

DAV PUBLIC SCHOOLS ODISHA ZONE B AND C
QUESTION BANK
SUBJECT: SCIENCE
CLASS-VII, 2023-24
TEXT BOOK:THE LIVING WORLD (A Book of Science and Tech.)

EXAM SCHEDULE 2023-24

NAME OF THE EXAM	DATE	FULL MARKS
PERIODIC TEST-I	24 July 2023to 31July 2023	40

Syllabus

CHAPTER	Periodic Assessment- I	Marks (40 Marks)
CHAPTER 1	Nutrition In LivingOrganisms-Plants.	14
CHAPTER3	ChemicalSubstances AndProcesses	13
CHAPTER 5	Heat	13

TYOPOLOGY OF QUESTIONS

1	VSA	1 MARK
2	ASSERTION AND REASON BASED QUESTIONS	1 MARK
3	SHORT ANSWER TYPE QUESTION-I	2 MARKS
4	SHORT ANSWER TYPE QUESTION-II	3 MARKS
5	LONG ANSWER TYPE QUESTION	5 MARKS
6	CASE BASED QUESTIONS	4 MARKS

CHAPTER-5-HEAT

VERY SHORT ANSWER TYPE QUESTIONS

- Write the SI unit of temperature.
- Write two example is a good conductor of heat?
- Which device is used to measure the temperature :
- Define radiation.
- What is sea breeze?
- What is the normal temperature of human body in Celsius scale?
- Define conduction.
- A marble tile would feel cold as compared to a wooden tile on a winter morning. Give the reason.
- Write the Freezing point of water in fahrenheit .
- Write the other name of Heat energy.
- Write the boiling point of water in Celsius scale.

12. Identify water and air are example good or poor conductors of heat.
13. A cold steel spoon is dipped in a cup of hot milk. Heat is transferred to its other end. Identify by the process involved in the above case.
14. In which process no medium is required for transfer of heat .
15. Woollen clothes keep us warm during winter.Give the reason.
16. Why is it advised not to hold the thermometer by its bulb while reading it?
17. How does the heat travel in air?
18. We are advised to use an umbrella when you go out in the sun. Comment..
19. Which temperature scale is used for scientific work?
20. Arrange in order of increasing expansion on heating: liquids, solids, gases.

ASSERTION-REASON TYPE QUESTIONS

Following questions consist of two statements – Assertion (A) and Reason (R). Answer these questions selecting the appropriate option given below:

(a) Both A and R are true and R is the correct explanation of A.

(b) Both A and R are true but R is not the correct explanation of A.

(c) A is true but R is false.

(d) A is false but R is true.

21. **Assertion :**The bottom of cooking utensils is often kept black .
Reason: This is enables the utensils to better radiate the heat of the flame.
22. **Assertion :**We prefer white or light coloured, clothes in summer.
Reason: They absorb less heat from surroundings.
23. **Assertion :**Tea, or coffee, pots are often made shining bright.
Reason: They , therefore radiate out less heat.
24. **Assertion :**Fire brigade men often use shining brass caps.
Reason: These caps absorb very more heat and therefore ,help the firemen while they are putting off the fire.
25. **Assertion :**Houses generally have light colours on their outer walls.
Reason: These absorb, and radiate , less heat. This helps to keep the houses cool in summer and warm in winter.
26. **Assertion :**Many buildings, in the cites, have coated shining glass as their outer walls.
Reason: These absorb and radiate very little heat. This help to improve to improve the efficiency of the airv conditioning systems, in the building.
27. **Assertion :**The thermos flask is used to carry in it, hot or cold drinks.
Reason: It makes use of the property of shining or polished, surfaces of absorbing, as well as radiating, very little heat.
28. **Assertion :**All metals are good conductors of heat with some of them better than the others.
Reason: Wood ,ebonite, cotton, plastic, cork, thermocole ,air and water are all bad, or poor, conductors of heat.
29. **Assertion :**Air is known to be a bad conductor of heat.
Reason: cotton clothes are used in summer.
30. **Assertion :**Use bricks and mud for making houses, helps to shield us from the heat of the sun during summer.
Reason: These materials are bad conductors of heat and hence do not let the outside heat to reach easily inside the house.

SHORT ANSWER TYPE QUESTIONS(SA-I)

31. Differentiate between two modes of transfer of heat, i.e. convection and conduction.(any two points each)
32. State two types of physical changes that may take place when a substance is heated.
33. In which direction does the transfer of heat normally take place?
34. Explain briefly how winds are caused.
35. What is the cause of heat generation in the following situations:
 - (a) We apply brakes on our fast moving car.
 - (b) People often jump up and down to feel warmer in cold weather.
36. What is meant by sea breeze? When does it occur?

37. While constructing a house in a coastal area, in which direction should the windows preferably face and why?
38. Write two effect of heat.
39. In a mercury thermometer, the level of mercury rises when its bulb comes in contact with a hot object. What is the reason for this rise in the level of mercury?
40. Shopkeepers selling ice blocks usually cover them with jute sacks. Explain

SHORT ANSWER TYPE QUESTIONS(SA-II)

41. Explain the differences between heat and temperature.(any three points each)

42. Match the Column I with Column II.

Column 1	Column II
(a) Conduction	(i) Wood, plastic, wool, air, water
(b) Convection	(ii) Requires no medium
(c) Radiation	(iii) Solids
(d) Conductors	(iv) Metals
(e) Insulators	(v) Liquids
(f) kelvin	(vi) Unit of temperature

43. Match the Column I with Column II.

Column 1	Column II
(a) Land breeze	(i) Night
(b) Sea breeze	(ii) A device to measure the degree of hotness
(c) Dark coloured surfaces	(iii) Poor absorbers of heat
(d) Light coloured surfaces	(iv) Good absorbers of heat
(e) Thermometer	(v) Day time
(f) convection currents in air	(vi) wind and storm

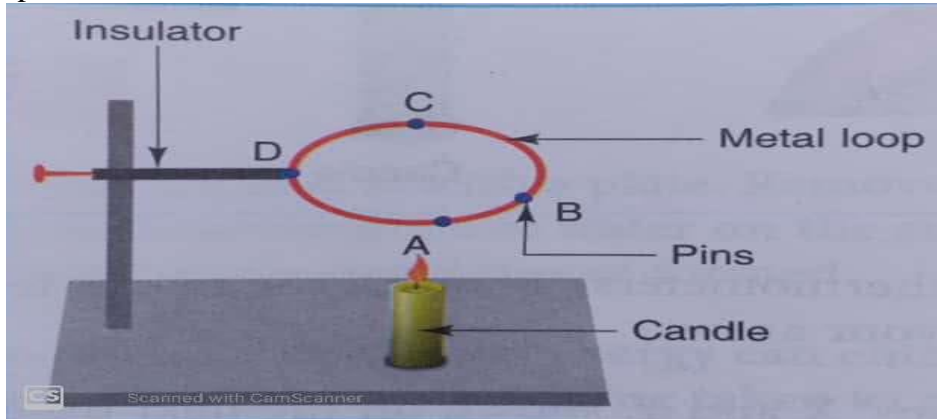
44. In what way(s) does a clinical thermometer differ from an ordinary thermometer?(any three points each)
45. Akash visited Mahanadi for river rafting during summer holidays. At a composite, there are two tents, one made with a black fabric and the other with a white fabric. Which one should Akash prefer? Give reason for the choice. Should Akash prefer the same tent during winters?

LONG ANSWER TYPE QUESTIONS(LA)

46. Give reasons for the following:
- Iron rims are heated red hot before 'fixing' them on cart wheels.
 - A clinical thermometer has a slight bend, or kink, in its capillary tube.
 - A new quilt is warmer than an old one.
 - A brass tumbler feels much cooler than a wooden tray on a chilly day.
 - The bottoms of cooking utensils are often kept black.
47. State the mode/different mode, of heat transfer, in the following situations:
- A paper cup, full of hot soup, lying on a table.
 - Cooking vegetable in a pan.
 - Melting of a chocolate bar, in the school bag, on a hot day.
 - Cooking food in a microwave oven
 - Burning of magnesium ribbon in a bunsen burner
48. Explain the sea breeze and land breeze with diagram.

PASSAGE BASED QUESTIONS

49. In a arrangement shown in the figure, pin A, B, C and D are fixed to a circular metal loop with the help of wax.



The circular metal loop is heated at the point A with the help of a candle flame. As per above data answer the following

- (a) Name the process that takes place in above figure.

i. convection ii. radiation iii. evaporation iv. condensation

- (b) Write the importance of insulator.

i. acts as a protection shield, does not allow current to pass
 ii. acts as a conducting material
 iii. allows current to pass
 iv. allows current to pass partially

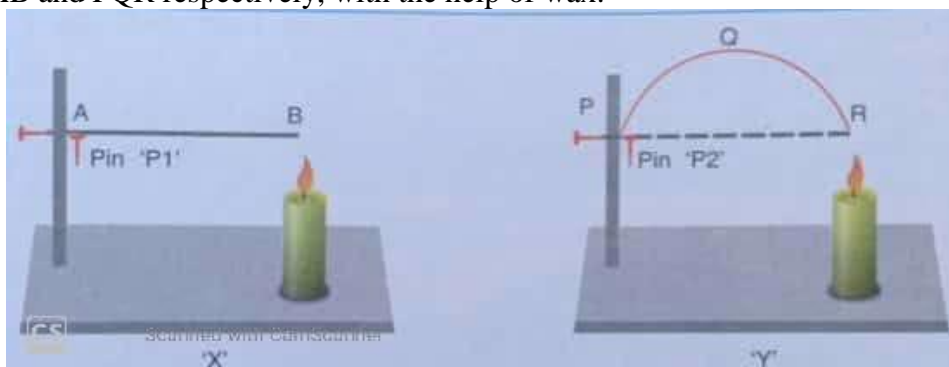
- (c) In which order would the pins fall if $AB < AD$? Justify your answer.

i. $A \rightarrow B \rightarrow C \rightarrow D$
 ii. $B \rightarrow A \rightarrow C \rightarrow D$
 iii. $D \rightarrow B \rightarrow C \rightarrow A$
 iv. $D \rightarrow C \rightarrow B \rightarrow A$

- (d) We feel the heat of solar energy due to the following:-

i. evaporation ii. radiation iii. condensation iv. convection

50. In the two 'set-ups' X and Y, shown below, the wires AB and PQR are made of the same material and have equal 'thickness'. The length of the wire AB, (in the set-up 'X') is equal to the diameter (=PR) of the semi-circle, formed by the wire PQR, (in the set-up Y). Pins P1 and P2, are attached to wires AB and PQR respectively, with the help of wax.



As per above data answer the following

- (a) Burning of candle is achange.

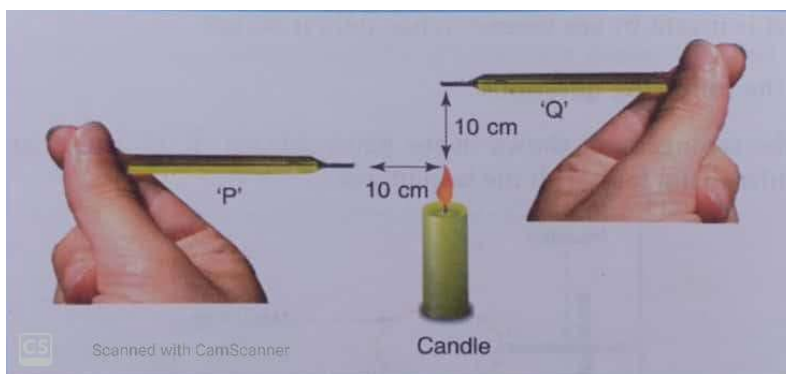
i. physical ii. chemical
 iii. biological iv. both physical and biological change

- (b) Write the role of wires in this activity.
- | | |
|---------------------------|----------------------------------|
| i. conducts heat | ii. non conductor of electricity |
| iii. acts as an insulator | iv. does not allow heat to pass |

- (c) Which of the two pins, P1 and P2 will fall off later?
- | | |
|---------------------------------------|---------------------------------|
| i. Pin P1 will fall faster. | ii. Pin P2 will fall faster. |
| iii. Pin P1 and P2 will fall together | iv. both the Pins will not fall |

- (d) Thermometer is the device used to measure the temperature of the substance in the laboratory and the temperature ranges from _____ to _____.
- | | |
|---|--|
| i. 0° to 100° Celsius | ii. -10° to 110° Celsius |
| iii. 36° to 42° Celsius | iv. 0° to 110° Celsius |

51. Amresh, while doing an experiment in the Science Laboratory, kept a laboratory thermometer 'P' 10 cm away on the side of the flame of a candle. His friend Kunu kept a similar thermometer 'Q' 10 cm above the flame of the candle as shown in the figure



As per above data answer the following

- (a) The type of thermometer used in Medical is
- | | |
|--|--------------------------------------|
| i. clinical thermometer | ii. lab thermometer |
| iii. both lab and clinical thermometer | iv. both lab and digital thermometer |
- (b) _____ is the metal used in thermometer.
- | | | | |
|-----------|-------------|-----------|---------------|
| i. Iodine | ii. Mercury | iii. Iron | iv. Aluminium |
|-----------|-------------|-----------|---------------|
- (c) In which of the thermometers, 'P' or 'Q', the rise in temperature will be faster?
- | |
|---|
| i. thermometer Q will get more amount of heat compared to thermometer P. |
| ii. thermometer P will get more amount of heat compared to thermometer Q. |
| iii. Both the thermometers P and Q will get equal amount of heat. |
| iv. thermometer Q will get less amount of heat compared to thermometer P. |
- (d) Give reasons for your answer in bit (c)
- | |
|---|
| i. warm air rises up and the thermometer Q will be heated more. |
| ii. warm air goes to the left and thermometer P will be heated up more. |
| iii. warm air moves around and both will be heated up equally. |
| iv. there will be no movement of air around. |

CHAPTER- CHEMICAL SUBSTANCES AND PROCESSES

VERY SHORT ANSWER TYPE QUESTIONS(VSA)

1. Define a chemical change.
2. What is a chemical reaction?
3. Write the formula of Glucose.
4. Give a chemical reaction to represent a Displacement reaction.
5. Give example of a physical change which occurs by the action of heat.
6. Name the gas which turns lime water milky.
7. Write any two types of chemical reactions.

8. Define a chemical equation?
9. Write symbols of acetate and phosphate
10. Write reactants and products of the given equation

$$\text{ZnO} + \text{C} \rightarrow \text{Zn} + \text{CO}$$
11. Write chemical formula of quicklime.
12. Write symbols of the following elements
 (i) silver (ii) Gold
13. Is Lemonade a mixture. Justify.
14. Write names of two elements found in liquid state.
15. Define ions.
16. Write the Latin names of (i) Iron (ii) Sodium.
17. Balance the chemical equation

$$\text{H}_2 + \text{Cl}_2 \rightarrow \text{HCl}$$
18. Give a chemical equation showing the formation of water.
19. Write the colour of copper sulphate solution.
20. State two factors in contact of which when iron comes get rusted.

ASSERTION –REASON TYPE QUESTIONS:-

Following questions consist of two statements – Assertion (A) and Reason (R). Answer these questions selecting the appropriate option given below:

- (a) Both A and R are true and R is the correct explanation of A.
 - (b) Both A and R are true but R is not the correct explanation of A.
 - (c) A is true but R is false.
 - (d) A is false but R is true.
21. Assertion (A) : Calcium carbonate when heated gives calcium oxide and water.
Reason (R) : On heating calcium carbonate, decomposition reaction takes place.
 22. Assertion (A): In a balanced chemical equation, total mass of the reactants is equal to the total mass of the products.
Reason (R): Mass can neither be created nor destroyed during a chemical change.
 23. Assertion (A) : Burning of a candle is considered a physical as well as chemical change.
Reason (R): Melting of wax is a physical change melted wax turns into vapors and then burns which is a chemical change.
 24. **Assertion (A) :** Copper displaces iron in its aqueous solution.
Reason (R) : In a displacement reaction an element of high reactivity displaces an element of low reactivity from its aqueous solution.
 25. Assertion (A): The number of atoms of each element remains the same, before and after a chemical reaction.
Reason(R): Any chemical equation can be unbalanced because the mass may not be same on both sides of the equation.
 26. **Assertion (A) :** In electrolysis of water, the volume of hydrogen liberated is twice the volume of oxygen formed.
Reason (R) : Water (H₂O) has hydrogen and oxygen in the ratio of 1:2 by volume.
 27. Assertion: Formation of rust is a chemical change.
Reason: For formation of rust, iron must be exposed to air and water.
 28. **Assertion (A):** Zinc reacts with sulphuric acid to form zinc sulphate and hydrogen gas and it is a displacement reaction.
Reason (R): Zinc reacts with oxygen to form zinc oxide
 29. **Assertion:** Chemical reaction changes the physical and chemical state of a substance.
Reason: When electric current is passed through water (liquid), it decomposes to produce hydrogen and oxygen gases.
 30. Assertion: Burning of paper is a physical change.
Reason: The product formed on burning of paper cannot be converted back to its original form.

VERY SHORT ANSWER TYPE QUESTIONS(SA-I)

31. Write balanced chemical equations for the following chemical reactions:
 - (a) Hydrogen + Nitrogen \rightarrow Ammonia
 - (b) Lead + Copper chloride \rightarrow Lead chloride + Copper
32. We need to balance a skeletal chemical equation." Give reason to justify the statement.
33. A zinc plate was put into a solution of copper sulphate kept in a glass container. It was found that blue colour of the solution gets fader and fader with the passage of time. After few days, when zinc plate was taken out of the solution, a number of holes were observed on it.
 - (i) State the reason for changes observed on the zinc plate.
 - (ii) Write the chemical equation for the reaction involved.
34. A solution of a substance 'X' is used for white washing. Name the substance 'X' and write its formula.
35. Decomposition reactions called the opposite of combination reactions? Write equations for these reactions.
36. Balance the following chemical equations.
 - (a) $\text{HNO}_3 + \text{Ca(OH)}_2 \rightarrow \text{Ca(NO}_3)_2 + \text{H}_2\text{O}$
 - (b) $\text{NaOH} + \text{H}_2\text{SO}_4 \rightarrow \text{Na}_2\text{SO}_4 + \text{H}_2\text{O}$
37. Write the chemical formulae of the following compounds:
 - (a) Aluminium oxide
 - (b) Zinc acetate
38. Give one example of a combination reaction.
39. How is a chemical change different from a physical change?
40. Explain with an example of a physical change which is irreversible.

SHORT ANSWER TYPE QUESTIONS (SA-II)

41. Write the steps involved in writing the chemical formula of calcium phosphate.
42. Classify the following reactions into different types, giving reason.
 - (a) $\text{SiO}_2 + \text{CaO(s)} = \text{CaSiO}_3$
 - (b) $\text{HCl} + \text{KOH} = \text{H}_2\text{O} + \text{KCl}$
 - (c) $2\text{AgNO}_3 + \text{Cu} = 2\text{Ag} + \text{Cu(NO}_3)_2$
43. (a) Differentiate between compounds and mixtures.
 (b) Reversible change and irreversible change.
 (c) Symbol and formula.
44. Define neutralization reaction. Give two examples.
45. The colour of copper sulphate solution change when an iron nail is dipped in it? Write two observations. Give the chemical equation in Explain the differences between heat and temperature.(any three points each)

LONG ANSWER TYPE QUESTIONS (LA) QUESTIONS

46. (a) Write one example for each of decomposition reaction carried out with help of
 - (i) Electricity
 - (ii) Heat
 - (iii) Light
 (b) Which of the following statements is correct and why copper can displace iron from ferrous sulphate solution and iron can displace copper from copper sulphate solution.
47. Define displacement reaction. Design an activity to show a displacement reaction. Write the chemical equation involved. Indicate the element which is more reactive in comparison to the other element used in your activity.
48. Define a chemical reaction. Write different types of chemical reactions you have read with one balanced chemical equation for each type.

PASSAGE BASED QUESTIONS

Read the passages given below and answer the questions that follows. Against each question four options are given. Choose the correct option.

49. A change in which two or more substances (reactants) combine to produce one or more new substances (products) that has/have different chemical properties than the reactants is called chemical change. In a chemical change new products are formed. The characteristics of a chemical change are following: 1. Heat, light or any other radiation (ultraviolet) may be given off or absorbed. 2. Sound may be produced. 3. A change in smell may take place or a new smell may be given off. 4. A colour change may take place. 5. A gas may be formed. Change in which only physical properties of any

substances get changed and no new substance is formed is called a physical change. Such as shape, size, colour and state, is known as physical change. A physical change is mostly reversible and during physical change no new substances are formed.

- (i) Which of the following occurs during a chemical change?
- (a) Change occurs only in physical properties (c) Transfer of energy occurs
(b) Is a reversible change (d) Energy is not involved
- (ii) A change is considered as a chemical change when
- (a) It is accompanied by energy
(b) It is accompanied by formation of new substances
(c) It is accompanied by change in physical properties
(d) All the above are correct
- (iii) Which of the following is a slow chemical change?
- (a) Breaking of a glass (c) The combustion of natural gas
(b) Burning of petrol (d) Curdling of milk
- (iv) Formation of carbon dioxide is an example of –
- (a) Decomposition reaction (c) Combination reaction
(b) Irreversible reaction (d) Neutralization reaction
50. Take some crystals of copper sulphate in a beaker. Dissolve them in 50 ml of water. A blue coloured solution is obtained. Put an iron nail in the solution and keep it there for 5-10 minutes. The blue colour of the solution changes in to light green and a brown coating appears on the iron nail.
- (i). The colour of copper sulphate solution is –
- (a) Red (b) Green (c) Blue (d) Black
- (ii). The brown coating appears on the nail is the coating of:
- (a) Zinc (b) Iron (c) sulphate (d) copper
- (iii). The type of chemical reaction indicated in the passage is:
- (a) combination reaction (b) displacement reaction
(c) neutralization reaction. (d) decomposition reaction.
- (iv). The light green solution formed is the solution of:
- (a) Ferrous sulphate (b) copper sulphate (c) zinc sulphate (d) water
51. A chemical reaction is a representation of chemical change in terms of symbols and formulae of reactants and products. There are various types of chemical reactions like combination, decomposition, displacement, double displacement, oxidation and reduction reactions. Reactions in which heat is released along with the formation of products are called exothermic chemical reactions. All combustion reactions are exothermic reactions.
- (i) The chemical reaction in which a single substance breaks down into two or more simpler substances upon heating is known as
- (a) thermal decomposition reaction (b) photo decomposition reaction
(c) electric decomposition reaction (d) both (a) and (c)
- (ii) The massive force that pushes the rocket forward through space is generated due to the
- (a) combination reaction (b) decomposition reaction
(c) displacement reaction (d) double displacement reaction
- (iii) Which of the following reactions represents a combination reaction?
- (a) $\text{CaO (s)} + \text{H}_2\text{O (l)} \rightarrow \text{Ca(OH)}_2 \text{(aq)}$ (b) $\text{CaCO}_3 \text{(s)} \rightarrow \text{CaO (s)} + \text{CO}_2 \text{(g)}$
(c) $\text{Zn(s)} + \text{CuSO}_4 \text{(aq)} \rightarrow \text{ZnSO}_4 \text{(aq)} + \text{Cu(s)}$ (d) $2\text{FeSO}_4 \text{(s)} \rightarrow \text{Fe}_2\text{O}_3 \text{(s)} + \text{SO}_2 \text{(g)} + \text{SO}_3 \text{(g)}$
- (iv) The chemical reaction :
 $\text{Zn(s)} + \text{CuSO}_4 \text{(aq)} \rightarrow \text{ZnSO}_4 \text{(aq)} + \text{Cu(s)}$ is an example of:
- (a) combination reaction (b) decomposition reaction
(c) displacement reaction (d) neutralization reaction

CHAPTER- 1-NUTRITION IN LIVING ORGANISMS-PLANTS

VERY SHORT ANSWER TYPE QUESTIONS

1. The living organism from which a parasite derives its food.
2. The process of obtaining and utilizing food by a living organism.
3. Green pigment present in the leaves of plants.
4. Tiny pores that are present on the surface of leaves useful for exchange of gases.

5. Channels to transport water and minerals to different parts of the plant.
6. The process through which green plants prepare their own food
7. The components of food necessary for our body and are called
8. Mode of nutrition in which organism prepare their own food is called

Fill in the blank:

9. _____ part of the plant is called its food factory.
10. Ultimate source of energy for all living organism is called _____.
11. _____ is an organisms that shows both autotrophic and heterotrophic modes of nutrition.
12. During photosynthesis plants take in _____ and release _____.
13. The end products of photosynthesis are _____.
14. The stomata are surrounded by special cells called _____.
15. Cuscuta is a _____ plant.
16. Rhizobium help in making the soil rich in _____

One/Two sentence

17. Define the term heterotrophic nutrition.
18. Name the raw materials required by plants which they draw from soil for making their food.
19. Define symbiotic relationship.
20. Leaves are called food factories of the plants. Give reason.

Following questions consist of two statements – Assertion (A) and Reason (R). Answer these questions selecting the appropriate option given below:

- (a) Both A and R are true and R is the correct explanation of A.
- (b) Both A and R are true but R is not the correct explanation of A.
- (c) A is true but R is false.
- (d) A is false but R is true.

21. Assertion- Plants are called autotrophs.
Reason-The mode of nutrition in which organisms make food themselves from simple substances is called autotrophic nutrition.
22. Assertion- Chlorophyll, water, carbon dioxide and sunlight are the essential requirements for photosynthesis.
Reason-Photosynthesis can take place at night time only.
23. Assertion- Fertilizers and manures contain nutrients such as nitrogen, potassium and phosphorous.
Reason-These nutrients need to be added from time to time to enrich the soil.
24. Assertion- Carbon dioxide from air is taken in through the tiny pores present on the surface of leaves.
Reason- Cuscuta is a plant parasite.
25. Assertion- Leguminous plants and Rhizobium does not have symbiotic relationship with each other.
Reason- Rhizobium often lives in the roots of legumes and provides them with nitrogen, in turn the plants provide food and shelter to bacteria.
26. Assertion- The amount of minerals and nutrients in the soil keep on declining.
Reason- Plants absorb minerals and nutrients from the soil.
27. Assertion- Photosynthesis takes place in other green parts of the plant in green stems and branches.
Reason-The desert plants have scale or spine like leaves to reduce loss of water by transpiration.
28. Assertion-Oxygen is essential for the survival of all organisms is produced during photosynthesis.
Reason- In the absence of photosynthesis, life would be impossible on the earth.
29. Assertion-Insect eating plants are insectivorous plants.
Reason- The insect is digested by the digestive juices secreted in the plants and its nutrients are absorbed.
30. Assertion- The green pigment of leaves is called chlorophyll.
Reason- Chlorophyll helps in absorption of nitrogen.

SHORT ANSWER TYPE (SA-I) QUESTIONS

31. We cannot make food ourselves by photosynthesis like the plants do. Explain
32. Define extra cellular digestion. Name any two organisms which have saprotrophic nutrition.
33. Farmers spread fertilizer and manures in the fields. Justify your answer.

34. The heterotrophic plants can be divided into two groups on the basis of their mode of nutrition. Define these two groups.
35. A person observed that some plants have deep red, violet and brown coloured leaves. Can these leaves carry out photosynthesis? Give reason for your answer.
36. Write the role of fungus and algae in lichen.
37. Define photosynthesis. Write equation of photosynthesis.
38. Insectivorous plants perform photosynthesis but eat insects. Justify.
39. Mention the role of stomata in plants.
40. Show with the help of a sketch that plants are the ultimate source of food.

SHORT ANSWER TYPE (SA-II) QUESTIONS

41. Some plants are insectivorous. Justify the statement with one example.
42. Bread has to be moistened and then placed in dim light with warmth to see the growth of fungi. Explain
43. Plants are considered an essential part of the earth as they keep a check on lot of process occurring all over. What would happen if all the green plants are wiped out from the earth?
44. The organs A of a tree have a large number of tiny pores called B on their surface. Each pore is surrounded by a pair of cells called C. The opening and closing of pores in A is controlled by C. The gas D present in air enters the organs A through pores B and utilizes in food making process E. The gas produced F during the process E goes out through the same pores B. Identify A, B, C, D, E, F
45. Two different species of plant X and Y live together as if they are the parts of the same plant Z. The plant X is an autotroph whereas plant Y is a saprophyte. The plant Y holds the cells of X in its mat of web-like hyphae and supplies water and minerals to cells of plant X. The plant X makes food by photosynthesis and shares it with plant Y.

Identify the plants

- i- X
- ii- Y
- iii- Z

Recognize which of the two plants X or Y is green in colour?

Name the relationship exhibited by plants X and Y

Find another example of this type of relationship.

LONG ANSWER ANSWER TYPE QUESTIONS (LA)

46. The leaves of a plant combine a gas A taken from air and a liquid B taken from the soil in the presence of sunlight to make a simple food C by the process called D. In this process E is also produced with C in leaves.
 - a) What is A?
 - b) What is B?
 - c) Identify C
 - d) Name the process D
 - e) Identify E
47. Describe the factors affecting the process of photosynthesis.
48. Describe briefly how nutrients are replenished in the soil. Growing of leguminous crop in the fields beneficial to the farmer. Explain.

PASSAGE BASED QUESTIONS

Read the passages given below and answer the questions from that follows. Against each question four options are given. Choose the correct option.

Read the following information and answer the question:

49. Carbohydrates, proteins, fats, vitamins and minerals are components of food. These components of food are called nutrients and are necessary for our body. All living organisms require food. Plants can synthesize food for themselves but animals including human cannot. They get it from plants or animals that eat plants. Thus, humans and animals are directly or indirectly dependent on plants. Plants are the only organisms that can prepare food for themselves by using water, carbon dioxide and minerals. The raw materials are present in their surroundings. The nutrients enable living

organisms to build their bodies, to grow, to repair damaged parts of their bodies and to provide the energy to carry out life processes. Nutrition is the mode of taking food by an organism and its utilization by the body

- (I) The synthesis of food occurs in which part of the plant?
a) root b) stem c) fruit d) leaf
- (II) The process of photosynthesis converts solar energy into
a) Kinetic energy b) Chemical energy c) Potential energy d) Nuclear energy
- (III) In a cactus plant, food is made by; A-Branches, B-Roots, C-Leaves, D-Stem
a) A and B b) B and C c) Only C d) A and D
- (IV) One of the following is an autotroph.
a) Alligator b) Algae c) Antelope d) Ant

50. Plants are a part of beautiful nature. They are very important for our survival. They purify the air and make our environment healthy to live in. There are different types of plants, some are small and some are big. Plants help in controlling pollution as they absorb harmful gases from the atmosphere. Plants also have a therapeutic value. They are used to cure various diseases. The fresh air and the greenery of plants help in relieving stress and tension.

Despite their tremendous importance there is a certain challenge to plants today. One of the major challenges is climate change which is affecting their growth and distribution. Being the students we can lead the campaign to protect the plants.

- (I) The simplest food produced during photosynthesis is
a) Starch b) Cellulose c) glucose d) Sucrose
- (II) Identify which of the following plant has a heterotrophic mode of nutrition.
a) Money plant b) Croton plant c) Cuscuta plant d) Alga plant.
- (III) The mineral needed by plants to make proteins is
a) Iodine b) Nitrogen c) Calcium d) Iron
- (IV) Rhizopus is an example of-
a) Autotroph b) Parasite c) Host d) Saprotroph

51. Plants, like all other living things, have their own unique characteristics. They require nourishment for growth and development as well. Plants require 16 key elements in order to survive. They make food by extracting basic elements from their surroundings, such as minerals, carbon dioxide, water and sunshine and these processes are involved in their nutrition.

A plant that lacks on essential nutrients will not be able to complete its life cycle. For growth and development nutrients must be sufficiently provided. It needs a lot of care for a plant to grow into a huge tree or fully grown plant. Therefore, once the valuable resources are depleted, it will take years to get them back. It is now the time to understand the value of the plants and work more towards the plantation of more and more trees.

- (I) Farmer use nitrogen fertilizer because
a) They are cheaper
b) Nitrogen is essential for the production of proteins in plants.
c) Nitrogen is essential for the production of carbohydrates in plants.
d) Nitrogen is essential for the production of vitamin.
- (II) Rhizobium lives in the roots of the legumes. This kind of reaction will be termed as
a) Symbiotic b) Insectivorous c) Saprotrophic d) Parasite
- (III) The tube which transport water and dissolved minerals from the soil to the leaves of a plant are called
a) Xylem b) Phloem c) Epidermis d) Stomata
- (IV) Identify which of the following is not required for photosynthesis by the green leaves of a plant?
a) Carbon dioxide b) Oxygen c) Sunlight d) Water