open dump. Here the waste is dumped and burned. The smoke that comes out causes air pollution by liberating toxic gases into the atmosphere. Moreover the toxic chemicals in the waste leak into the soil and water and pollute them.

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

Air pollution is caused by the smoke and fumes that go into the air. Land pollution and water pollution are caused by the leakage of toxic chemicals into the soil.

Prepared by Subbiah Palaniyandi

5.PLANTS IN DAILY LIFE

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

2. Natural Mosquito repellent is

- a. Nutmag
- b. Bamboo
- c. Ginger
- d. Neem**

3. Which of the following is not a root ?

- a. Potato**
- b. Carrot
- c. Radish
- d. Turnip

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

- a. Amla
- b. Tulasi
- c. Turmeric**
- d. Aloe

5. Which is the national tree of India?

- a. Neem tree
- b. Jack tree
- c. Banyan tree**
- d. Mango tree

II Fill in the Blanks

1. In every year October _____ is celebrated as world food day. (**16**)
2. _____ is an example of textile fibre.(**Cotton**)
3. I am the state tree of Tamilnadu . Who am I _____? (**Palm** tree)
4. The juice of the leaves of _____ plant relieves cough and bronchitis (**Tulasi**)_.
5. The edible seeds of leguminous plants are called _____ (**Pulses.**)

III. True or False – If false give the correct answer

1. Plants grown for decorative purposes are called as softwood. **(False)**

Plants grown for decorative purposes are called ornamental plants.

2. Silkworm eats mulberry leaves. **(True)**

3. Cauliflower is used for ornamental purpose. **(False)**

Cauliflower is cooked and used as food.

4. Cotton cloth is not suitable for summer season. **(False)**

Cotton cloth is suitable for summer season as it absorbs sweat and allows air ventilation.

5. Sugarcane is used as bio fuel. **(False)**

Jatropha is used as bio fuel.

IV. Match the following

- | | |
|--------------------------|--------------|
| 1. Fibre yield ing plant | - Chloramine |
| 2. Hardwood - | Spice |
| 3. Neem - | Hemp |
| 4. Clove - | Cereals |
| 5. Millet – | Teakwood |

Answer:

- | | |
|---------------------------------|-------------------|
| 1. Fibre yielding plant- | Hemp |
| 2. Hardwood- | Teakwood |
| 3. Neem – | Chloramine |
| 4. Clove - | Spice |
| 5. Millet - | Cereals |

V. Analogy

- mango : fruit : : maize : _____ : **(seeds)**
- coconut : fibre : : rose : _____ **(flower)**
- bees : pollinate insect : : earthworms: _____ (**tiller of the soil**)

VI. Give very short answer

1. What are food plants ?

Plants are the main source of food for humans. These plants are known as food plants.

2. What are medicinal plants?

Some of the plants around us are good in healing our diseases. We call these plants as **medicinal plants**. They alleviate bumps, cuts, cold, fever, sneezes and more.

3. How hard wood differ from soft wood?

Hardwood is stronger and more durable than softwood. Flowering plants called angiosperms produce hardwood and non-flowering plants called gymnosperms produce softwood.

4. What is a spice?

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. They are primarily used for flavouring, colouring 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.

5. Name any three medicinal plants, which are available in your area?

Tulasi, Neem, Aloe.

6. What are the uses of timber?

The wood needed for the construction of buildings and making of furniture is obtained from certain plants. We use wood for these purposes due to their features like durability, stylish finishing and resistance to temperature changes.

VII. Give short answer

1. What is a symbiotic relationship?

Symbiotic relationship is a special type of interaction between species. The mutual relationship between plants and animals is an example for symbiotic relationship.

2. Write the uses of neem?

The leaves of neem are used as mosquito repellent. Moreover they are used as germicide and disinfectant. Neem oil is used as medicine and fertilizer. Neem wood is used for making furniture.

3. Name any five plants and their parts that we eat.

banana – fruit , cauliflower –flower , carrot – root , potato – stem , cabbage - leaves

VIII. Answer in detail

1 Write short notes on – Timber yielding plants.

The wood needed for the construction of buildings and making of furniture is obtained from certain plants. We use wood for these purposes due to their features like durability, stylish finishing and resistance to temperature changes.

All commercial timbers are classified into two classes as Hardwoods and softwoods based essentially on their structure.

Hardwoods: Hardwoods are angiosperms (flowering plants), the largest group of land plants. High-quality furniture, decks, flooring, and wooden construction are being made only using hardwood. eg. Teak, Jackfruit.

Softwoods : Softwoods come from gymnosperm (non-flowering plants) trees. Certain angiosperms also yield softwood

Softwoods have a wide range of applications such as making plywood, wooden boxes, medium-density Fibreboard (MDF) and paper making. eg: Katampu, Pine.

2. Comment on importance of plant animal interaction.

Animals rely on plants for their food and shelter. This relationship benefits not only animals but also plants. Such relationship is economically significant.

For example, silkworms feed on mulberry leaves and live on mulberry plants. This relationship between a worm and a plant is economically useful for us in silk production



Animals, pests, and birds are essential for cross-pollination of plants.

Bright colours of 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 and the formation of vegetables and fruits.



Humming Bird

These insect pollinators and birds need to be protected to produce the best yield.

Bees are the best pollinators. They also give us honey.



Honey bee

Plants and algae living in coral reefs are the food for variety of fishes. Fisheries work is done in these areas.



Animals and birds play an important role in spreading seeds of various plants. The digestive enzymes in the digestive system of the birds soften the protective layer of the seeds and make it easier to germinate.

If this natural relationship between animals and plants is affected, it shows its impact on economy too.

IX. Questions based on Higher Order Thinking Skills

1. Desert does not have water. Why? Give the reason.

Deserts do not have lakes, seas or rivers. So evaporation of water, formation of clouds and precipitation do not take place here. As water is scarce in deserts we cannot see forests in

deserts. The rays of the hot sun hit the earth directly. As the earth in desert is very hot very little water is available here.

2. Kavitha said “_Palm tree is a tall tree, so it gives hard wood”! Do you agree with her statement or not ? Explain Why?

The palm tree is tall but it does not give hardwood. The middle of the trunk is hollow and soft. So it is not used to make durable wooden furniture.

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

a. Soil fertility is increased by bacteria How?



Some kinds of bacteria (like rhizobium) fix atmospheric nitrogen. The nitrogen fixing bacteria in the root nodules of leguminous plants absorb atmospheric nitrogen and store it in the nodules. This kind of nitrogen fixation is very useful for plants.

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



Honeybees visit many flowers in search of nectar. Every time they visit a flower the pollengrains in the flower stick to the bee. When the honeybee visits the next flower the pollengrains fall on the stigma of this flower. Thus cross pollination takes place. This cross pollination results in formation of seeds and saplings.

Prepared by Subbiah Palaniyandi

6.HARDWARE AND SOFTWARE

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**

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

3. LINUX is a

- a. Paid Software
- b. Licensed Software
- c. Free and Proprietary software
- 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**

5. _____ is a Operating System

- a. Android**
- b. Chrome
- c. Internet
- d. Pendrive

II. 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

Answer:

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

III. Short answer

1. What is Hardware and Software?

Hardware :

Hardware is the part of the computer which we can touch and feel. Hardware includes Input and Output devices, Cabinet, Hard Disk, Mother Board, SMPS, CPU, RAM, CD Drive and Graphics Card.

Software:

Hardware is lifeless without software in a computer. Software are programmed and coded applications to process the input information. The software processes the data by converting the input information into coding or programmed language. Touching and feeling the software is not possible but we can see the functions of the software in the form of output.

2. What do you mean by Operating System? How it Works?

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. Without the operating system, computer cannot function on its own. Some of the popular operating systems are Linux, Windows, Mac, Android etc.

3. What is Free and Open Source Software? Give any two examples?

Free and Open software is available free of cost and can be shared by many end users. Free software is editable and customizable by the user and this leads to updation or development of new software. Examples of Free and Open source software: LINUX, Open office, Operating System, Geogebra etc.

Prepared by Subbiah Palaniyandi