SRI KANCHI MAHASWAMI VIDYA MANDIR
QUESTION BANK
Class : VII **SCIENCE**

Nutrition in Plants

1. Name a gas used in photosynthesis. Name a gas produced in photosynthesis.
2. Name any two leguminous plants.
3. What do you understand by the term nutrition? Name the two main modes of nutrition.
4. Name a plant which has Nitrogen fixing Rhizobium bacteria in its roots.
5. Name the pore through which leaves exchange the gases.
6. What name is given to the organisms – (a) which can make their own food? (b) Which depends on other organism for food?
7. Which part of the plant gets carbon di- oxide from air in photosynthesis?
8. How solar energy is converted during photosynthesis?
9. Which mineral is needed by plants to make proteins?
10. Which part of the Cactus plant makes food?
11. Name the specialized organ present in carnivorous plants to catch their prey.
12. What are insectivorous plants?
13. What are parasitic plants?
14. What type of plant Cuscuta is?
15. Why are the leaves of a plant usually green?
16. What type of plants has Rhizobium bacteria in their root nodules?
17. In what form do plants store energy in it?
18. Name the three plant nutrients commonly present in fertilizers and manures.
19. Name the bacteria which convert Nitrogen into Nitrogen compounds.
20. Name the types of heterotrophic nutrition seen in plants?

3 Marks Questions:

1. Write a short note on symbiosis.
2. What is meant by heterotroph? Give examples.
3. How would you test the presence of starch in leaves?
4. Why do farmers spread fertilizers and manures in the fields?
5. What is photosynthesis? Represent it in word equation.
6. Define nutrition. What are the two modes of nutrition?
7. Mention the conditions necessary for photosynthesis.
8. Explain why we cannot make food by photosynthesis as the plants do.
9. In what way do the plants differ from animals?
10. What is Xylem? Mention its function.
11. Why are algae green in colour?
12. What are saprophytes? Give examples.
13. Write a short note on a plant which has both autotrophic as well as heterotrophic modes of nutrition.
14. Name the green pigment present in the plant and write a short note on it.

15. Which part of the plant is called the food factory? Why?
16. What name is given to the relationship between an algae and fungus in Lichens?
17. What are Lichens?
18. How do plants obtain water for making food?
19. How can we prove that only green plants undergo photosynthesis?
20. Why do some plants trap insects? Name some of the insectivorous plants.

5 Marks Questions:

1. How do leguminous plants help in replenishing nitrogen into the soil?
2. Describe the importance of photosynthesis for the existence of life on the earth.
3. How do plants get Carbon di oxide for making food by photosynthesis?
4. What is chlorophyll? What is the role of chlorophyll during photosynthesis?
5. Do Croton plants have chlorophyll? Describe the nutrition takes place in Croton plants.
6. What do you understand by symbiosis? Explain with an example.
7. What are the various modes of nutrition in plants? Give one example of each.
8. Describe the mode of nutrition in Pitcher plant, Venus fly trap and Sundew plant.
9. Fungi can be useful as well as harmful. Justify the statement.
10. What is Partial heterotroph?
11. Describe the structure of Chloroplast.

Nutrition in Animals

1 mark questions:

1. What is the scientific name of the process of taking food into the body?
2. Name the substance which mixes with food in the mouth during chewing by teeth.
3. Name the different types of teeth.
4. Name of the set of teeth which grows in a small baby and in a child?
5. Which teeth in human beings are replaced by permanent teeth?
6. Which organ helps in getting the taste of food which we eat?
7. Identify the taste of food that can be detected by the sides and back part of the tongue.
8. How do we call the animals which can chew the gud?
9. Which single celled organism has pseudopodia?
10. Write the full form of ORS.
11. Name the microbes that digest cellulose present in the grass consumed by a ruminant.
12. What are the false feet of Amoeba known as?
13. Name the condition in which a person passes out watery stool.
14. What happens when glucose breaks down in body cells with the help of oxygen?
15. What is the action of saliva on food?
16. What is the largest gland in the human body?
17. What are Villi?
18. Which part of the tooth contains nerves and blood vessels?
19. Which part of our digestive system digest fat present in our food?
20. Write a cause of tooth decay.

3 Marks Questions:

1. What is the role of Hydrochloric acid in stomach?
2. Which organ of the body secretes bile? What is the function of bile in the digestion of food?
3. How does butterfly gets its food?
4. What are the modes of taking food to the body used by the following animal – (a) frog, (b) snake, (c) Mosquito, lice, housefly, ant, snail?
5. Why do we get instant energy from glucose?
6. What is the function of Villi and where they are located?
7. How does Amoeba taken in the food?
8. State the functions of different types of teeth in our mouth.
9. How many incisors, canines, premolar and molars does an adult man have?
10. How would you distinguish ice and ice-cream with your eyes closed?
11. State the various functions of the tongue.
12. Name four different types of tastes which can be detected by our tongue.
13. Can we survive only on grass and raw leafy vegetables? Give reasons for your answer.
14. Which part of the tongue detects the following taste? (a) bitter, (b) sweet, (c) sour, (d) salty.
15. Match the following

Food Components	**Product of Digestion**
(1) Carbohydrates	(a) Fatty acids & glycerol
(2) Proteins	(b) Sugar (glucose)
(3) Fats	(c) Amino Acids

16. What will be the digestive product when we digest groundnut oil present in our food?
17. Define Assimilation.
18. What is Absorption?
19. Differentiate between ingestion and Egestion.
20. Draw and label the permanent set of teeth.

5 Marks Questions:

1. When do we get hiccups?
2. Describe how food gets digested and assimilated in the human digestive system.
3. With the help of labeled diagrams, describe nutrition in amoeba.
4. Describe the process of digestion in ruminants.
5. Write a short note on digestive juices.
6. Explain why a cow can digest grass but we cannot?
7. What is diarrohea? How is diarrhea caused?
8. Why does dehydration take place during diarrohea? How can dehydration be prevented?
9. How can you make oral rehydration solution at home? When is it given to a person?
10. What is meant by tooth decay? Name some of the food items which are the major cause of tooth decay? How can we prevent tooth decay?

FIBRE AND FABRICS

Very short answer type questions:

1. What is fibre?.
2. Mention its types with example.
3. Which type of wool is common in Tibet and Ladakh? Which animal produces wool for making fine Pashmina shawla
4. What causes Sorters disease?
5. Name the tree whose leaves provide food for the silkworms.
6. What re the natural colours of the fleece of sheep and goats?
7. Name two fibres which are made of proteins?
8. What type of food is given to sheep?
9. Name any four types of silk.
10. Woollen fabric have greater bulk than cotton fabric. Why?
11. Why is wool of animals removed only in summer?
12. What is selective breeding?
13. What is reeling?
14. Mention the basis on which the varieties of silk are classified.
15. What is silk made up of?
16. What is sericulture?
17. What does rearing of sheep mean?
18. Name the processes involved in processing of wool yarn.
19. State whether artificial silk is an animal fibre or a plant fibre. Justify your answer.
20. Arrange the following steps in the correct order;
    (a) combing, shearing, dyeing, scouring, spinning, sorting.
    (b) Larva, pupa, eggs, adult silk moth.

II. SHORT ANSWER TYPE QUESTIONS:

1. The silkworm developing inside the cocoon is not allowed to mature into an adult silk moth. Why?
2. What do you mean by mulberry silk and explain its feature?
3. Why is rayon called artificial silk?
4. Distinguish between natural and artificial silk.
5. Why is the fleece of sheep to be sorted?
6. Differentiate between shearing and scouring?
7. Sorter's disease is a occupational hazard. Comment on this.
8. Name the most common silk moth. What are the characteristics of silk fibres obtained from the cocoons of this silk moth?
9. Why do wool yielding animals have thick coat of hair on their body?
10. Distinguish between Mohair and Angara wool.
11. How do woollen clothes keep us warm?
12. The sorter's job is very risky. Why?
13. How is reeling of silk done?
14. Name any five wool yielding animals? Which is the most common type of wool available in the market?
15. Define: shearing, scouring, sorting, dyeing and spinning
16. Why is not advisable to handle the caterpillars of silkworm with bare hand?
17. How is reeling carried out?

III. LONG ANSWER TYPE QUESTIONS;

1. Describe the life history of silk moth briefly.
2. Explain the process involved in silk production.
3. Discuss how wool is obtained from sheep and processed to make woollen Yarn?
4. How is shearing carried out? Why does shearing not hurt the sheep?
5. Make sketches of the life history of silk moth which is directly related to the production of silk.
6. Discuss detail the life cycle of silk moth. With a neat diagram.
7. Write the properties and quality of wool.
8. Explain the health hazards faced by workers employed in the wool industries.
9. How was silk discovered?
10. What are the problems faced by the workers associated with sericulture?
11. What is silk route?

HEAT

1 Mark Questions

1. State the unit in which temperature is commonly measured.
2. Name the method of heat transfer in vacuum.
3. What is the normal temperature of human body in Celsius scale?
4. What is the usual temperature range of a laboratory thermometer?
5. What prevents the mercury level in the glass tube of a clinical thermometer from falling in its own when its bulb is removed from the mouth of a patient?
6. Which thermometer has a temperature range of 35* to 42* C?
7. What is the temperature range of Clinical thermometer on Fahrenheit scale?
8. In solids heat is transferred by _____..
9. In fluids heat is transferred by the process of_____.
10. What is the normal temperature of human body on Farenheit scale?
11. When does the flow of heat from a hot object to a cold object stops?
12. A person sitting in front of a room heater feels hot. Name the process by which heat is transferred.
13. A reliable measure of the hotness of an object is its_____.
14. We have to hold the thermometer by the bulb while reading it. Write (T/F).
15. The temperature of all humans should be exactly 37*C. Write (T/F).
16. Which brick can be used for building constructions, such that it is not much affected by outside heat and cold .
17. What are the invisible rays called which transfer heat by radiation?
18. What is the direction of heat transfer by Convection method?
19. Woollen clothes keep us warm because of the air trapped in between them.Write (T/F)
20. Which days do people prefer to wear dark coloured clothes?

3 Mark Questions

1. Which one you prefer to wear in winter either one thick blanket or two thin blankets joined together . Why?
2. Will you opt to wear a dark coloured shirt on a summer day ? Why?
3. What are the advantages of hollow bricks?

4. Why are cooking utensils provided with handles made of plastic (or Wood)?
5. Explain why laboratory thermometer is not suitable to measure human body temperature.
6. Explain why is it difficult to hold a stainless steel tumbler with hot tea in the hand but a thermocol cup containing the same hot tea can be held easily.
7. Explain why a clinical thermometer has a short range of temperature reading? State the range.
8. Why can the sun's heat not reach the earth by conduction and convection?
9. What is the function of Kink in a clinical thermometer?
10. Why is the box of a solar cooker painted black from outside?
11. What is meant by Convection? Why is that Convection cannot takes place in solids ?
12. What is a thermometer? Give two types of it with its range.
13. Why does the mercury level not fall on its own when the bulb of a clinical thermometer is removed from the mouth?
14. If we heat a container containing water from above , Will the heat transfer to the bottom liquid? Why?
15. Who devised the Celsius scale? What is the strange thing in it ?
16. Where can we feel the heat of a burning candle ? Why?
17. Can we use a clinical thermometer to measure the temperature of any object other than the human body?
18. In Chennai we feel the breeze during day time than at night. Give reason.
19. What are the precautions to be observed while using a clinical thermometer?
20. What are the advantages of Digital thermometer?

Five Mark Questions

1. Draw and label a clinical thermometer . Explain the features of it.
2. I) Explain Digital thermometer , Maximum-Minimum thermometer.
   II) How does a clinical thermometer work? Why can't we use it to measure high temperatures?
3. Define temperature. How do you measure it? What are the types of thermometer available. Explain in short about each.
4. Explain the three different ways of heat transfer.
5. Explain elaborately the method by which water conduct heat with a neat diagram.
6. Explain Sea Breeze and Land Breeze. Correlate it with Chennai city's temperature.
7. Define Radiation. Explain two examples where heat is transferred by radiation.
8. Explain with activities the better absorbers and emitters of heat radiations.
9. Relate the following with temperature
   i) Colour of clothes.
   ii) Colour of Houses.
   iii) Solar cooker,Solar water heater.
10. Give Reason
    i) Why are plastic handles used in frying pan?
    ii) How does a room gets heated, when we keep heater on the floor, at the bottom of the room.
    iii) How does a hot Utensil kept away from flame cools down?

ACIDS BASES AND SALT

I. VERY SHORT ANSWER TYPE QUESTIONS:

1. What is the natural colour of litmus and china rose?
2. What is an indicator? Mention the different types with example.
3. Which part of the plant of litmus and chin rose is used to extract indicators?
4. What are the two forms in which litmus is available?
5. What are neutral substances? Give example.
6. Give one example of mineral acid which is weak in nature.
7. What are bases? Give example.
8. Differentiate between alkali and base.
9. Name the base used in antacids.
10. Give the chemical name of the following.
    (a) Caustic soda (b) Caustic potash (c) milk of magnesia (d) quick line
    (e) slaked lime (f) King of acids.
11. What are acids?
12. hat is neutralization reaction? Write the general equation for the same.
13. What re antacids? What is its use?
14. What is the difference between dilute acid and concentrated acids?
15. What are hydrated salts? Give examples.
16. What is anhydrous salt?
17. Name any three gaseous pollutants which cause acid rain.
18. Name the chemical which is injected into the skin of a person when an ant bites.
19. Complete the following reactions
    (a). Acid + Base -------→ _____ + _____.

    (b) hydrochloric acid + sodium chloride ----------.> ---------- + ----------
20. What is salt?

II. SHORT ANSWER TYPE QUESTIONS:

1. What is indicator? What is its use? Mention its type with example.
2. How do you test the nature of sodium carbonate in solid state with litmus.
3. How can we prepare the strips of turmeric, litmus and china rose.
4. What are acids? Mention its properties. Give examples.
5. What are the two main types of acids? Give two examples for each of the following.
6. How do you dilute an acid?
7. What is acid rain? How is it caused?
8. List out the harmful effects of acid rain.
9. Give Reason for the following:
   (a) Tooth paste are basic in nature.
   (b) Vinegar is commonly used in packed food items.
   (c) If we touch the test tube immediately after carrying out the neutralisation reaction of an acid and a base in it, it is found to be somewhat hot.
10. Distinguish between the following with example:
    (a) acids & bases (b) Organic acids and mineral acids
11. You have been provided with three test tubes full of colourless liquids. One of them is distilled Water and the other two contain acidic and basic solutions respectively. How do you identify them. You have to choose anyone of the following (a) blue litmus (b) red litmus
12. What are the three types of salts? How are they formed?

13. Justify the following statements:
    (a) Calamine lotion is applied on the bee stings.
    (b) Slaked lime is added to factory waste before it is discharged into rivers.
    (c) Taj Mahal , a great monument , turn yellow..
    (d) An antacid tablet is taken when you suffer from acidity.
14. Why does a yellow curry stain on a white shirt turn red when it is washed with sop?
15. A shopkeeper has a few bottles of soft drinks in his restaurant which are not labelled. One Customer wants acidic drinks. Another wants basic drinks. Third one requires a neutral drink. How will the shopkeeper decide which drink is to b served to whom?
16. What do you mean by water of crystalisation? Give example.
17. How can a hydrated salt be converted into an anhydrous salt.
18. What is Royal Water? Mention its composition and use.
19. How do you name the salts formed by the following acids?
    (a) Hydrochloric acid (b) Sulphuric acid (c) Nitric acid (d) acetic acid
20. What is meant by indigestion? How can it be cured?

III. LONG ANSWER TYPE QUESTIONS:

1. How does slaked lime help in the treatment of acidic soil.?
2. Explain the properties of salts.
3. Give an account of universal INDICATOR. Draw the colour chart for it.
4. **Name the acids present in the following**::
   Amla, lemon, turmarind, apple, grape, sour milk, vinegar, spinach, ant's sting

5. Enter the colour change of the following indicators in acidic medium and basic medium.

Indicator	Change of colour in acidic medium	Change of colour in basic medium
Red litmus		
Blue litmus		
Turmeric powder Beet root		
Methyl orange		
Phenolphthalein		
Chin rose		

MATTER AND CHEMICAL FORMULAE

I. VERY SHORT ANSWER TYPE QUESTIONS

1. What are atoms?
2. Name the sub atomic particles.
3. Where is nucleus located in an atom?
4. Mention the location of electron in the atom.
5. Name the particles present in the atom.
6. Write the charges of proton and electron.
7. What is a molecule? Give examples.
8. How many elements are known at present and classify them into its type.
9. Name the element that occur in nature in its pure state.

10. What is a chemical formula?
11. Name any two ores of iron and aluminium.
12. What do you need to know to write a chemical formula?
13. What is a chemical equation?
14. What are the informations that you get from a chemical equation ?.
15. Why should the chemical equation be balanced?
16. What is atomicity? Classify the following as mono, di, tri and poly atomic molecules.
    Helium, oxygen, hydrogen, carbon, phosphorous, sulphur, Aragon, ozone, hydrogen chloride, Water, carbon-di-oxide, potassium, chlorine.
17. Write the symbol of the following elements.
    Sodium, Silver, Gold, Iron, Copper, Mercury
18. Write the name of the element represented by the following symbols.
    K, Ca, Mg, Zn, I, Cl,
19. Define valency.
20. What are radicles? Give examples.

II. SHORT ANSWER TYPE QUESTIONS

1. List the information that you get from a chemical formula. Explain it with an example.
2. What do you mean by IUPAC? What is its function?
3. Scientists engaged them in improving the symbols used to represent the elements. Why?
4. Atom as a whole is neutral. When will it become positively or negatively charged?
5. Describe atomicity and its types with examples..
6. What is crystallisation? What is its use? How do you prepare pure crystals of copper sulphate?
7. Chemical formula of some compounds are given. Correct them if necessary.
   $Mg(SO)_4$ Na_2O $AlCl_3$ Na_2CO_3 $Ag(NO)_3$ $Ca(OH)_2$
8. Valency of some radicals and elements are given below to help you the write the chemical formula of the compounds asked.

Name of the radical	Valency
Hydroxyl	1
Nitrate	1
Sulphate	2
Carbonate Hydrogen carbonate	2 1
Phosphate	3

Name of the element	valency
Lead	2
Iron	3
Magnesium	2
Aluminium	3
Zinc	2
Chlorine and Sodium	1
Oxygen	2

Lead Nitrate, Aluminium Chloride, Magnesium Carbonate, Ferric oxide,
Zinc phosphate, Water, Ferric chloride, Aluminium sulphate,
Sodium Carbonate, Sodium hydrogen carbonate

III. LONG ANSWER TYPE QUESTIONS:

1. Explain the properties of compound.
2. With a help of an activity prove that constituent elements of a compound lose their unique properties .
3. Demonstrate an activity to prove that constituent elements of a mixture retain their unique properties.
4. Write rules that are followed while deciding about a chemical symbol.
5. What are the steps to be followed while writing a chemical formula. Explain with example.
6. Create a story board. Illustrate the story of origin of as many elements as you can.
7. A dish contain a blackish yellow powder. When magnet is moved over it, the black particles struck

To the magnet and only yellow powder alone left behind. Was your original powder, an element, compound or a mixture., Explain your answer.

8. Balance the following equations:

(a) $HCl + Na \text{ -------} \rightarrow NaCl + H_2$
(b) $Zn + O_2 \text{ ----------} \rightarrow ZnO$
(c) $Mg(OH)_2 + H_2SO_4 \text{ ----------} \rightarrow MgSO_4 + H_2O$
(d) $Ca(OH)_2 + CO_2 \text{ ------} \rightarrow CaCO_3 + H_2O$
(e) $CH_4 + O_2 \text{ -------} \rightarrow CO_2 + H_2O$
(f) $CH_3COOH + Na_2CO_3 \text{ --------} \rightarrow CO_2 + H_2O + CH_3COONa$
(g) $Na + H_2O \text{ ------} \rightarrow NaOH + H_2$

PHYSICAL AND CHEMICAL CHANGES

I VERY SHORT TYPE QUESTIONS:

1. **Name the following**:
   (a) Metal which is used for galvanizing Iron
   (b) The substance which is mixed with iron to make stainless steel.
   (c) Process which can be used to obtain pure copper sulphate from its impure sample.
   (d) Process by which common salt is obtained from sea water.
   (e) Process by which common alt is purified.
   (f) The gas which can turn lime water milky.
   (g) The product formed after rusting.
   (h) Colour of copper sulphate solution.
   (i) Colour of ferrous sulphate solution.
   (j) Gas produced when metal reacts with acid.
   (k) This layer protects us from harmful UV rays which come from the sun.
2. **Classify the following as physical or chemical changes** .
   (a) Photosynthesis (b) dissolving sugar in water (c) burning of coal (d) melting of wax
   (e) Digestion of food (f) Cutting boiled potato (g) tearing paper (h) tearing paper
3. Define decomposition reaction with example. Mention different types of decomposition reactions.
4. **Complete the word equation for the following reaction**s:
   (a) Calcium hydroxide reacts with carbon-di-oxide
   (b) Magnesium reacts with oxygen
   (c) Iron reacts with moist oxygen.
   (d) Copper sulphate reacts with iron.
   (e) Magnesium oxide reacts with water.
   (f) Baking soda reacts with vinegar.
5. When apple is cut browning of cut surface take place. Why?
6. How can we prevent the browning of fruits and vegetables?
7. What are the products of neutralisation?
8. Write the chemical formula for hydrogen chloride and sulphuric acid.
9. **Give two examples for each of the following**:
   (a) Strong acid (b) Weak acid (c) strong base (d) weak base (e) alkalis

II. SHORT ANSWER TYPE QUESTIONS:

1. **Justify the following statements**:
   (a) Iron grills painted frequently.
   (b) Iron pipes for carrying water is coated with zinc.
   (c) Tools and machines parts made of iron smeared with grease or oil.
   (d) Rusting of iron objects are faster in coastal areas than in deserts.
   (e) Melting of ice is said to be a physical change.
   (f) Explosion of fireworks are said to be a chemical change.
   (g) Chemical changes are important to our everyday life.
   (h) Ozone layer is protective layer to our earth.
   (i) Sea water is salty

1. Distinguish between the following:
   (a) Exothermic and endothermic reaction with example. (b) Saturated and unsaturated solution.

2. Explain the characteristics of chemical reaction.
3. What is corrosion? Explain the changes that you can witness in copper, silver and iron after corrosion.
4. The process of evaporation is not a good technique of separation of salt from sea water. Explain
5. What is meant by galvanisation? Why is it done?
6. What is stainless steel? How is it made? Mention any one property of it.
7. What is meant by crystallisation? State its uses.
8. Describe how crystals of copper sulphate are prepared from copper sulphate solution.

III. LONG ANSWER TYPE QUESTIONS.

1. What is physical and chemical change? Explain with examples.
2. What is meant by rusting of iron? State two conditions necessary for the rusting of iron o occur. Explain how, rusting damages iron objects.
3. What happens when iron nail is immersed in copper sulphate solution? Write the word equation for this process. Explain the changes involved in it.
4. When baking soda is mixed with lime juice, bubbles are formed with the evolution of gas. Explain the changes involved in it.
5. Explain why, burning of wood and cutting of wood into small piece are considered as two different types of changes.
6. Explain your observations when magnesium ribbon is burnt in air? Write the word equation.
7. What happens when magnesium oxide is dissolved in water? Explain it with chemical equation.
8. What is rusting? Write the conditions necessary for it. How does rusting damages iron objects?
9. Explain the various methods of preventing rusting of iron objects.
10. Rusting influences economy of the country. Comment on this.

Topic : Climate and Adaptation

1mark questions:

1. What is the primary source of energy? Which causes changes in the weather?
2. What is used to denote the amount of water vapour in the air?
3. Name the instrument used to measure the rainfall at a place.
4. Name the unit in which rainfall is measured?
5. Which of the two changes frequently: Weather or Climate?
6. Name two animals which live in the polar region of the earth.
7. Name a sea-bird which cannot fly.
8. What is the most outstanding feature of lion-tailed macaque?

9. Name any five types of animals which live in tropical rain forests.
10. What is migration?
11. How does the weather differ from the climate?
12. What is the reason behind the occurrence of seasons on the earth?
13. Give the longest and shortest day of the year in the Northern Hemisphere.
14. When are maximum and minimum temperatures likely to occur during the day?
15. What is adaptation?
16. What are tusks? How does an elephant make use of its tusk for its survival?
17. Name the four elements of weather.
18. Why is it very difficult to predict the weather?
19. Give an example to show how wind affects the weather.
20. How do we call the scientists who study the weather?

3 mark questions:

1. When do you expect wet clothes to dry faster in dry weather or in humid weather? Why?
2. Which days do you think are usually the longest and the shortest in the southern hemisphere?
3. Why do penguins huddle together?
4. How are monkeys adapted to live on trees?
5. Which animal is having blubber under its skin? Why?
6. Why does Siberian Crane move from Siberia to places like Bharakpur in Rajasthan every year for a few months?
7. An elephant has large ears. How do large ears help the elephant?
8. How are camels adapted to desert climate?
9. Give reason:
   Places in India are generally much warmer than Greenland.
10. It is generally cooler during the nights than during the day - Give reason.
11. Mumbai has a greater humidity than Delhi - Give reason.
12. Define angle of inclination.
13. Describe the climate in hills and mountains.
14. Describe coastal climate.
15. Define equator.
16. Define latitude.
17. State any two adaptations in big cats which help in their survival.
18. Why do birds migrate?
19. Where are tropical rain forests found in India?
20. State the adaptations of red-eyed frog which help it to climb on trees on which it lives.

5 marks question:

1. Explain the differences between weather and climate.
2. Name the factors on which the climate of a place depend on?
3. Why is it cooler in regions which are further away from the equator?
4. List the adaptations seen in the following animals
   (a) Elephant (b) Monkey
5. What are Polar Regions? Describe the climate in polar region.

6. How does 'migration' help the birds in their survival?
7. The bird X moves from Siberia to places like Y in Rajasthan and Z in Haryana in India during a particular season.
   (a) Name the bird X
   (b) What are the places (i) Y and (ii) Z?
   (c) What general name is given to birds like X?
8. Write the adaptive features of the following animals:
   (a) Camel (b) Kangaroo (c) Fennec
9. How does the distance from the sea affect the climate of a place?
10. How does the distance from the mountain affect the climate of a place?

WIND STORM AND CYCLONES

1 MARK QUESTIONS :

1. When cold water is poured over a tightly corked Tin can containing steam, the Tin can gets crushed. What crushes the Tin can?
2. It is difficult to ride a bicycle against the direction of wind . Give reason.
3. What is a violent storm called that lifts people and cars off the ground and hurls them hundreds of meters away?
4. The end of a cyclone comes quickly if the cyclone moves over _____.
5. How are the increased wind speed and the air pressure related?
6. What is a cyclone called in American Continent?
7. What is a cyclone called in Philippines and Japan?
8. What is a column of rapidly rotating wind having the appearance of a dark, funnel shaped cloud reaching from the sky to the ground is called ?
9. Which force of earth revolves the cyclone ?
10. Which part of cyclone is called the ‘eye’ of the cyclone?
11. The greater the difference in pressure, the _____ the air moves.
12. The regions close to _____ get maximum heat from the sun.
13. The wind circulation is set up from poles to _____.
14. The event which develop in hot, humid tropical areas like India is_____.
15. Thunderstorms develop very frequently in areas having _____climate.
16. During an impending storm, a person is advised to take shelter in a room situated deep inside the house having no window or in a basement. This storm is most likely to be a _____.
17. Wind is always associated with _____energy.
18. What is the speed of a violent Tornado?
19. Which coast of India is less vulnerable to cyclones?
20. What is the main cause for wind movement?

3 MARK QUESTIONS :

1. Explain why, holes are made in hanging banners and hoardings.
2. Give the two situations where the uneven heating of earth can take place.
3. Why does hor air rise upwards?
4. State two observations which tell us that air exerts pressure.
5. Why do we fill air into a football to inflate it?
6. Why does smoke always rise upwards?
7. How uneven heating of land and ocean generates wind?
8. Give the direction of wind blowing in summer and winter.
9. What are the actions to be taken on part of people in case of a cyclone?
10. How will a Tornado look like ?
11. What are the precautions we must take, if a storm is accompanied by lightning?
12. Explain the structure of a cyclone.
13. How does a thunderstorm become a cyclone?
14. Explain about Tornado shelter.
15. Represent diagrammatically the movement of wind in summer in India.
16. What are monsoon winds?
17. What would happen if high speed wind blow over a house having weak tin roof? Give reason for your answer.
18. Prove by a simple activity that 'Air expands by heating'.
19. How is speed of wind and air pressure related? Give an example.
20. Explain shortly how wind is formed?

5 MARK QUESTIONS :

1. Explain by a flow chart , how a cyclone is formed.
2. Define cyclone. Represent diagrammatically the formation of a cyclone.
3. What is Tornado? Describe the damage which can be caused by a tornado. What precaution should be taken for protection from a tornado?
4. What is a cyclone? Where is a cyclone formed? Name any 5 factors which help in the development of a cyclone.
5. Why are cyclones so destructive ? Describe how a cyclone causes widespread destruction leading to a great loss of life and property.
6. Explain the effective safety measures to be taken in case of a cyclone warning.
7. What are Thunderstorms? How a thunderstorm becomes a cyclone?
8. If you are the IAS officer of a coastal state which is going to face a severe cyclone. What are the safety measures will you arrange for the public?
9. Represent diagrammatically the movement of wind over India during summer and winter.
10. Explain the two situations where wind currents are generated due to uneven heating on the earth.

SOIL

VERY SHORT ANSWER TYPE QUESTIONS:

1. How is humus formed?
2. Which component of the soil makes the air above the soil in a farmland shimmer on a hot day?
3. What is the function of the air present in between the soil particles?
4. Which type of soil is the best for making pots?

5. Name the following:

(a) The different types of rock particles present in the soil.
(b) The natural process by which huge rock breaks down to form tiny particles fit to make soil.
(c) Important components of a fertile soil.
(d) The side view of soil as seen in a recently dug up trench.
(e) Soil that has the maximum water- holding capacity.
(f) Soil that has the minimum water- holding capacity.
(g) The most fertile soil for growing plants.
(h) The soil that has lowest percolation rate.
(i) The soil that has highest percolation rate.
(j) The process by which the top layer of the soil is removed.
(k) The factors which bring about the soil erosion.
(l) Collective name for various layers of soil.
(m) Three layers of soil in terms of horizons.
(n) Horizon of soil profile which contain lot of humus.
(o) The most fertile layer of the soil.
(p) Part of the plants that binds the soil together.
(q) The factors that affect the soil of the place.
(r) The factors on which the vegetation of a place depend.
(s) The factors on the basis of which the soil is classified.

II. SHORT ANSWER TYPE QUESTIONS:

1. Soil is essential for the existence of life on earth. Justify the statement.
2. How is soil is formed?
3. Why is the top soil is considered to be the most useful part of the soil.
4. Subsoil is rich in minerals, but it is considered to be much less fertile as compared to the top soil
5. Differentiate between sandy soil and clayey soil.
6. Clayey soil has very good water holding capacity and rich in minerals. But it is not good for the growth of plants. Why?
7. Which is the best soil for growing plants? Explain Why?
8. What are the characteristics of soil?
9. 200 g of soil is taken and dried completely. The mass of dried soil is 170g. Calculate the percentage of moisture in the soil.
10. 100 ml of water is taken. This water was added drop wise to 50 g of dry soil kept on filter paper in a funnel. When the water just started dropping from the soil in the funnel, the amount of water left in the measuring cylinder was found to be 80 ml. Calculate the percentage of water absorbed by the soil.
11. 200 ml of water takes 40 minutes to percolate completely in a particular soil. Calculate percolation rate of water in the soil.
12. What is soil erosion? What are the causes for it?
13. Explain the important effects of the soil erosion.
14. Suggest some measures to prevent soil erosion.
15. What should we do to make the soil to be free from polution?

16. Explain why the soil covered by vegetation is not eroded easily but the bare soil is eroded easily.
17. The process of weathering is very slow and continuous . Explain why?
18. It has been observed that 8 to 10 days after rains, the level of water in a well rises. Which type of soil would allow rainwater to reach the well faster and in greater amount? Give reason for your choice
19. Soil A has high percolation rate of water whereas soil B has low rate of percolation of water
Which of the two soil A (or) B is most suitable for growing paddy? Why?
20. Explain why, if we pass through a farmland during a hot summer day. The air above the land appears to be shimmering.
21. What is weathering? Mention the agents of weathering. What do they do with the big solid rocks?
22. If someone step in quick sand he or she starts to sink. Why does it happen?
23. Sandy soil is unfit for making pots. Why?
24. Analyse the fertile soil types and deduce reason for their fertility. Suggest the possibility of increasing the fertility of the desert soil to grow crops in it.

III. LONG ANSWER TYPE QUESTION:

1. Explain with diagram the profile of soil.
2. Prove with an activity that soil consist of rock particles of different sizes and humus.
3. Discuss in detail about the composition of soil.
4. Compare the properties of clayey soil, sandy soil, and loamy soil.
5. Demonstrate an activity to prove that soil contain air.
6. How do you prove that soil contains water.
7. Derive a formula to calculate the percentage of water in soil.
8. With the help of an activity show that all types of soil do not absorb water of same quantity.
9. Explain an experiment to measure the percolation rate of water in soil.
10. What is soil pollution? Write the main reasons for the same.

Respiration in organisms

1. What is breathing?
2. What is Respiration?
3. Define aerobic respiration
4. What is anaerobic respiration?
5. Why do we respire?
6. What type of respiration usually takes place in Yeast?
7. Name an organism which can live without oxygen?
8. What happens to your breathing rate when you do (a) exercise (b) go to sleep ?
9. Name the air tubes of insect.
10. Name the breathing organ of (a) human (b) snake (c) butterfly (d) Earthworm
11. Name the gases that are exchanged in our lungs?
12. Where does the blood absorb oxygen in the human body?
13. Name the red pigment in the blood which carries oxygen in the human body.
14. What is spiracle?
15. Name any two parts of plants through which exchange of gases takes place during respiration.
16. State any one use of yeast.
17. From where do roots absorb air for respiration?
18. Which contains more oxygen exhaled air or inhaled air?
19. What is the breathing organ of Dolphin and Blue Whale?
20. What is the average breathing rate of a human adult at rest?

3 mark questions:

1. What is oxidation?
2. Why should we not over water potted plants?
3. What are the main organs of the respiratory system?
4. Is it wise to sleep under a tree during the day or at night? Give reasons.
5. Why plants don't need a respiratory system?
6. Why do you think we yawn when we are sleepy or drowsy?
7. Why do mountaineers climbing high mountains carry oxygen cylinders with them?
8. An athlete suffers from muscular cramps while running in a race. How can you help him to overcome?
9. What do you mean by 'stomach apparatus'?
10. Explain why a person breathes faster when he needs extra energy?
11. Why do we often sneeze when we inhale a lot of dust laden air?
12. State the harmful effects of smoking?
13. Why do we usually feel hungry after a heavy physical exercise?
14. Explain why exhaled air contains less oxygen than inhaled air?
15. Why do all organisms respire?
16. Which will turn lime water milky more appreciable. Inhaled air or exhaled air? Why?
17. Define 'breathing rate'.
18. Name the air holes present in insects. Describe it.
19. How do unicellular organisms respire?
20. How do aquatic animals breathe?

5marks questions

1. Describe the different types of respiratory system in animals with examples.
2. With the help of a labelled diagram describe the respiratory system in human beings.
3. Describe aerobic respiration.
4. Differentiate between respiration and breathing.
5. Define anaerobic respiration. Give example. Write word equation for this process.
6. What causes yawning? Explain.
7. Describe the process of respiration
   (a) in the leaves of a plant (b) in the roots of a plant
8. With the help of an activity demonstrate that oxygen is required during aerobic respiration.
9. Differentiate between aerobic respiration and combustion.
10. How do fishes breathe through gills?

Transportation in animals

1 mark questions

1. What are the functions of platelets in the blood?
2. What is the liquid part of the blood called?
3. Which blood cells fight against the germs that may enter our body?
4. Name the red pigment which carries oxygen in blood.
5. What is the function of red blood cells?
6. Which part of blood carries digested food?

7. What is the function of haemoglobin present in red blood cells?
8. (a) Name a useful substance transported by blood.
   (b) Name a waste product transported by blood.
9. Write the full form of (a) RBC (b) WBC
10. Name the organ which pumps blood in the human beings.
11. What do the greenish-blue lines just below our skin on hands and legs represent?
12. Which of the two lie deeper under the skin: arteries or veins?
13. What is the name of blood vessels which connect the arteries to veins?
14. Name the type of blood vessel which carry blood away from the heart and back to the heart.
15. Which side of the heart (left or right) has carbon di oxide rich blood?
16. Name the waste products excreted by the lungs and the kidneys.
17. What are the functions of kidneys?
18. Name the process by which the blood of a person is cleaned by kidney machine having kidney failure.
19. Name the tissue in a plant which carries
   (a) water and minerals from roots to the leaves
   (b) food from the leaves to the other parts of the plant
20. How many chambers are present in our heart? Name them.

3marks questions

1. Why is the transport of materials necessary in a plant or an animal?
2. What is blood? Name the components of blood.
3. Why is blood needed by all the parts of our body?
4. What will happen if there are no platelets in the blood?
5. How many types of blood vessels are there? Name them.
6. What is a heartbeat? Name the instrument used by doctors to listen to our heartbeat?
7. What is a stethoscope? Name its various parts.
8. How can you feel your own pulse?
9. What is 'dialysis'? What type of patients is allowed to use dialysis machine?
10. What does the sweat contain?
11. Name the organs which remove the following waste products from our body
   (a) Carbon di oxide (b) urea
12. Define (a) Arteries (b) Veins (c) Capillaries
13. Match it

(i) Stomata	(a) Absorption of water
(ii) Xylem	(b) Transpiration
(iii) Root hair	(c) Transport of food
(iv) Phloem	(d) Transport of water
	(e) Synthesis of carbohydrates

14. What is the average number of heart beats per minute of an adult person which resting?
15. What is excretion? Why is it important?
16. What is translocation?
17. In what ways are xylem and phloem important for transportation of materials in plants?
18. Which part of the heart prevents the backward flow of blood?

19. Describe the process of absorption of water by root hair.
20. How laboratory examination of urine is useful to the doctors?

5marks questions

1. What role does transpiration play in the transportation of water in a plant?
2. Discuss the importance of transportation of various materials in the human body.
3. What is the circulatory system consists of? Give the main function of each.
4. If you observe a drop of blood under a microscope, which cells could you see? What are the functions of these cells?
5. What are stomata? Give two functions of stomata.
6. Explain how water moves from the soil particles to the xylem vessels in the centre of a root.
7. Does transpiration serve any useful function in the plants? Explain.
8. With the help of a labelled diagram explain the path of blood circulation in the human body.
9. Draw a labelled diagram of the excretory system and explain its various organs.
10. Plants do not use all the water they absorb from the soil. Much of it's given off by transpiration. Then why do the plants absorb so much water?

MOTION AND TIME

1 MARK QUESTIONS :

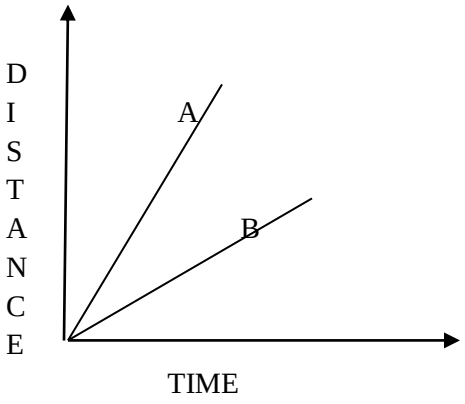
1. The distance moved by an object in unit time is called its _____.
2. The basic unit of speed is_____.
3. If the car is not moving with constant speed, then we calculate its_____speed.
4. The standard unit of time is_____.
5. Name the unit of speed used to express the speed of an aeroplane.
6. The instrument used to record the distance covered by a vehicle is_____.
7. _____is used to indicate the speed of a running vehicle.
8. An object moving along a straight line with a constant speed is said to be in _____motion.
9. If the speed of an object moving along a straight line keeps changing, it is said to be in _____motion.
10. Which periodic event was used to measure a Month during ancient times?
11. Name a time measuring device used in ancient time.
12. A Sundial measures time by the position of the _____cast by sun.
13. 1 hour=_____seconds.
14. Pendulum is an example of _____ motion.
15. The time period of a pendulum is constant though the length of the string differs. Write (T/F)
16. One Microsecond is _____of a second.
17. The distance time graph is a _____ graph.
18. If the distance-time graph is a straight line, then the object is moving with _____speed.
19. The slope of a distance-time graph of a moving object indicates _____of the object.
20. 0.06m/s=_____km/hr.

3 MARK QUESTIONS :

1. Define oscillation and time period of a simple pendulum.
2. Define Average speed and why do we need to measure Average Speed.
3. Differentiate Uniform motion and Non Uniform motion.
4. Draw a Distance-Time graph for the following Table and Find out the type of motion.

TIME (min)	DISTANCE (km)
10	10
20	25
30	40
40	45
50	60
60	80

5. Convert the following:
   i) 820 km/h to m/s
   ii) 0.0139 m/s to km/h
6. The car travelling at a speed of 45km/h takes 20 minutes to reach its destination. What distance has the car travelled?
7. Draw a simple pendulum and Define it.
8. State the type of motion exhibited by the following:
   i) Soldiers is a March past.
   ii) Pedals of a moving bicycle.
   iii) Hands of an athlete in a race.
   iv) Bullock cart moving on a straight road.
   v) Spinning of earth on its axis.
9. A train A travelled a distance of 120 km in 3 hrs whereas another train B travelled a distance of 180 km in 4 hrs. Which train is travelled faster?
10. Show that 1km/h= 5/18 m/s.
11. The following graph shows motion of two vehicles A and B.
    Which one is moving faster ? Validate your answer.



12. Draw Distance-Time graph for
    i) A truck moving with a speed which is not constant.
    ii) A tuck is at rest after travelling 10 km.
13. Draw a bar graph for the following table :

Marks:	100-90	90-80	80-70	70-60	60-50
No. of Students:	3	4	8	5	4

14. Discuss about the smallest time intervals that cannot be measured using normal clocks, watches.
15. Which property of a pendulum makes it important in time keeping?
16. Why Quartz crystals are used in latest watches ?
17. A simple pendulum takes 32 s to complete 20 oscillations. Calculate the time period of the pendulum.
18.
19. Complete the following :
    60 sec = _____ min
    ___ min = _____hour
    ___ hours =_____day
    _____ =_____ year
    _____=_____decade
    _____=_____century
    _____=_____millennium.

20. Draw a pie chart showing air composition.
21. A car is running at a speed of 60 km/h. How much time will it take to cover a distance of 270 km?

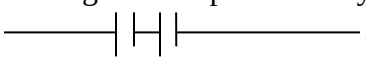
5 MARK QUESTIONS :

1. Describe the steps to draw a distance-time graph , with as example.
2. State the advantages of distance-time graphs.
3. Narrate the interesting story about the discovery of constant Time period of Pendulum.
4. Answer the following:
    i) Draw and mark the parts of a pendulum.
    ii) Define oscillatory motion
    iii) Define Time period of pendulum.
5. Describe an activity to prove the constancy of Time period in a Pendulum.
6. Explain about Speedometer and Odometer with a diagram.
7. A man riding a scooter travels a distance of 50 m in 20 sec. What is the speed of the scooter? Express in km/hr and m/min.

8. A bus covered a distance of 70 km in 2 hr. Create Time and Distance tables for Uniform and Non Uniform motion and draw corresponding graphs.
9. Describe about Measurement of Time in Ancient times.
10. Explain with suitable graph
    i) Distance-Time graph for Uniform speed.
    ii) Distance-Time graph for Non-Uniform Speed.
    iii) Distance-Time graph when the object is stationary.

ELECTRIC CURRENT AND ITS EFFECT

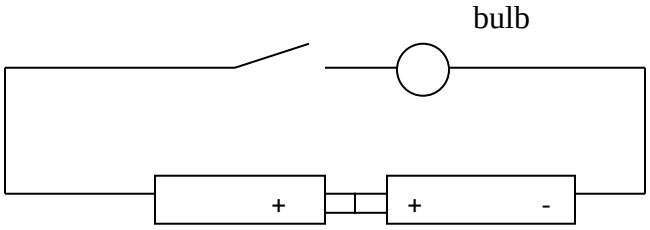
1 MARK QUESTIONS :

1. Electricity is a form of _____.
2. Name a device which is used to make or break an electric circuit.
3. How much is the Volts of electricity which we receive from power station to our home?
4. Which part of an electrical circuit diagram is represented by straight lines?
5. Name the component having  as its symbol.
6. Draw the symbol of electric bulb.
7. A battery is made by connecting positive terminal of one cell with the positive terminal of the other cell. Write (T/F)
8. What is a group of cells joined in series called ?
9. What is the coil of wire built in an electric room heater called ?
10. Which effect of electric current is used in an Electric Iron?
11. What is the concept of emitting light as a result of heating called?
12. The expansion of CFL is _____.
13. LED is the least electricity efficient. Write (T/F)
14. Name a safety device which prevents damages to electrical circuits.
15. Who first noticed the magnetic effect of electric current?
16. How many cells do a car battery connected together?
17. Name the metal which is used to make the filament of an electric bell.
18. Name the device which is being used increasingly in place of fuse.
19. What is the common name of the magnet made by using current?
20. Name the alloy used as heating elements in an electric iron.

3 MARK QUESTIONS :

1. Draw symbols for the following electric components.
    i) Cell
    ii) Battery
    iii) Electric bulb
    iv) Switch ON
    v) Switch OFF
    vi) Connecting wire
2. Discuss why an electromagnet is a temporary magnet.
3. Draw the circuit diagram where a battery ,a bulb and a switch are connected in series.

4. Name any five appliances or devices in which electric cells are used.
5. Explain how the heating effect of electric current is used in an induction stove.
6. An electrician working in your home wants to replace a blown up fuse wire by a piece of copper wire. Would you agree? Give reason for your response.
7. Why do we use iron for making electromagnet and not steel?
8. Define electromagnet. Draw a simple circuit diagram to make an electromagnet.
9. Draw a circuit diagram which includes ' a battery of two cells ,a bulb ,an open switch'.
10. Explain the importance of using fuse in a household electric circuit.
11. Explain the working of MCB
12. Explain why, filament type electric bulbs are not power efficient.
13. Name any two types of electric lighting devices which are much more energy efficient than filament type bulbs.
14. What might happen if a fuse is not inserted in household electric wiring?
15. Identify the problem in the following electric circuit to make the bulb glow. Give the corrected circuit diagram.



16. State any three uses of electromagnets.
17. What did Hans Christian Oersted discover ? Explain.
18. List the effects of electric current with an application to each.
19. State any three applications of heating effect of current.
20. Explain a simple activity using a compass needle to show the magnetic effect of electric current.
21. What are the properties of fuse wire?

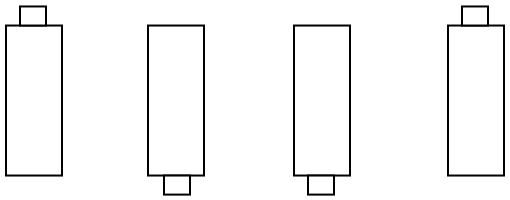
5 MARK QUESTIONS :

1. Describe the working of electric bell.
2. What is an electromagnet? Explain in your words how to make an electromagnet with a diagram. Mention any two uses of it.
3. Explain the property of electric current which is used in glowing electric bulb. Is it electricity efficient?
4. Mention two advantages of an electromagnet over a permanent magnet. What type of magnet is used in an electric bell? Draw a labeled diagram of an electric bell.
5. Explain the magnetic effect of electric current. Demonstrate an activity to prove the magnetic effect of electric current.
6. Discuss the circumstances under which an extremely large current can flow in the household electric wiring circuits.
7. Explain in detail about any two applications of Heating effect of current.
8.
    i) Explain why, the current that makes the heater element very hot (red-hot),only slightly warms the connecting wires leading to the heater.

ii) Explain why, any metal wire or metal strip cannot be used in place of fuse wire.

9.

a) What is meant by a battery ? . How will you arrange two cells to make a battery? Explain with the help of a diagram.



Mark the +,- terminals and draw lines to indicate how will you connect their terminals with wires to make a battery of four cells.

10.

i) Define electric circuit.
ii) Why electric symbols are used in circuit diagram ?
iii) List all the basic electrical components and their symbols.

LIGHT

1 MARK QUESTIONS :

1. Is the Image of an object in a Plane Mirror Virtual or Real?
2. What type of Image (Real or Virtual) is formed on a Cinema screen?
3. Write the word AMBULANCE as how you would see it in a plane mirror.
4. Light travels in a_____line.
5. Tell one way to change the direction of light.
6. The change in direction of light by a mirror is called_____.
7. The ray of light which falls on an object (say a mirror) is called_____.
8. What reflects light when we see the images of trees and other objects in a lake?
9. What kind of mirror is required for always obtaining a virtual image of the same size as the object?
10. The inner surface of a spoon acts like _____mirror.
11. The outer surface of a spoon acts like_____mirror.
12. The image which could be obtained on a screen is called_____.
13. The image which could not be obtained on a screen is called_____.
14. Which mirror is use by dentists?
15. Which mirror is used as reflectors in torches?
16. Which mirror is used as a rear view mirror in vehicles?
17. Which lens is converging lens?
18. The image formed by a_____mirror is always virtual and smaller in size.
19. A _____Mirror can form a real and inverted Image.

20. The image formed in a concave lens is always_____than the object.
21. Who discovered that white light consists a mixture of seven colours?

3 MARK QUESTIONS :

1. State the differences between Real and Virtual Image.
2. State the differences between Convex lens and Concave lens.
3. Why convex lens is called converging lens? Explain with a diagram.
4. Why concave lens is called diverging lens? Explain with a diagram.
5. State the characteristics of image formed by a Plane mirror.
6. Why rear view mirror in automobiles are of convex mirrors?
7. Write any five uses of concave mirrors.
8. Define focus and focal length of a mirror.
9. Represent diagrammatically and label the parts to show reflection in a convex mirror.
10. Give any three experiences where you can say that sunlight is a mixture of different colours.
11. Give the characteristics of image formed by a convex mirror.
12. State the uses of convex mirrors.
13. Draw the front view and side view of Convex lens and Concave lens.
14. Can you look at the sun through a Convex lens. State why?
15. Which lens is used in magnifying glasses? Why?
16. Represent diagrammatically the splitting of light through a Glass Prism.
17. Name two types of spherical mirrors. Which type of mirror can form a real image?
18. Explain the concept which can be understood by a Newton's ring.
19. What would your image look like if you stand close to a large
    i) Concave Mirror
    ii) Convex Mirror
20. Write three characteristics of the image formed by a convex lens when the object is placed at a distance greater than twice the focal length of convex lens.

5 MARK QUESTIONS

1. i) What is a Real Image? Give one example.
   ii) What is a Virtual Image ? Give one example.
   iii) State two characteristics of image formed by a Plane Mirror.
2. A. What kind of lens can form :
   i) An inverted Image larger than the object.
   ii) An erect image larger than the object.
   iii) An inverted image smaller than the object
   iv) An erect image smaller than the object
   B.Write any two points differentiating Real and Virtual Image.
3. Explain about 'Dispersion of Light' with two examples.
4. Elaborate the uses of Concave and Convex mirrors.
5. A person is standing in front of a big plane mirror. The distance between the mirror and his image is 5m.If the person moves 2m towards the Plane mirror, what would be the distance between the person and his Image?

6. State one way in which the image formed in a convex mirror is similar to that in a plane mirror one way in which it is different.
7. i) What is a lens? Name the two types of lenses. Name any five things which uses lenses.
   ii) What kind of lens is used as a Magnifying glass?
   iii) Which type of reflector is used in car headlights for producing a parallel beam of light?
8. Explain the images formed by convex lens by placing the objects at four different distances.
9. Explain with diagram
   i) Convex lens is a converging lens
   ii) Concave lens is a diverging lens
10. Write the characteristics of image formed by a concave lens, with the help of an activity. Mention its uses.
11. Explain an activity using a graph sheet to prove the image formed in a Plane mirror is at the same distance behind the mirror as the object is in front of the mirror.

WATER: A PRECIOUS RESOURCE

1. **Name the following**:
   (a)The three forms of water in which it circulates in nature during the water cycle.
   (b)The technique of watering plants which minimizes the wastage of water.
   (c) The most important factor responsible for the uneven distribution of water in earth.
   (d) The ancient structure for water storage.
2. What is the water bearing layer of the earth known as?
3. What is the main source of ground water?
4. Which natural process continuously converts some of the saline water into fresh wate?.
5. What is the minimum amount of water per person per day recommended by UN ?
6. There are ten tube wells in a lane of 50 houses. What could be the long term impact on the Water-table in that area?
7. What is the difference between aquifer and water -table.?
8. Mention the main sources of fresh water.
9. Differentiate between renewable and non-renewable resources.
10. **Define** (a) ground water (b) infiltration (c) surface water
11. **What do you mean by**
    (a) saturated zone of water (b) melting point
    (c) boiling point (d) Freezing point
12. When is world water day celebrated? Why?
13. Distinguish between: (a) condensation and evaporation (b) Hard water and soft water
14. Mention the prime sources of water on earth.
15. Why do we face scarcity of water?
16. Mention the causes for the decrease of water-table.
17. How is springs and wells replenished?
18. Why is spring and well water clear and free from suspended materials?
19. What is the cause for the hardness of water?
20. Hard water is not good choice for use in boilers. Why?

II. SHORT ANSWER TYPE QUESTIONS:

1. Estimate the amount of water available for human use.
2. Why should we recharge bawris?
3. How are artesian wells formed? Represent it diagrammatically also.
4. Why is ocean water saline?
5. What are the two different types of hardness of water? How can those be rectified?
6. How can you test the hardness of water?
7. How do people in villages get water supply to meet their domestic needs?
8. What do you mean by drip irrigation? How is it useful?
9. What are dams? Why is it needed?
10. Suggest some methods to prevent water scarcity.
11. Suggest the activities that should be played by each and every one in the society to minimize wastage of water.
12. Differentiate between permeable and impermeable rock.
13. Even if we have excess and sufficient rainfall, we face water scarcity in many places. Why?
14. Draw a diagram to show water-table, ground water, aquifer below the surface of the earth
15. Mention the factors for depletion of water-table.
16. Describe the water cycle in nature.
17. Describe why all the ground water and fresh water available on the earth is not fit for human use?
18. Explain how is ocean water made fit for human use? Even then we face water scarcity. Why?
19. Describe the steps taken by the government to recharge the groundwater for future use.
20. How does the technique of drip irrigation reduce the amount of water used ?

III. LONG ANSWER TYPE QUESTIONS:

1. With the help of schematic diagram explain the process involved in the city water distribution system?
2. Write in detail the causes for the scarcity of water.
3. What are the measures to be taken by us to make water to be available easily for the future generation?
4. What are the effects of depletion of groundwater on the lives of plants and human?
5. Modernization is one of the major cause for the depletion of water table. Comment on this.
6. Explain the reason for the very frequent rise and fall of water-table.
7. Explain with examples three different ways of mismanagement of water.
8. Describe the steps to be taken for the proper management of water
9. How can polluted water be treated to make it fit for domestic usage.
10. Rain water harvesting is the very best way of overcoming water shortage. Justify the statement by giving two examples.

FOREST OUR LIFELINE

I. VERY SHORT ANSWER TYPE QUESTIONS:

1. **Give reason for the following**

a. All forests do not have similar kind of plants and trees.
b. Forest is the most important natural resource.
c. Forest is the purifier of air
d. The forest is a very big habitat.
e. Most of the plants in herb layer of the forest has short life cycle.
f. The decomposers play a very important role in sustaining the forest.

g. Scavengers are a kind of cleansing agents of the environment.
g. There is no waste in a forest.
h. Various components of the forests are interdependent.

2. Name the following:

a. Decomposers found on the forest floor.
b. Scavengers found in forests.
3**. Define** (a) Ecosystem (b) food chain (c) food web
4. What are saprotrophs? Give example
5. Name any two non-green plants.
6. Create food chains and food web using the following organisms.
Grass, insect, frog, snake, wolf, tiger, deer, rabbit, eagle, crow, fox, tree, shurbs, zebra
7. What are the components of forests?
8. Mention the five layers or zones of the forest.
9. Which part of the tree is called crown of the tree?
10. Name the factors that decides the type of the plants grow and survive in the forest.
11. What is canopy?
12. What is understorey? What does it consist of?
13. Name the plants and animals seen on the forest floor?
14. What is herb layer? What does it consist of?
15. Name the plants and animals seen on the forest floor.
16. What are greenhouse gases? Name them.

II. SHORT ANSWER TYPE QUESTIONS:

1. There is no waste in the forest. Explain how?
2. How do a forest develop in nature?
3. Explain the ecosystem in a forest.
4. Explain the primary, secondary and tertiary consumers with example.
5. Give a comparative study of autotrophs, heterotrophs and saprotrophs.
6. Discuss the importance of decomposers in a forest.
7. What will happen to agricultural productivity if the number snakes suddenly becomes less in a particular area.
8. Give a detailed note of Chipko Movement.
9. Discuss the objectives of JOINT FOREST MANAGEMENT.
10. List out the details of any five endangered or extinct species. Write down the measures taken by the government to conserve them.
11. The job of the decomposers is more important than scavengers. Explain why?
12. Explain the interdependence of all the components of the forest with examples.
13. How do forests exhibit a great biodiversity?
14. Make a list of ten items which are made out of wood. How can wood be substituted by other materials to save trees?
15. Where is shrub layer located? Write about the nature of vegetation and the animals that are depend on it. Explain how are these animals helpful to this layer?
16. Forest provides many useful products. Justify the statement.
17. Even though the forest has got the capacity of growing on their own, the number of trees in a forest decreases at rapid rate. Why?
18. Mention the adverse effect that we face due to the disappearance of forests?
19. Why is it necessary to conserve forest?
20. Suggest few ways of conserving forests.

III. LONG ANSWER TYPE QUESTIONS:

1. Explain how are animals depend on plants?
2. Explain how are plants depend on animals for its survival?
3. How are nutrients recycled between biotic and abiotic components of a forest?
4. Discuss in detail the energy flow in a forest by using the concept food chain.
5. How does forest maintain the balance between carbon di oxide and oxygen in atmosphere?
6. Discuss the role of forest in maintaining water cycle in nature.
7. Explain any two activities of human being which made a thick forest into a desert ?
8. Describe the importance of forests.
9. How do forests regenerate on their own?
10. Forest trees are being cut down increasingly. List the reasons for the same.

WASTE WATER STOREY

I. VERY SHORT ANSWER TYPE QUESTIONS:

1. What are the three categories of water?
2. What is sewage?
3. What are contaminants?
4. Mention the sources of the waste water.
5. What do you mean by eutrophication?
6. Differentiate between sledge and scum.
7. What is onsite sewage system?
8. What is 3R? Represent the same in the form of symbol.
9. What are the three steps involved in waste water treatment plant?
10. Mention the processes carried out in the primary stage of WWTP.
11. What are the uses of sledge?
12. What is the purpose of having bar screen in WWTP?
13. Why is the bar screen to be cheeked and cleaned very frequently?
14. Why is the waste water made to flow very slowly in through the grit chamber?
15. Name the two useful products formed in the primary treatment of WWTP?
16. Name the tool used to remove the floating materials in the sedimentation tank of WWTP.
17. What is clarified water?
18. What is activated sledge?
19. Name the chemicals used to disinfect the clarified water?
20. When is World Water Day celebrated?
21. Name some water-borne diseases.

II. SHORT ANSWER TYPE QUESTIONS:

1. Why is it very much necessary to have closed drainage system?
2. Why is eutrophication lead to depletion of oxygen in lakes or ponds?
3. Why is sewer main covered by manhole?
4. Distinguish between sewer and sewage system?
5. Draw the schematic diagram of WWTP.
6. Why is secondary treatment of WWTP called biological treatment?
7. Why is tertiary treatment of WWTP called chemical treatment?
8. Why is primary treatment of WWTP called mechanical treatment?
9. Why is compressed air passed through aeration tank in WWTP?

10. Some of the activated sledge is once again added to aeration tank in WWTP. Why?
11. Explain with a help of an activity the processing of treatment of polluted water?
12. What is sanitation? What are the causes for poor sanitation?
13. What are water-borne diseases? Explain how does it spread?
14. List the measures to be taken to prevent water-borne diseases.
15. How does the interference of General Assembly of UNO provide safe drinking water to all?
16. What is onsite sewage facility? How are they helpful to us?
17. How is animal waste converted into safe fuel?
18. Explain the significance of septic tank in the disposal of human excreta.
19. Explain the consequences of improper disposal of waste generated at a public place?
20. Why should oils and fats not be released in the drain?

III. LONG ANSWER TYPE QUESTIONS:

1. Explain some good housekeeping practices which will minimize the blockage of sewers.
2. With a help of an example outline your role as an active citizen in relation to sanitation.
3. Explain the structure of septic tank based toilets with a neat labelled diagram.? Where are The septic tank toilets used?
4. Explain the relationship between sanitation and diseases. State the various ways in which You can contribute in maintaining sanitation a public place.
5. Mention the merits and demerits of using chemical toilets.
6. Explain the functioning of vacuum toilets. Where is it used?
7. Why is vermicomposting toilets are very safe for processing of human waste?
8. Explain the construction and functioning of composting toilets. Mention it uses.
9. What can we do to keep all of clean and healthy?
10. Some of the alternative sewage disposal system for human waste are given below.
    Chemical toilets, composting toilets, Vacuum toilets, Septic tank toilets,
    Vermi-composting toilets.
    (a) Which of these toilets provide high quality manure?
    (b) Which of these toilets are used in aircrafts?
    (c) Which of these toilets used at outdoor gathering?
    (d) Which of these toilets can be used where water supply is limited or not available at all?
    (e) Which of these toilets are likely to contaminate water of hand-pump installed nearby?
11. Explain the processes of treatment of sledge to make it ready for transportation to other places.