



Winmeen's

**6th Science 3rd Term
Notes Questions**

New Book



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6th Science 3rd Term Notes Questions – [New Book]

1. Magnetism

1. 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
6. _____ made objects are attracted by magnets.
a) plastic **b) iron**
c) glass d) wax
7. Among the following which one is a magnetic substance?
a) Nickel b) sodium
c) oxygen d) potassium
8. _____ poles repel to each other.

i) N-N ii) N-S iii) S-N iv) S-S

a) i and ii

b) ii and iii

c) iii and iv

d) I and iv

9. Magnets lose their properties if they are _____

a) dipped in water

b) dipped in oil

c) heated

d) in freezer

10. Electromagnetic trains can easily attain a speed of _____ km per hour.

a) 1200

b) 600

c) 100

d) 800

2. Fill in the blanks:

- Artificial magnets are made in different shapes such as **Bar-magnet, Horseshoe magnet and Ring magnet.**
- The magnet which are attracted towards the magnet are called **magnetic substances.**
- Paper is not a **magnetic** material.
- In olden days, sailors used to find directions by suspending a piece of **lode stones.**
- A magnet always has **two** poles.
- The magnetic Ore is called as **magnetite.**
- Natural** magnets do not have a definite shape.
- Man-made magnets are called **Artificial** magnets.
- A **compass** is an instrument which is used to find directions.
- Cell phone** will also get affected by magnetic field.
- For a **horse shoe** magnet a single piece of soft iron can be used as a magnetic keeper across the pole.

3. True or False, If false, give the correct statement.

- A cylindrical magnet has only one pole.

Ans: False. A cylindrical magnet has **two poles.**

- Similar poles of a magnet repel each other.

Ans: True.

3. Maximum iron filings stick in the middle of a bar magnet when it is brought near them.

Ans: False. Maximum iron filings stick in the **poles** of a bar magnet when it is brought near them.

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

Ans: True. A magnetic compass always points towards the North-South direction. If the North-South direction is known, then the East-West direction can also be determined. This direction is perpendicular to the North-South direction, i.e., Perpendicular to the compass needle in the same plane.

5. Rubber is a magnetic material.

Ans: False. Rubber is a **non-magnetic** material.

6. Magnetites are artificial magnets.

Ans: False. Magnetites are **natural** magnets.

7. Cube shaped magnets are also available.

Ans: False. **Oval shaped, Disc shaped, cylindrical shaped** magnets are also available.

8. Substances which are attracted by magnet are called non-magnetic substance.

Ans: False. Substances which are attracted by magnets are called **magnetic** substance.

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

Ans: False. The end points of the magnet that points to the **south** is called south pole.

10. The compass has a magnetic needle that can rotate easily.

Ans: True

11. Magnets lose their properties if they are dropped from a height.

Ans: True

12. Proper storage can also cause magnets to lose their properties.

Ans: False. **Improper** storage can also cause magnets to lose their properties.

13. Electromagnetic train is also called as flying tain.

Ans: True

4. Match the following:

- | | | |
|-------------------|---|------------------------------|
| 1. Compass | - | a) Maximum magnetic strength |
| 2. Attraction | - | b) Like poles |
| 3. Repulsion | - | c) Opposite poles |
| 4. Magnetic poles | - | d) Magnetic needle |

Ans: 1-d; 2-c; 3-b; 4-a

- | | | |
|---------------------------|---|-------------------------|
| 1. Natural magnets | - | a) Levitating propeller |
| 2. Artificial magnets | - | b) Wooden spoon |
| 3. Magnetic substance | - | c) Heating |
| 4. Non magnetic substance | - | d) Bar magnet |
| 5. Demagnetization | - | e) Pin holders |
| 6. Electromagnetic train | - | f) Magnetite |

Ans: 1-f; 2-d; 3-e; 4-b; 5-c; 6-a

5. Underline the odd ones and give reason:

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

Ans: Rubber tube

Rubber tube is a non-magnetic substance, others are magnetic substances.

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

Ans: Electric bulb.

Electric bulb does not have magnets others have electromagnets.

3. Attraction, repulsion, pointing direction, illumination.

Ans: Illumination

Illumination is not a property of magnet, others are magnetic properties.

6. Analog:

1. Natural magnet: Magnetic stones :: Artificial magnet: **Bar magnet**
2. Magnetic substance: Attracted by magnets :: Non magnetic substance: **Not attracted by magnets.**

3. Repel to each other: Like poles :: Attract to each other : **Unlike poles**
4. Demagnetization: **Hit with hammer**:: making magnets: rubbing with one end to other end without changing direction.
5. Electro magnet: magnetic crane :: Ordinary magnet : **Mobile phone covers**.

7. Short Questions answer:

1. Explain the attraction and repulsion between magnetic poles.

Take two similar magnets, place them four different ways like (N-N), (N-S), (S-S), (S-N)

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

Unlike poles (N-S), (S-N) attract 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

- i) heated
- ii) Dropped from a height
- iii) hit with a hammer

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

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

- 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 and 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.

4. How does the electromagnetic train work?

- i) Electromagnets are used in Electromagnetic train.

- ii) Electromagnets are magnetized only when current flows through them.
- iii) When the direction of current is changed, the poles of the electromagnetism 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 side of track and the magnets fitted at the bottom sideway of the train.
- viii) By controlling the current, we can control the magnets and movement of the train.

5. You are provided with iron fillings and a bar magnet without labeling the poles of the magnet. Using this

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

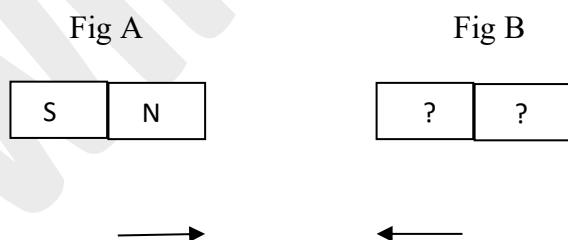
Tie a piece of thread to the centre of bar magnet and suspend it. after some rotation, the magnet stops at a position. The end of the magnet that points to the north is called North Pole.

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

b) Which part of the bar magnet attracts more iron fillings? Why?

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

6. 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).



Ans: The Fig. A has S and N poles.

In the Fig-B magnet, nearer to the North pole of Fig.A is South pole and the next pole is North Pole.

Fig A

Fig B



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

- i) Take a bar magnet.
- ii) Tie it in a thread.
- iii) Dip the tied magnet into the glass of water
- iv) The pins are attracted by the magnet.
- v) Now take out the magnet from the glass of water.
- vi) Collect the pins from the magnet.

8. Give the different shapes of Artificial magnets.

- i) Bar magnet ii) Horse shoe magnet iii) Ring magnet iv) Needle magnet
- v) Oval shape magnet vi) Disc shape magnet vii) Cylindrical shape magnet

9. Differentiate magnetic and non magnetic substance.

Sl.no	Magnetic Substance	Non-Magnetic Substance
1	It is attracted by magnets.	It is not attracted by magnets.
2	Ex. Iron, Cobalt, Nickel	Ex. Paper, Plastic, Glass

10. Define –Poles of a magnet.

The attractive force of the magnet is very large near the two ends. These two ends are called poles of a magnet.

11. Give the properties of magnets.

- i) Like poles repel each other.
- ii) Unlike poles attract each other.

12. What are the objects affected by magnetic field?

Cellphone, Computer and DVB are the objects affected by magnetic field.

13. Give any two tips to store bar magnets.

- i) Bar magnets should be kept in pairs with their unlike poles on the same side.
- ii) They must be separated by a piece of wood and two pieces of soft iron should be placed across their ends.

14. Give the uses of magnets.

- i) Magnets are used in speakers to power up.
- ii) Magnets are used in ladies hand bags, Pencil boxes etc., to make a tight seal.

2. Water**1. Choose the appropriate 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 process 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 a 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
6. _____ form of water is present in mountain and polar regions.
- a) **Solid** b) Liquid
c) Gaseous d) All these
7. _____ is a transparent, tasteless, odorless, chemical substance.
- a) Petrol b) Wax
c) **Water** d) Kerosene
8. _____ water contains 0.05% to 1% of salts.
- a) Brackish b) **Fresh**
c) Sea d) Sewage
9. Water from oceans, lakes, ponds and rivers evaporates due to the heat of _____
- a) **Sun** b) Pressure
c) Atmosphere d) None of these
10. In plants, the loss of water in the form of vapour from the aerial parts through _____
- a) Root b) Shoot
c) **Stomatal pores** d) fruit
11. _____ water is obtained through open wells, tube wells or hand pumps, springs.
- a) surface b) frozen
c) saline d) **ground**
12. _____ of Asia's largest rivers flow from the Himalayas.
- a) **10** b) 9
c) 11 d) 15
13. Volume of liquid is measured by _____
- a) Gallon b) Litre

- c) Cusec d) All the above

14. _____ forests are found in Pichavaram near Chidambaram.

- a) Green b) Grass lands
c) **Mangrove** d) Estuaries

2. Fill in the blanks:

1. Only **0.3** percent of natural water is available for human consumption.
2. The process of changing water into its vapour is called **Evaporation**.
3. **Dam** is built on rivers to regulate water flow and distribute water.
4. Water levels in rivers increase greatly during **raining**.
5. Water cycle is also called as **Hydrological cycle**.
6. **Water** plays a vital role in the evolution and survival of life.
7. **Vapour** is present in the air around us.
8. In the distribution of total 0.3% of surface water **Lakes** have 87% surface water.
9. The molecular formula of water is **H₂O**
10. The oceanic volcanoes which are present inside also add **salt** to the sea.
11. Every year **March 22nd** is observed as the World water day.
12. The water vapour gets cooled and changes into tiny water droplets that form **clouds** in the sky.
13. A larger portion of water is **68.7%** of the total available fresh water in frozen state.
14. Water level in the reservoirs is measured in **Cubic feet per second (cusecs)**
15. Adoption of **drip and sprinkler** irrigation in agriculture.

3. True or False, If false, give the correct statement.

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

Ans: False. Water present in rivers, lakes and ponds is **fit** for use by human beings.

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

Ans: False. **Ponds** are formed when the water table meets the land surface.

3. The evaporation of water takes place only in sunlight.

Ans: True.

4. Condensation results in the formation of dew on grass.

Ans: True.

5. Sea water can be used for irrigation as such.

Ans: False. Sea water **cannot** be used for irrigation as such.

6. Mountains help to regulate the temperature of our earth.

Ans: False. **Water** helps to regulate the temperature of our earth.

7. Solid form of water is present in underground.

Ans: False. **Liquid** form of water is present in underground.

8. Water while passing through layers of soil dissolves salt and minerals to a maximum extent.

Ans: True

9. Water freezes at 100° Celsius at normal pressure.

Ans: False. Water freezes at 0° Celsius at normal pressure

10. When the air around the clouds is cool. These drops of water fall in the form of snow or rain.

Ans: True

11. Direct collection and use of rain water is called rain water harvesting.

Ans: True.

12. Estuaries are harmful to unique plants and animal species.

Ans: False. Estuaries are **home** to unique plants and animal species.

4. Match the following:

- | | | |
|------------------|---|-----------------|
| 1. Flood | - | a) Lake |
| 2. Surface water | - | b) Evaporation |
| 3. Sun light | - | c) Water Vapour |
| 4. Cloud | - | d) Pole |

5. Frozen water - e) Increased rain fall

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

5. 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 rise 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.
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6. Analogy:

1. Population explosion : Water scarcity :: Recycle: Water management
2. Ground water : Tube wells :: Surface water: lakes

3. Ice berg: Solid form :: Water vapour : **Gaseous form**
4. Contain more than 3% of salt : **Sea water** :: upto 3% of salt dissolved : Brackish water,
5. Water bodies meet the sea : Estuaries :: Wet lands : **Swamps**
6. Napier Bridge area: **Estuaries** :: Pallikaralai : Wet land

7. Short Questions answer:

1. Name four different sources of water.

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?

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

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

- i) The cooled water bottle has very cold exposed surface.
- ii) Due to cool surface there is condensation of water vapour from air on the surface of water bottle. It is because of the fact that water vapour is present in atmosphere.
- iii) The condensed water molecules spread around the bottle.
- iv) So a puddle of water is noticed after sometime.

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

- i) The millions of tiny droplets do not collide with another to form larger droplets.
- ii) The air around the clouds is not cool.

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

Ice is present in top of tall mountains, glaciers and polar regions.

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

In Arctic and Antarctic Circle, water in lakes and ponds will be frozen and a solid layer of ice is formed on the surface of water. Still aquatic animals living under the ice do not die. This is because, the floating layer of ice acts as a protective coat and does not permit heat to escape from water. So as the surface water alone turns to ice, the aquatic animals manage it.

7. What are the types of rain water harvesting?

Two types of rain water harvesting are:

- a) Collecting water from where it falls. Example: Collecting water from the roof tops of the houses or buildings (Roof water harvesting)
- b) Collecting flowing rain water. Example Collecting rainwater by constructing ponds with bund.

8. Difference between surface water and ground water.

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, lakes, ponds, streams or freshwater.	Ex. Open wells, tube wells (or) land pumps, springs etc.

9. Write a few slogans of your own on the topic "Save water".

Save water slogans:

- a) Conserve water, conserve life.
- b) Save water, and it will save you.
- c) It takes a lot of blue to stay green.
- d) Don't let life slop down the drain.
- e) Don't flush our planets most valuable source.

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

About 71% of the earth's surface is covered with water and even then we face scarcity of water.
Reasons:

- a) 97% of total water is found in seas and oceans, which is salty and not fit for human consumption.
- b) Only 3% found is the freshwater and that too available in polar ice caps and glaciers.
- c) Out of 3% fresh water, only 0.3% is available to us as surface water in lakes, rivers, and swamps.

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

Sewage contains harmful and toxic chemicals. They can disturb the ecosystem of the living animals, in the rivers or oceans. So it should be treated effectually before disposing into rivers and oceans.

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

- i) The sewage water treatment is to be adopted.
- ii) Decrease the usage of pesticides, insecticides and fertilizers in agriculture.
- iii) Protect forest and trees.
- iv) Adopt drip irrigation and sprinkler irrigation in agriculture.
- v) Rain water harvesting should be implemented in every building.
- vi) Create awareness about the impact of throwing wastes into the water bodies.

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

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

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

When a person breathes out on glasses, some amount of water vapour also comes out in exhaled air. This water vapour condenses on the glasses and thus the glasses become wet.

15. Give the uses of water.

Cooking food, washing clothes, cleaning utensils, bathing ,agriculture etc.

16. What are the three forms of water?

Water is available in solid, liquid and vapour forms.

17. Which places have fresh water?

Ponds, pools, rivers, tube wells have fresh water.

18. How is 3% of fresh water distributed?

Polar ice caps and glaciers -68.7%

Ground water -30.1%

Other source of water -0.9%

Surface water -0.3%

19. Define – Saline water.

Water with large amount of dissolved solids is not potable or suitable for drinking. Such water is called saline water.

20. How water is classified based on its salinity?

Based on salinity, water is classified into three main categories. Such as fresh water, Brackish water and Sea water.

21. What are the salts dissolved in sea water?

The salts are dissolved in sea water are sodium chloride, magnesium chloride and calcium chloride.

22. Define – Water cycle.

The water on the earth evaporates into the atmosphere due to the heat of the sun. the water vapour in the atmosphere forms clouds. From the clouds, water falls on the earth in the form of rain or snow. By this natural process, water gets renewed. This is called water cycle.

23. What is condensation?

Water vapour which enters into the atmosphere by evaporation moves upward with air, gets cooled and changes into tiny water droplets that form clouds in the sky. This process is known as condensation.

24. What is transpiration?

It is the process of loss of water from the serial parts of a plant in vapour form. This is called transpiration.

25. What is frozen water?

Water that is present in the frozen form as polar ice caps and glaciers are called frozen water. A large portion of water is 68.7% of the total available fresh water is in frozen form.

26. Define – Scarcity of water.

There is no change in the total quantity of water available on the earth. It remains the same. But the water useful for plants, animals and man is decreasing day by day. It is called scarcity of water.

27. List the wetlands in Tamil Nadu?

- i) Pichavaram Mangroves near Chidambaram.
- ii) Muthupet Mangrove wet-land.
- iii) Pallikaranai wet-land in Chennai.

iv) Chembarambakkam in Kancheepuram are a few examples of swamps in Tamil Nadu.

28. What is meant by conservation of water?

Saving water for the future generations by using water carefully and in a limited way is conservation of water.

3. Chemistry in Everyday Life

1. Choose the correct 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
6. _____ changes result in the change of the substance.
 - a) Physical
 - b) Chemical**
 - c) Biological
 - d) Zoological
7. _____ are the substances which can undergo chemical changes to produce certain materials.
 - a) soaps
 - b) fertilizers

- c) plastics **d) all the above**
8. _____ is the important material in construction industry.
- a) soap b) adhesives
- c) cement** d) fertilizer
9. All the plants get their _____ from the soil.
- a) Nutrients** b) water
- c) nitrogen d) all the above
10. _____ concrete is a composite material by mixing iron mesh with cement.
- a) motar b) m-sand
- c) Reinforced cement** d) Gypsum
11. The molecular formula of Epsom is _____
- a) $\text{CaSO}_4\frac{1}{2} \text{H}_2\text{O}$ b) $\text{C}_6\text{H}_5\text{OH}$
- c) $\text{MgSO}_4\cdot 7\text{H}_2\text{O}$** d) $\text{CaSO}_4\cdot 2\text{H}_2\text{O}$
12. The chemical name of gypsum is _____
- a) Magnesium sulphate hydrate b) Calcium sulphate hemibhydrate
- c) Carbolic acid **d) Calcium sulphate dihydrate**
13. _____ is used in making black board chalks.
- a) plaster of paris** b) gypsum
- c) Epson d) phenol
14. _____ is used as surgical antiseptic.
- a) Epson **b) Phenol**
- c) Gypsum d) None of these

2. Fill in the blanks:

1. **Propanethial-s-oxide** gas causes tears in our eyes, while cutting onions.
2. Water, coconut oil and **animal fat** are necessary for soap preparation.

3. Earthworm is called as farmer's best friend.
4. Organic fertilizer is eco friendly.
5. Starch dissolved in water is an example for natural adhesive.
6. Burning of paper is the best example of Chemical change.
7. Chemistry is the branch of science which deals with the study of particles around us.
8. Salt is a combination of the chemicals Sodium and Chlorine.
9. We could prepare soft idly as a result of a chemical change named fermentation takes place in the idly batter.
10. We are using wash powder to remove strong stains on the clothes.
11. Organic fertilizers help plant grow and restore soil fertility.
12. Compost is the organic fertilizer.
13. Joseph Aspdin invented Portland cement.
14. Epsom is the medicine for skin problems.
15. Calcium sulphate hemihydrate is called as Plaster of paris.
16. Phenol is used in mouthwash in low concentrations.
17. The adhesive used in puncture shop is Artificial adhesive.

3. True or False. If false, give the correct statement:

1. Concentrated phenol is used as a disinfectant.

Ans: False. **Low concentrated** phenol is used as a disinfectant.

2. Gypsum is largely used in medical industries.

Ans: False. Gypsum is largely used in **cement preparation**.

3. Plaster of Paris is obtained from heating gypsum.

Ans: True.

4. Adhesives are the substances used to separate the components.

Ans: False. Adhesives are the substances used to **join** the components.

5. NPK are the primary nutrients for plants.

Ans: True.

6. Water boiling into water vapour is an example of chemical change.

Ans: False. Water boiling into water vapour is an example of **physical** change.

7. Chemist identifies gypsum as a natural indicator.

Ans: False. Chemist identifies **turmeric powder** as a natural indicator.

8. The water we drink is the combination of hydrogen and oxygen,

Ans: True

9. When we soak onion in water, then the irritation is increased.

Ans: False. When we soak onion in water then the irritation is **reduced**.

10. Mortar is a paste of cement and sand mixed with water.

Ans: True

11. Fertilizers containing only plant or animal based materials or those synthesized by microorganisms are called inorganic fertilizers.

Ans: False. Fertilizers containing only plant or animal based materials or those synthesized by microorganisms are called **organic fertilizers**.

12. 'Portland' cement resembled the high-quality building stones found in Portland, England.

Ans: True.

13. Reinforced Cement concrete is a mixture of cement, sand and gravel.

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

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

Ans: True.

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

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

4. Match the following:

- | | | |
|-----------|---|--------------------|
| 1. Soap | - | a) C_6H_5OH |
| 2. Cement | - | b) $CaSO_4, 2H_2O$ |

3. Fertilizers - c) NaOH
4. Gypsum - d) RCC
5. Phenol - e) NPK

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

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

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

5. Arrange the following statement 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 hew paper

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 and stire 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.

6. Analogy

1. Urea: Inorganic fertilizer :: Vermi Compost : **Organic fertilizer**.
2. **Starch dissolved in water** : Natural adhesives :: Cello tape : Artificial adhesive.
3. H_2O : Water :: $NaCl$: **Sodium Chloride**.
4. Used to join components: Adhesives :: Clean the body: **Soaps**
5. Organic fertilizer : Compost :: Inorganic fertilizer : **Super Phosphate**.
6. Used as fertilizer: Gypsum :: Helps nerves function properly : **Epsom**
7. Making casts for statues : Plaster of paris :: Used as mouthwash : **Phenol**

7. Short Questions & answer:

1. What are the three main constituents of soap?

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?

The Two types of molecules found in the soap are i) water loving, ii) water hating.

3. Give an example for inorganic fertilizer.

The inorganic fertilizers are urea, Ammonium sulphate and Super phosphate.

4. Mention any three physical properties of phenol.

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.

Uses of plaster of paris:

- i) In making black board chalks.
- ii) In surgery for setting fractured bones.
- iii) For making casts for statures and toys etc.
- iv) In construction industry.

6. What are the ingredients of the cement?

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

7. Why gypsum is used in cement production?

Gypsum is added to control the setting of cement.

8. Why earthworm is called a farmers friend?

Earthworms take organic wastes as food and produce compact casings. So earthworms are known as farmer's friends because of the multitude of services they provide to improve soil health and consequently plant health.

9. Explain the process of manufacturing cement.

The cement is manufacture by crushing of naturally occurring minerals such as lime, clay and gypsum through milling process.

10. What are uses of Gypsum?

- i) It is sued as fertilizers.
- ii) It is used in the process of making cement.
- iii) It is used in the process of making Plaster of Paris.

11. Ravi is a farmer; he rears many cattle in his farm. His field has many bio wastes. Advice Ravi how to change this bio waster to compost by using vermin-composing techniques. Explain the benefits of vermin castings.

- i) A cement tub is to be constructed to a height of 2 1/2 feet and the breadh 3 feet.
- ii) Put the Bio-wastes in the cement tub with 5 cm height.
- iii) Add few earthworms with the Bio-waste.
- iv) Then add saw dust, or coir waste and husk on the top of Bio-waste.
- v) Then add sand to form a layer of 3cm.
- vi) Then add garden waste on the layer of sand.
- vii) Then spray with water.
- viii) All layers must be moistened with water.
- ix) After 10 to 15 days, we get vermin compost manure.

Benefits:

- i) It is rich in all essential nutrients.
- ii) It improves soil structure, texture and prevent soil corrosion.
- iii) It contains valuable hormones like auxons, gibberellins etc.
- iv) It neutralizes the soil protection.

12. Define physical change.

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

13. What is the use of indicator?

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

14. How to prepare soft idly?

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

15. Is we soak onion in water the irritation is reduced. Why?

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 easy. if we soak onion in water, the chemical is diluted and it cannot reach our eyes. So the irritation is reduced.

16. Write some materials prepared by chemical changes.

Soaps, fertilizers, cement, gypsum, Epson, plaster of paris, phenol are the materials.

17. Define Principle nutrients.

Nitrogen (N). Phosphorous (P) and Potassium (K) are the three important nutrients among the various nutrients needed for plant growth. These three are called as principle Nutrients.

18. Differentiate between organic and inorganic fertilizer.

Sl.no	Organic fertilizers	Inorganic fertilizers
1	Plant (or) animal based materials synthesized by micro organism.	Natural elements by making them undergo chemical changes.
2	Prepared easily.	Prepared complicated

3	Economical	Not economical
4	Example: Vermicompost, compost	Example: Urea, super phosphate, ammonium, phosphate.

19. Why the cement is called as Portland cement?

It was named Portland cement because it resembled the high quality building stones found in Portland, England.

20. What are the uses of cement?

- i) it is used to construct houses.
- ii) It is used to construct dams, bridges.

21. What is the use of Epson salt?

- i) In medical, it cases the stress and relaxes the body.
- ii) In agriculture, it improves plant growth.
- iii) I is used as medicine for skin problems.
- iv) Helps muscles and nerves function properly.

22. Define Adhesive.

A paste like material which is used to join two components together is called adhesive.

4. Our Environment**1. Choose the correct 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) aluminum
4. Is is an undesirable change that occurs in air and water.
- a) recycling b) resuse
- c) pollution** d) reduce
5. Usage of chemical pesticides and fertilizers causes _____ pollution.
- a) Air pollution **b) water pollution**
- c) noise pollution d) none of the above
6. 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
7. An example for artificial aquatic ecosystem is _____
- a) forest b) pond
- c) garden **d) aquarium**
8. _____ are organisms that are able to produce their own Organic food.
- a) producers** b) consumers
- c) decomposer d) omnivores
9. Plants are producers because they make their own food by _____
- a) respiration b) consumer
- c) photosynthesis** d) decomposing
10. Natural agents like _____ are the decomposition factors breaking complex forms to simpler unit.
- a) oxygen b) water
- c) micro organisms **d) all the above**
11. The average person in India produces _____ kg of water every day.
- a) 0.45** b) 0.50

- c) 0.40
d) 0.55
12. Most _____ pollution is caused by the burning these fossil fuels.
- a) water
b) land
c) **air**
d) noise
13. 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
14. _____ pollution has been directly linked to stress and health impacts such as high blood pressure and hearing loss.
- a) **noise**
b) land
c) water
d) air

2. Fill in the blanks:

1. Primary consumers that eat plants are called **herbivores**.
2. Temperature, light and wind are **physical** factors.
3. **Recycling** is the process of converting waste materials into new materials.
4. Water pollution can spread **diseases** and chemicals.
5. The 3R's are Reduce, **Reuse** and Recycle.
6. **Plants** are called as biotic factors.
7. **Forest** is the best example of natural terrestrial ecosystem.
8. Ecosystem originated without human intervention is called **natural ecosystem**.
9. The ecosystem in water is called **Aquatic** ecosystem.
10. **Bacterium** obtained energy from the chemical breakdown of dead organisms.
11. The sequence of who eats whom in an ecosystem is called as **food chain**.
12. The food chain begins with the energy given by the **Sun**.
13. Each level in the food chain is called a **trophic** level.
14. The burning of solid waste in **incinerator** is called incineration.

15. Garbage burned inside landfills remain here for a long time as they decompose very slowly and become manure.
16. Polluted air affects skin, eyes and respiratory system.
17. land (soil) pollution happens when toxic chemicals change the natural balance in soil.

3. Analog:

1. Biotic factor : Animals :: Abiotic factor: Air or water
2. Natural terrestrial ecosystem : Forest :: Artificial terrestrial ecosystem : Garden.
3. Primary consumer : Goat, Cow :: Secondary consumer : Frog, Owl
4. Biodegradable waste: Leaves, Garden wastes :: Non Biodegradable waste : Plastic cover, glass bottle.
5. Edaphic factor: water in soil :: Physical factor: Light

4. True or False. If false, give the correct statement.

1. The pacific ocean is an example of an aquatic ecosystem.

Ans: True

2. Bacteria and fungi are called decomposers.

Ans: True.

3. Human and animal wastes are examples of non-biodegradable waste.

Ans: False. Human and animal wastes are examples of **biodegradable** waste.

4. Excessive use of pesticides leads to air pollution.

Ans: False. Excessive use of pesticides leads to **water pollution**.

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

Ans: True

6. Forest and Mountain regions are the best examples of artificial terrestrial ecosystem.

Ans: False. Forest and Mountain regions are the best examples of **natural** terrestrial ecosystem.

7. Fish and other water creatures and plants are maintained in terrarium.

Ans: False. Fish and other water creatures and plants are maintained in **aquarium**.

8. Animals that eat both plants and animals are called as Carnivores.

Ans: False. Animals that eat both plants and animals are called as **Omnivores**.

9. In a good chain grasshopper gets energy by eating frog.

Ans: False. In a good chain **frog** gets energy by eating grasshopper.

10. If we protect the ecosystem, we can reduce the waste by using durable goods.

Ans: True

11. The term non-biodegradable is used for those things that can be easily decomposed.

Ans: False. The term non-biodegradable is used for those things that **cannot** be easily decomposed.

12. The process by which waste materials are used to make new products is called recycling.

Ans: True

13. Expired medicines, used batteries are domestic hazardous waste.

Ans: True

14. Loud noise or even loud music can damage our eyes.

Ans: False. Loud noise or even loud music can damage our **ears**.

5. Match the following:

- | | | |
|------------------|---|--------------------------|
| 1. Biotic factor | - | a) Terrestrial ecosystem |
| 2. Sewage | - | b) Land pollution |
| 3. Fertilizers | - | c) Air pollution |
| 4. Desert | - | d) Water pollution |
| 5. Smoke | - | e) Animals |

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

- | | | |
|-------------------|---|----------|
| 1. Abiotic factor | - | a) Deer |
| 2. Decomposers | - | b) Owl |
| 3. Herbivores | - | c) Heat |
| 4. Carnivores | - | d) Human |
| 5. Omnivores | - | e) Fungi |

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

- | | | |
|------------------------------------|---|-------------------------|
| 1. Avoid the usage | - | a) Recycle |
| 2. Sharing newspapers | - | b) Incinerate |
| 3. Using of fountain pens | - | c) Buying packaged food |
| 4. Using old clothes to make paper | - | d) Reducing |
| 5. Human anatomical waste | - | e) Reusing |

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

- | | | |
|---|---|--------------------|
| 1. Burning coal | - | a) Land pollution |
| 2. Throwing plastic | - | b) Noise pollution |
| 3. Waste water from factories is mixed with water | - | c) Air pollution |
| 4. Louder horn of vehicles. | - | d) Water pollution |

Ans: 1-c; 2-a; 3-d; 4-b

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

1. Rabbit → Carrot → Eagle → Snake

Ans: Carrot → Rabbit → Snake → Eagle

2. Human → Insect → Algae → Fish

Ans: Algae → Insect → Fish → Human

7. Short Questions & 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?

Types of ecosystem:

- i) Natural ecosystem ii) Artificial ecosystem.

3. Write any two things that can be recycled.

Recycling things:

- i) Using old clothes to make paper.
- ii) Melting some plastics to make floor mats, plastic boards and hose pipes.

4. What are the types of pollution:

There are four major kinds of pollution:

- i) Air pollution
- ii) Water pollution
- iii) Land (soil) pollution
- iv) Noise pollution

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

Food chain in aquatic ecosystem

Aquatic plant → Aquatic insect → Larva → Fish.

6. Name some pollutants.

Pollutants:

- i) Burning fossil fuel (petrol, coal, oil etc)
- ii) Toxic gases (Carbon monoxide)
- iii) Dust particles (ash, soot)

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.

8. 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 sun and micro organisms etc.

9. How can we reduce water pollution?

- i) Do not pour left-over oil, oil 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.

10. Write the importance of the food chain.

Importance of food chain:

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

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

If an organism is removed from the food chain

- i) The food chain will fall apart.
- ii) The ecosystem will become imbalance and collapse.
- iii) For example consider a food chain : Plant → grasshoppers → frogs → snakes → hawks

If frogs were to die off in this chain (due to disease / pollutants) then, there will be an increase in the number of grasshoppers. This will cause a major problem.

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

- i) Dengue and malaria fever are caused by the bite of mosquitoes.
- ii) Accumulation of waste and stagnant water or uncovered containers of stored drinking water are the habitat for breeding mosquitoes.
- iii) In order to control these infectious diseases, people should maintain clean environment, free from mosquitoes.

13. List out the following by biotic and abiotic factors (Sun, plants, animals, air, soil, bacterial, heat, minerals)

Abiotic factors

Sun, Air

Water, Soil

Heat, Minerals

Biotic factors

Plants

Animals

Bacteria

14. Differentiate artificial ecosystem and natural ecosystem.

Sl.no	Natural Ecosystem	Artificial ecosystem
1	Ecosystem originated without human intervention.	Ecosystem originated by human.
2	Ex. Sea, river, lake, forest	Ex. Paddy field, garden, aquarium.

15. Define – Aquarium.

Aquarium is a place in which fish and other water creatures and plants are maintained. Example: Fish growing in homes with small tank.

16. What is Autotrophs?

Producers are organisms that are able to produce their own organic food. They do not need to eat other organisms to do this. Producers are also called Autotrophs.

17. Define- Heterotrophs.

Organisms which cannot produce their own food, need to eat other organisms as food. These organisms are also called consumers. All animals are consumers as they cannot produce their own food. Consumers are also called heterotrophs.

18. Differentiate between herbivores and carnivores.

Sl.no	Herbivores	Carnivores
1	Animals which eat plants or plant products.	Animals that eat other animals.
2	Ex. Deer, Goat, Cattle and Rat.	Ex. Lion, Tiger, Frog and Owl.

19. What are decomposers?

Micro-organisms (both plants and animals) that obtains energy from the chemical breakdown of dead organisms. They break complex organic substances into simple organic substances that goes into the soil and are used by plants. Example Bacterium, Fungi.

20. Define- Food Web.

- i) IF we put all the food chains within an ecosystem together, then we end up with many interconnected food chains. This is called as food web.
- ii) A food web is very useful to show the many different feeding relationships between different species within an ecosystem.

21. What is reuse? Give examples.

Reusing means using a thing again and again, rather than using and throwing after a single use.

Example:

- i) Instead of using plastic bags, use cloth bags.
- ii) Rechargeable batteries and fountain pens.

22. What is Landfills?

Landfilling is a method in which wastes are dumped into naturally occurring (or) man-made pits and covered with soil.

23. Give the Solid Waste Management (SWM) rules:

The Solid Management Rules (SWM) , 2016 say that

- i) Every household should segregate and store the waste generated by them in three separate streams namely bio degradable, non bio-degradable and domestic hazardous waste in suitable bins and handover the segregated wastes to authorized waste packers (or) waste collector as per directions or notification by the local authorities from time to time.
- ii) Nobody shall throw, burn or bury the solid waste on streets, open public spaces, outside his premises or in the drain or water bodies.

24. List any four domestic hazardous waste.

- i) Discarded paint drums ii) Pesticide cans iii) CFL bulbs, tube lights
- iv) Used batteries, used needles and syringes.

25. How can we reduce land pollution?

- i) First try to reduce waste, then recycle the rest.
- ii) Always use a waste bin and never litter.
- iii) Do not burn waste, the ash mixes easily with soil.

5. Plants in Daily Life**1. 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) Nutmeg 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) tulsi
c) turmeric d) aloe
5. Which is the national tree of India?
- a) Neem tree b) Jack tree
c) Banyan tree d) Mango tree
6. 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
7. Aloe _____ are used as Laxative.
- a) roots b) stem
c) leaves d) all the above
8. For making rope, fibres are obtained from _____ tree.
- a) neem b) mango
c) coconut d) jack fruit
9. We are planting shrubs such as _____ to decorate houses.
- a) Mandarai b) Mullai
c) Hibiscus d) Allamanda

10. _____ are the best for pollinations.
- a) Housefly b) mosquito
c) birds **d) honeybees**
11. Bio fuels are less _____ in nature.
- a) toxic** b) economic
c) nutrients d) metals
12. We obtain _____ from plants for making tyre, seats etc.
- a) plastic **b) rubber**
c) pencil d) wood
13. Neem coated area releases _____ gradually and helps the plants.
- a) oxygen b) carbon
c) nitrogen d) sulphur

2. Fill in the blanks:

1. In every year October **Sixteenth** is celebrated as world food day.
2. **Cotton** is an example of textile fibre.
3. I am the state tree of Tamilnadu. Who am I **Palm tree**?
4. The juice of the leaves of **tulasi** plant relieves cough and bronchitis.
5. The edible seeds of leguminous plants are called **pulses**.
6. Plants, base on their economic values and uses, may be broadly classified into **six** categories.
7. The heartbeat of an Indian kitchen is **spices**.
8. We get food from roots is **carrot**.
9. **Pulses** are secured in pods.
10. India is the **second** largest producer of fruits and vegetables.
11. Some medicinal plants like **fungi** are sued to produce medicines.
12. For making mattresses **silk cotton** is used.

13. **West Bengal** alone accounts for over 50% of raw jute production.
14. Hardwoods are **Angiosperms** the largest group of land plants.
15. To decorate houses we are planting climber plant like **mullai**.
16. **Silkworms** are economically useful for us in silk production.
17. **Blue green algae** are used to fix nitrogen in the soil for agriculture.
18. Indian scientists have made a **Nano** formulation from the Palak to cure osteoarthritis.

3. True or False. If False, give the correct answer:

1. Plants grown for decorative purposes are called as softwood.

Ans: False. Plants grown for decorative purposes are called as **ornamental plants**.

2. Silk worm eats mulberry leaves.

Ans: True

3. Cauliflower is used for ornamental purpose.

Ans: False. **Jasmine** is used for ornamental purpose.

4. Cotton cloth is not suitable for summer season.

Ans: False. Cotton cloth is **suitable** for summer season.

5. Sugarcane is used as bio fuel.

Ans: True

6. The useful hardwoods and softwoods are given by fibre plants.

Ans: False. The useful hardwoods and softwoods are given by **timber** plants.

7. In the cabbage the edible part is leaves.

Ans: True

8. Spices are aromatic parts of tropical plants traditionally used to flavor the food.

Ans: True

9. Cardamom and black pepper are pulses.

Ans: False. Cardamom and black pepper are **spices**.

10. In turmeric, the Rhizome part is used to help body to fight foreign invaders.

Ans: True.

11. The process of making yarn from fibres is called yarn production.

Ans: False. The process of making yarn from fibres is called yarn **spinning**.

12. Hibiscus trees are used to decorate houses.

Ans: False. Hibiscus **shrubs** are used to decorate houses.

13. Plants and algae living in coral reefs are the food for variety of fishes.

Ans: True

4. Match the following:

- | | | |
|--------------------------|---|---------------|
| 1. Fibre yielding plants | - | a) Chloramine |
| 2. Hardwood | - | b) Spice |
| 3. Neem | - | c) Hemp |
| 4. Clove | - | d) Cereals |
| 5. Millet | - | e) Teakwood |

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

- | | | |
|-------------------------|---|-----------------|
| 1. Plants as food | - | a) Curry leaves |
| 2. Spice yielding plant | - | b) Phylanthus |
| 3. Medicinal plant | - | c) Paddy |
| 4. Fibre yielding plant | - | d) Carnation |
| 5. Ornamental plant | - | e) Coconut |

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

- | | | |
|--------------------|---|------------------|
| 1. Root as food | - | a) Yarn |
| 2. Leaves as food | - | b) Banana flower |
| 3. Stems as food | - | c) Apple |
| 4. Flowers as food | - | d) Beetroot |

5. Fruits as food - e) Cabbage

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

5. Analogy:

1. Mango : Fruit :: Maize : Cereals
2. Coconut : Fibre :: Rose : Ornamental
3. Bees : Pollinate insect :: Earthworms : natural manure
4. Tomato: Vegetable :: Wheat : Pulses
5. Roots as food : beetroot :: Stem as food: Potato
6. Spices : Cardamom :: medicinal plant : Amla
7. Protect from scurvy: Amla :: Bronchitis, expectorant : Tulsi
8. Leaf fibres : Agave :: Husk fibres : Coconut
9. Hardwoods: Angiosperm :: Softwoods : Gymnosperm
10. Shrubs: Crape jasmine :: Climbers: Allamanda
11. Fix nitrogen in the soil : Pseudomonas :: Produce bio-fuel : Jatropha

6. Short Questions & answer:

1. What is food?

Any nutritious substance that people or animals eat or drink or those plants absorb in order to maintain life and growth is called food.

2. What are medicinal plants?

Some of the plants around us are good in healing our diseases. We call these plants as medicinal plants.

3. How hardwoods differ from softwoods.

Sl.no	Hardwoods	Softwoods
1	Present in angiosperms (flowering plans)	Present in gymnosperm (non-flowering plants)

2	It is used to prepare furniture, decks, flooring and wooden construction.	It is used to produce plywood, wooden boxes, medium density fibre board (MDF) and paper making.
3	Examples: Teak, Jackfruit	Example: Katampu, Pine

4. What is a Spice?

Spices are aromatic parts of tropical plants traditionally used to flavor the food.

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

Neem tree, Tulsi tree, Amla tree are the medicinal plants.

6. What are the uses of timber?

- i) Timber is used in the contraction of buildings, making of furniture.
- ii) It is used in making fibre board, paper making.

7. What is a symbiotic relationship?

A close relationship between two different species that benefits at least one of the species or both. This relationship is known as “Symbiotic relationship”.

8. Write the uses of neem?

- i) Neem leaf is used for leprosy, eye disorders, intestinal worms, stomach upset, skin ulcer, diseases of heart and blood vessels, fever, diabetics and liver problem.
- ii) Neem flowers can be used to treat intestinal worm.
- iii) Neem oil is rich in vitamin E and fatty acid. It helps to improve skin elasticity.

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

	<u>Plant</u>	<u>Plant part we eat</u>
1.	Sweet potato	Root
2.	Onion ginger	Stem
3.	Spinach, Coriander	Leaves
4.	Flower of banana	Flower
5.	Wheat, beans	Seed
6.	Coconut, Mango	Fruit

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

A desert is a region of land that is very dry because it receives low amounts of precipitation (usually in the form of rain but it may be snow, mist or fog), often has little coverage by plants, and in which streams dry up unless they are supplied by water from outside the area.

11. Kavitha said “Palm tree is a tall tree, so it gives hard wood”! Do you agree with her statement (or) not? Explain why?

No, I don't agree with her statement.

- i) Palm tree is technically neither hardwood nor softwood.
- ii) It comes from a separate family known as Arecaceae.
- iii) It has significantly different cellular structure from either soft or hardwoods.

12. Define – Economic botany.

Economic botany is the study of relationship between people and plants and the uses of plants in economy.

13. Classify plants on the basis of economic values and uses.

They are classified into six varieties. They are:

- i) Plants as food ii) Spice yielding plants iii) Medicinal plants
- iv) Fibre yielding plants v) Timber yielding plants vi) Ornamental plants.

14. Define – Cereals.

Cereals are edible components of grain of cultivated grass. Example: Rice, Wheat, Bajra, Millet.

15. Name some of the Indian spices.

Cardamom, black pepper, curry leaves, fenugreek, fennel, ajwain, bay leaves, cumin, coriander seeds, turmeric, cloves, ginger, nutmeg and cinnamon.

16. Name some medicinal plants.

The medicinal plants are Phyllanthus, Vallarai, Black nightshade, Tippili, Vettiver, Thuthuvalai, Neem and Tulsi.

17. Classify the fibre yielding plants based on use.

- i) Textile fibres - Cotton
- ii) Cordage fibres - Coconut fibre
- iii) Filling fibres - Silk cotton

18. Classify the fibre yielding parts based on the plant parts.

- i) Plant fibres include seed hairs - Cotton
- ii) Stem fibres - Flax, jute
- iii) Leaf fibres - Agave
- iv) Husk fibre - Coconut

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

Jute crop is grown in seven states – West Bengal, Assam, Odisha, Bihar, Uttarpradesh, Tripura and Meghalaya.

20. Classify the Ornamental plants.

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

21. How pollination takes place by insects?

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

22. Define – Osteoarthritis.

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

6. Hardware and Software**1. Choose the appropriate 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) Pen drive
6. _____ is a device comprising both hardware and software.
- a) Microwave oven
 - b) Car
 - c) Bike
 - d) Computer**
7. A _____ device helps to enter input information.
- a) Hardware**
 - b) Software
 - c) Monitor
 - d) Modem
8. _____ existed before the World Wide Web.
- a) whatsapp
 - b) Email**
 - c) face book
 - d) Google
9. The _____ can be installed in the hard disk for the usage on a particular computer.
- a) Operating system
 - b) Translator
 - c) Application program**
 - d) Image editor
10. _____ is one fo the example of application program.
- a) Drawing tools**
 - b) Language
 - c) Linker
 - d) Device drive
11. The license of the software would not be provided unless it is _____

- a) collected b) purchased
- c) dismantled d) sold

2. Fill in the blanks:

1. **Hardware** is lifeless without software in a computer,
2. **Software** are programmed and coded applications to process the input information.
3. Software is divided into **two** types based on the process.
4. **Linker** is developing software to control the internal computer operation.
5. **Free and Open** software is available at free of cost and can be shared to many end users.
6. **Adobe Photoshop** is a paid and proprietary software.

3. Match the following:

1. MAC OS - a) Free and open source software
2. Software - b) Paid and proprietary software
3. Hardware - c) Input device
4. Keyboard - d) RAM
5. LINUX - e) Geogebra

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

4. Short Questions & answer:

1. What is Hardware and Software?

Hardware: Hardware is the parts 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: Software are programmed and coded applications to process the input information.

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

- 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.

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

Free and open software is available at free of cost and can be shared to many end users. Free software is editable and customizable by the user and this leads to development (or) updation of new software.

Examples of Free and Open Source Software: Linux, Open Office, Operating System, Geogebra etc.

4. What are the types of software?

The software is divided into two types based on the process. They are

- i) System Software (Operating System)
- ii) Application software

5. Give some examples of System Software.

Some of the popular Operating system are LINUX, Windows, MAC, Android etc.

6. Give some examples of Application Software.

The following are the examples of application program. Video player, Audio player, Word processing software, Drawing tools, Editing software etc.

7. Define – Application Software.

- i) Application software is a program (or) group of programs designed for the benefit of end user to work on computer.
- ii) The application program can be installed in the hard disk for the usage on a particular computer.

8. What is the classification of System Software?

System software is divided into two types.

- i) System Management Program.
- ii) Developing Software

9. Give the classification of Application Software?

- i) General Purpose Software.
- ii) Specific Purpose Software.

10. Give some examples of Specific Purpose Software?

- i) Reservation System
- ii) Attendance system

iii) Billing System

iv) Report and Generator

11. What are the two forms of System and Application Software?

The Operating System and Application Software are available in two forms. They are

i) Free and Open Source

ii) Paid and Proprietary Software.