SCHEDULE FOR FORMATIVE ASSESSMENTS: 2013-14

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FORMATIVE ASSESSMENT- I **50 Marks**

MCQ- **[10 Marks]**

Activity- **[15 Marks] – (Phy/ Chem/ Bio 5 marks each)**

Laboratory Test - **[5 Marks]**

Holiday Homework- **[15 Marks]**

Note Book- **[5 Marks]**

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FORMATIVE ASSESSMENT- II **50 Marks**

Theory- **[30 Marks]– (Phy/ Chem/ Bio 10 marks each)**

MCQ - **[10 Marks]**

Activity- **[10 Marks]**

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FORMATIVE ASSESSMENT- III **50 Marks**

Theory- **[30 Marks]– (Phy/ Chem/ Bio 10 marks each)**

MCQ - **[10 Marks]**

Activity- **[10 Marks]**

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FORMATIVE ASSESSMENT- IV **50 Marks**

Crossword Puzzle- **[15 Marks]– (Phy/ Chem/ Bio 5 marks each)**

Visit to Mother Dairy & MCQ based on the visit- **[10 Marks]**

Peer Teaching- **[15 Marks]**

Practical file- **[5 Marks]**

Activity- **[5 Marks]**

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SYLLABUS

PHYSICS

Summative Assessment-I

1. Motion and measurement of Distances
2. Fun with Magnets
3. Water

Summative Assessment-II

1. Light, Shadows and Reflections
2. Electricity and Circuits

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CHEMISTRY

Summative Assessment-I

1. Fibre To Fabric
2. Sorting Materials Into Groups
3. Air Around Us

Summative Assessment-II

1.Separation of Substances
2.Changes Around Us

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BIOLOGY

Summative Assessment-I

1. Introduction to Biology
2. Food: Where Does It Come From?
3. Components of Food
4. Getting to know plants

Summative Assessment-II

1. Body Movements
2. Living Organisms and their surroundings.
3. Garbage In, Garbage Out

Suggested Readings:

1. A text book of science- NCERT
2. Headstart science- Madhuban
3. Science Ahead- Orient Longman
4. Visualized science and technology- VI

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PHYSICS

Module – 01
Unit – 1: MOTION AND MEASUREMENT OF DISTANCES
Contents:

1. Means of Transport
2. Ancient Methods of Measurement
3. Physical Quantities of measurement of length

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Module – 02
Unit – 1: MOTION AND MEASUREMENT OF DISTANCES
Contents:

1. Standard Units
2. Need of Accurate Measurement

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Module – 03
Unit – 1: MOTION AND MEASUREMENT OF DISTANCES
Contents:

1. Use of Metre Scale
2. Types of Motion

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Module – 04
Unit 2 - FUN WITH MAGNETS
Contents:

1. Discovery of Magnets
2. Use of Magnets
3. Magnetic and non Magnetic Materials

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Module – 05
Unit 2 – FUN WITH MAGNETS
Contents:

1. Poles of a magnet.
2. Properties of magnet.

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Module – 06
Unit 2 – FUN WITH MAGNETS
Contents:
1. Finding Directions
2. Magnetising an Iron bar
3. Handling Magnets

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Module – 7
Unit 3 – WATER
Contents:
1. How much water do we use?
2. Where do we get water from?
3. Water cycle

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Module – 8
Unit 3 – WATER
Contents:
1. Loss of water by plants
2. How are clouds formed?
3. Back to the Oceans, ground water, water cycle.

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Module – 9
Unit 3 – WATER
Contents:
1. Flood and its consequences.
2. Drought and its consequences.
3. Conservation of water.
4. Rainwater harvesting.

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Module – 10

Revision Module

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Module – 11
Unit – 4: LIGHT, SHADOWS AND REFLECTION
Contents:

1. Classification of objects based on ability to reflect light.
2. What exactly are Shadows?

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Module – 12
Unit – 4 : LIGHT, SHADOWS AND REFLECTION
Contents:

1. Pin Hole Camera
2. Nature of Image Formed by Pin Hole Camera
3. Rectilinear Propagation of Light

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Module – 13
Unit – 4 : LIGHT, SHADOWS AND REFLECTION
Contents:

1. Mirrors
2. Reflection of Light
3. Periscope: A Magic Device

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Module – 14
Unit – 5: ELECTRICITY AND CIRCUITS
Contents :

1. Electric cell
2. Electric bulb
3. A bulb connected to an electric cell

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Module – 15
Unit – 5: ELECTRICITY AND CIRCUITS
Contents :

1. Electric circuit
2. Electric switch
3. Electric conductors and insulators

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Module – 16

Unit – 5: ELECTRICITY AND CIRCUITS

Contents :

1. Conduction Tester- Circuit & Theory

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Module – 17 & 18

Revision And Examinations

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<u>List of Activities</u>

1. To measure the length of a curved line.
2. To prove that magnetic force is maximum at the poles of a magnet and minimum at its centre.
3. To show that a freely suspended magnet always aligns in North-South direction.
4. To find direction with the help of a magnetic compass.
5. To show the process of condensation on the cold surface of a glass containing ice.
6. To show reflection of light from a plane mirror.
7. To prove that light always travel in a straight line (rectilinear propagation of the light).
8. To make a simple electric circuit.
9. To differentiate between conductors and insulators using a conduction tester.

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Module – 01 / 02/ 03

MOTION & MEASUREMENTS OF DISTANCES
TUTORIAL

Types of Motion

Translatory Motion

It is a motion in which all the particles of a body move through the same distance in the same time. E.g. the motion of a drawer of a table, a moving car or train, a ball rolling on the ground. There are two types of translatory motion, rectilinear and curvilinear.

Rectilinear motion

When a body moves along a straight line it is said to be in rectilinear motion. E.g. a car moving on a straight road, an athlete running on a straight track.

Curvilinear motion

When a body moves along a curved path then it is said to be in curvilinear motion. E.g. a ball thrown up in the air at an angle, a car moving on a curved road.

Rotational motion

The motion of a body around a fixed axis without changing its place then it is in rotational motion. E.g. a spinning top, a potter's wheel, blades of a moving fan.

Circular motion

A body is set to be in circular motion when it keeps on moving along a circular path. When a body is in circular motion its position changes with time. E.g. the moon moving around the earth.

Periodic motion

If a motion repeats itself after a particular time or a definite interval of time then it is known a periodic motion. E.g. pendulum of a clock, movement of the hands of a clock.

Vibratory motion

The to and fro motion of an object, about its position of rest (mean position) is called oscillatory or vibratory motion. E.g. strings of a guitar, a swing and membrane of tabla.

Combined motion

Some times a body can have two or three kinds of motion at the same time. E.g. The earth revolves around the sun, but also rotates on its axis.

Random Motion

When a body does not show any regularity in its motion it is said to be in a random motion.

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Assignment – I, II, III

Q.1. Name the following:

(i) Any ancient means of transport ……
(ii) S.I unit for measuring length …….
(iii) Motion in a straight line …….
(iv) S.I. unit of time is …….
(v) Full form of S.I. unit is ……..
(vi) Motion that repeats itself at regular intervals of time is called……

Q.2. State True or False-

(i) One metre is equal to 1000 centimetre.
(ii) Motion of a wheel is circular motion.
(iii) Metre scale is used to measure length and breadth.
(iv) 'Foot' is a unit of length.
(v) A curved line can be measured with the help of a scale only.
(vi) Both oscillatory and vibratory motions are examples of periodic motions.
(vii) A metre rod can be used to determine mass of a body.
(viii) For correct measurement of length, we should see the metre scale from one side.

Q.3. Fill in the blanks

(i) The wheel of a moving bicycle describes _____ and _____ motion.

(ii) Kelvin is the unit of _____.

(iii) The early people used to domesticate _____ to help them move form one place to another.

(iv) The invention of the _____ proved to be a revolution in our means of transportation.

(v) Lengths more than 1m are measured by _____.

(vi) Every measurement consists of a _____ and a _____.

(vii) Movement of pencil on paper while writing is an example of _____ motion.

(viii) 1m = ...cm

(ix) 1km = ...mm

(x) 5m = ...dm

(xi) 1000m = ...km

(xii) 15cm = ...mm

Q.4. Match the following-

(i)	Temperature	(a)	Kilogram
(ii)	Mass	(b)	Degree celsius
(iii)	Length	(c)	Square metre
(iv)	Time	(d)	Metre
(v)	Area	(e)	Degree
		(f)	Second

Q.5.Choose the correct answer-

(i) One day is equal to-

(a) 1600 minutes
(b) 85000 seconds
(c) 86400 seconds
(d) None of these

(ii) A drill used by a carpenter executes
- *(a)* Only translatory motion
- *(b)* Only a rotatory motion
- *(c)* Both translatory motion and rotatory motion
- *(d)* Only circular motion

(iii) The motion executed by a swing is-
- *(a)* An oscillatory motion
- *(b)* A translatory motion as well as rotatory motion
- *(c)* A rotatory motion
- *(d)* A Translatory motion as well as oscillatory motion

(iv) The handle and needle of a sewing machine
- *(a)* Both execute a rotatory motion
- *(b)* Both execute a translatory and an oscillatory motion
- *(c)* Execute different types of motions
- *(d)* Both execute a circular motion.

Q.5. Solve the crossword given below-

Across

2. The state of a body when it does not change its position with time and with respect to the surroundings
4. Motion of a body along a curved path with all its parts exhibiting similar motion and having similar and equal displacements.
8. Motion of a thin body about a fixed point so that each part of the body remains at equal distance from that fixed point.
11. Motion of earth round the sun.
12. The type of 'to and fro' motion of a body about its position of rest
13. Motion of a body in a straight line with all its parts having similar and equal displacements.

Down

1. The standard unit of length
3. A motion which repeats itself after regular intervals of time
5. The comparison of an unknown quantity with some fixed quantity of the same kind.
6. A fast 'to and fro' motion of some parts of a body about its position of rest
7 A simple device used to measure length and distances
9. Motion of a body where all its parts have similar and equal displacement

IV. The distance between Radha's home & her school is 3250 m. Express this distance in km.

V. While measuring the length of a knitting needle, the reading of the scale at one end is 3.0 cm & at the other end is 33.1 cm. What is the length of the needle?

VI. Why could you not use an elastic measuring tape to measure distance? What would be some of the problems you would meet in telling someone about a distance you measures with an elastic tape?

VII. Describe the types of motion.

VIII. Give one point of difference between circular & rotatory motion.

IX. Explain combined motion with the help of an example.

X. Write similarities & differences between the motion of a bicycle & a ceiling fan that has been switched on.

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Module – 04/ 05/ 06

FUN WITH MAGNETS
TUTORIALS

1. Repulsion is a sure test of magnetism

Two magnets can attract or repel each other depending on similar or dissimilar poles but iron is attractive towards both the poles, i.e. attraction is always shown by magnetic materials, but repulsion is observed between two magnets only.

2. Properties of magnet

a. Each magnet has two magnetic poles

b. The poles of magnet occur in pairs and cannot be separated.

c. Like poles of magnets repel and unlike poles of magnets attract each other.

d. The magnetic force of a magnet is maximum at its poles and it decreases as we move towards its centre.

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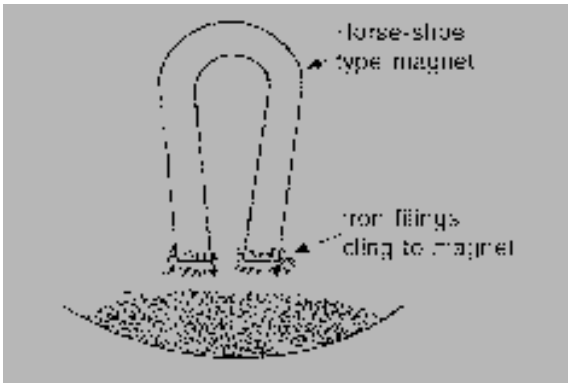
Assignment- IV, V, VI

Q.1. Classify the following as Magnetic and Non-Magnetic materials:

a) A Compass
b) Iron rod
c) Cobalt
d) Plastic
e) Register

Q.2. What is a Magnes Stick?

Q.3. Study the following diagram:



a) Why did the iron fillings stick to the magnet?
b) As shown in the diagram, most iron fillings stick towards the ends of the magnet. Why?
c) What will you observe if another magnet is brought near the ends of the magnet?

Q.4. State true or false for the following-

(i) The 'N' poles of two magnets attract each other.
(ii) Repulsion is the only sure test of magnetism.
(iii) Magnetism is strongest at the centre of a bar magnet.
(iv) Wood is attracted to magnet.
(v) Substances which get attracted to a magnet are called conductors.

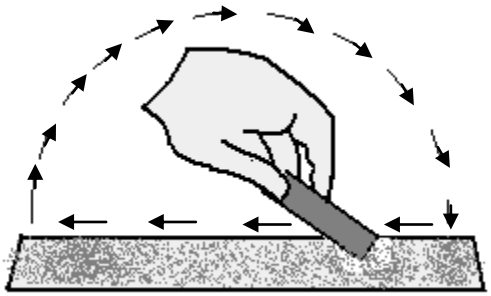
Q.5. Match the following-

(i)	Lodestone	(a)	protect magnets not in use
(ii)	Electromagnets	(b)	natural magnets
(iii)	Single touch method	(c)	compass needle
(iv)	Sailors and navigators	(d)	to magnetise a bar
(v)	Hammering	(e)	demagnetize magnet
(vi)	Keepers	(f)	electric bell

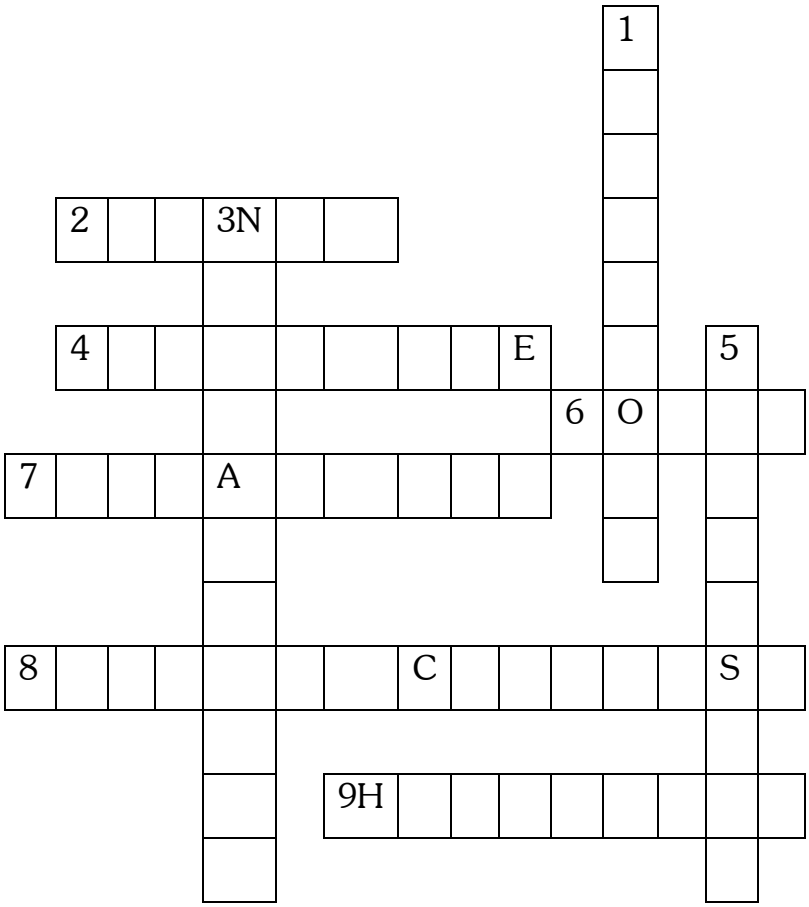
Q.6. Choose the correct answer-

(i) The attractive power of a rectangular bar magnet is maximum.
(a) Only at its left end

Q.10. Name the process shown in following diagram.



Q.11. Solve the



Across

2. A bar of iron that can attract small pieces of iron
4. The name given to the magnetic ore after the place of its origin
6. The two ends of a magnet having strongest power
7. The type of force found between two unlike poles of a magnet
8. The device which uses a magnetic needle for determining directions
9. One of the shapes of man- made magnets

Down

1. The name given to the magnetic ore when its direction leading properties were studied
3. The type of substances which do not get attracted towards a magnet
5. The only sure test of magnetism

Q.12. What is a magnet stick.

Q.13. In what direction does a freely suspended magnet always rest?

Q.14. A tailor slipped the needle from his hand on the floor. How will you help the tailor find the needle?

Q.15. What will you observe if two bar magnets are placed one above the other with their north poles on the same side?

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QUESTION BANK-2

I. Differentiate between:
   a. Natural & Artificial Magnets
   b. Magnetic & Non-Magnetic Materials
II. Write any two properties of a magnet.
III. A bar magnet has no markings to indicate its poles. How would you find out near which end is its north pole located?
IV. How is a compass used to find directions?
V. You are given an iron strip. How will you make it into a magnet?
VI. Name the conditions that make magnets lose their properties.
VII. How will you keep magnets safely?

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Module – 07/ 08/ 09
Assignment- VII, VIII, IX

Q.1. Tick the correct option:

a) Water is essential because it is used
1) to generate electricity
2) to run steam engines
3) to sustain life
4) all of the above

b) The main sources of water are…..
1) Ponds
3) Rivers
2) Rainfall or snowfall
4) All of the above

c) Drought may result due to…….

1) Deforestation
2) Soil conservation
3) Wet weather
4) All of the above

d) Impacts of drought include……

1) Forest fires
2) poverty
3) loss of wetland
4) all of the above

Q.2 Match the following columns:

(i)	Drought	(a)	Results from heavy rain or melting snow
(ii)	Deforestation	(b)	Level of ground water
(iii)	Water table	(c)	Results from no rainfall for a year or more
(iv)	Flood	(d)	Destruction of forest by cutting down trees on a large scale

Q.3 Answer in one word-
(i) Loss of water by plant leaves.
(ii) Guiding rain water to reach underground.
(iii) Formation of clouds.
(iv) Water conservation strategy based on "catch water where it falls."

Q.4 What are the reasons of lowering of ground water in cities?

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QUESTION BANK-3

I. Describe how water is cycle in nature.

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

III. How are clouds formed?

IV. When does a drought occur?

V. Explain 'roof-top rain water harvesting' with diagram.

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Module 10

Revision for Half Yearly Examination

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Module – 11/ 12/ 13

LIGHT, SHADOWS AND REFLECTIONS
TUTORIAL

1. Classification of transparent, translucent and opaque objects

Transparent objects: An object through which light can pass easily and does not scatter off its surface is transparent. We can see through transparent bodies such as glass, water, air, cellophane paper, etc.

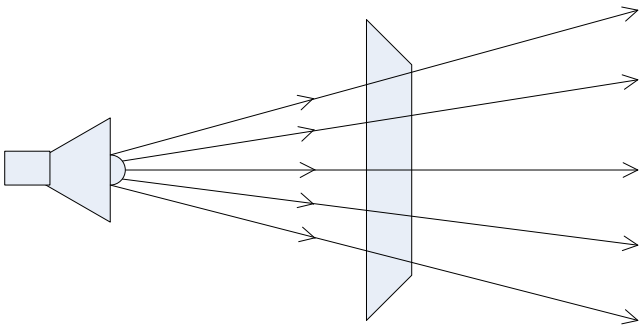


Figure: Transparent Object

Translucent objects: An object through which light can pass partially, but we cannot see through it clearly is translucent. This is because the translucent objects absorb light partially and scatter the remaining light. For example, frosted glass, wax paper, etc.

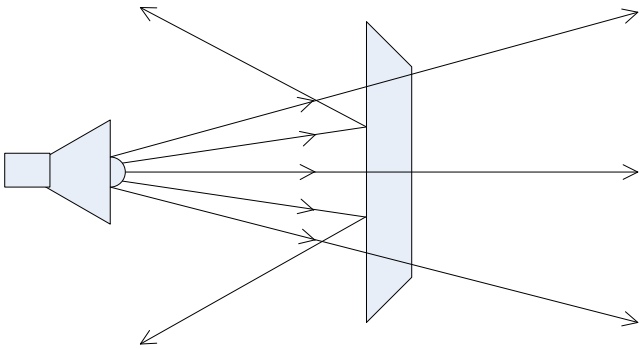
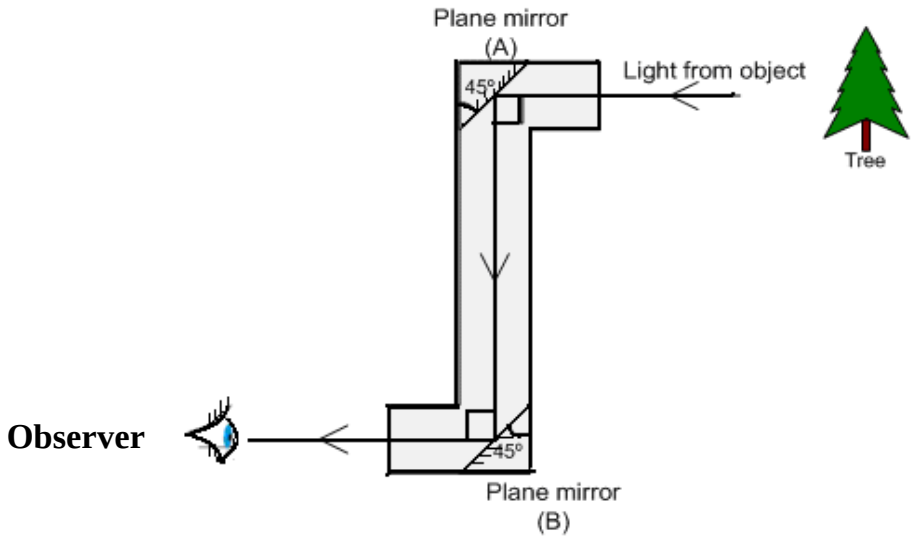


Figure: Translucent Object

It can also be used by soldiers hiding in trenches to see above the ground.
It can be used in a stadium to see above the heads of a crowd.



Periscope

It consists of two plane mirror strips fixed at 45° to the ends of a long narrow tube. They are placed parallel to each other. The light rays from the object strikes on mirror A and then on mirror B to reach our eyes. Thus we can see the object.

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Assignment- XI, XII, XIII

Q.1. Write 'L' for Luminous and 'NL' for Non-luminous:

(i)	Sun	……	*(iv)*	Painting	……
(ii)	Radium	……....	*(v)*	Lighted Torch	……
(iii)	Shoe	……	*(vi)*	Electric light	……

Q.2. State True or False:

(i) The image formed in pin hole camera is of same size as the object.……
(ii) Shadow gives an accurate picture of the shape of the object. ……
(iii) Shadows can be obtained only on a screen. ……
(iv) A burning candle is a luminous object. ……
(v) Light travels along a straight line. ……
(vi) Mirrors show the reflection of your face. ……
(vii) We see the moon because it is a luminous body. ……

Q.3. Fill in the blanks-

(i) In a plane mirror _____ image is formed.

(ii) When light hits opaque objects _____ are formed.

(iii) Image formed by pin hole is _____ & _____ in size.

(iv) The pin hole camera is based on the fact that light travels in _____.

(v) Image of an object as seen in a _____ cannot be obtained on a screen.

(vi) The _____ of an object can be longer or shorter in size as compared to the object.

Q.4. Match the following-

(i)	Moon	*(a)*	Opaque
(ii)	Sun	*(b)*	Non- luminous
(iii)	Brick	*(c)*	Transparent
(iv)	Mirror	*(d)*	Luminous
(v)	Tracing paper	*(e)*	Translucent
(vi)	Clear glass		

Q.5. Give one word for the following-

(i) Dark patch behind an opaque object _____

(ii) Instrument used to see around corners _____

(iii) Sideways inversion in plane mirror _____

(iv) An object which does not emit light _____

(v) An object which allows part of light falling on it, to pass through _____

Q.6. Tick the right answer-

(i) To get a shadow, we need

(a) Only a source of light & a screen

(b) Only an opaque object

(c) Both (i) and (ii)

(d) Neither (i) nor (ii)

(ii) The image formed by a plane mirror

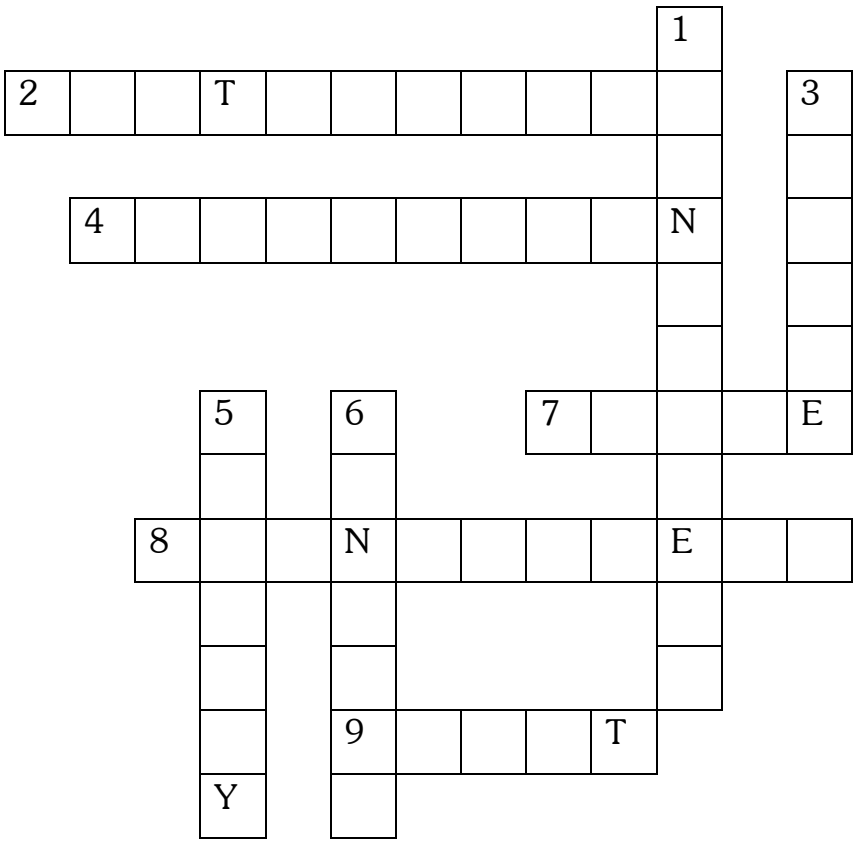
(a) Is an erect image

(b) Is of same size as that of object

(c) Shows an interchange of right and left
(d) Shows all above characteristics

(iii) A pin hole camera produces-
(a) An erect and enlarged image
(b) Inverted and diminished image
(c) Inverted and enlarged image
(d) Erect and diminished image

Q.7. Solve the crossword given below-



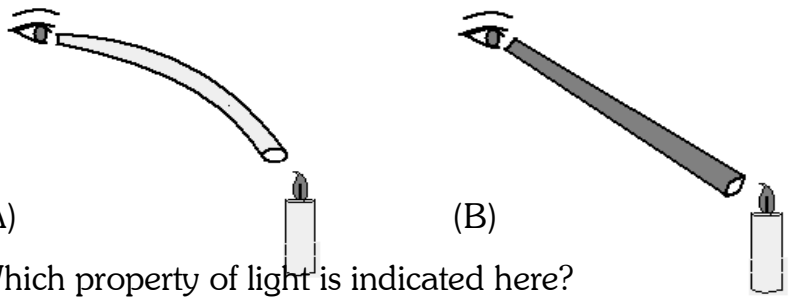
Across

2. The property of light related to its propagation in straight lines
4. The process of 'bouncing back' of light from a given surface
7. Something that is seen in a plane mirror
8. Type of objects that let light to pass through them only partially
9. A form of energy which travels at a speed of 3×10^8 m/s and produces a sensation of sight

Down

1. Type of objects that let light to pass through them freely
3. Type of objects that do not let light to pass through them at all
5. An insect which is a natural source of light
6. A very simple camera that forms an inverted image of an object on a screen

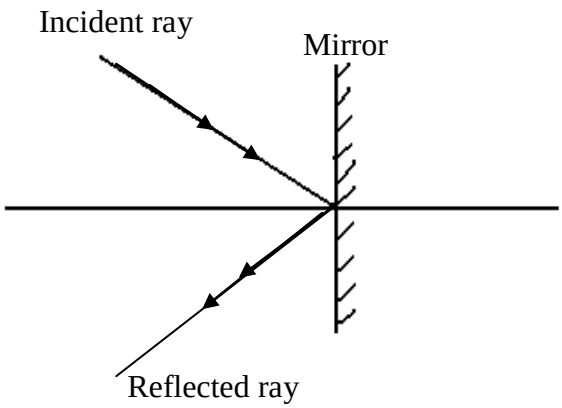
Q.8. Study the following diagram and answer the following questions-



(A) (B)

(i) Which property of light is indicated here?
(ii) The flame of candle will be visible in which case and why?

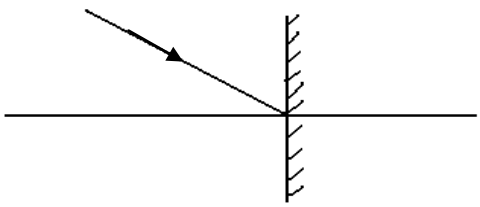
Q.9. Study the following diagram and answer the following questions-



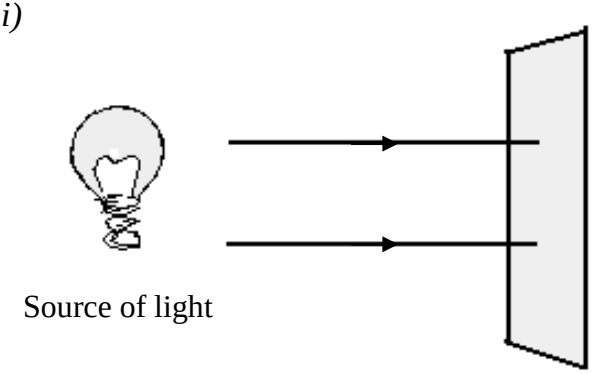
(i) Which phenomenon is shown in this figure?
(ii) What is the use of the mirror in the given diagram?

Q.10. Complete and label the following ray diagrams-

(i)

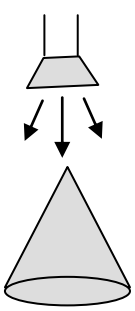


(ii)

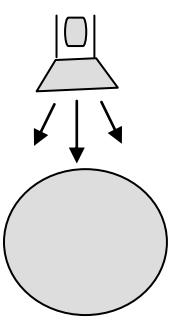


Q.11. Draw shadows for the following-

(i)



(ii)



Q.12. Give 2 examples of natural & artificial sources of light.

Q.13. What is the difference between the shadows of a red rose & a yellow rose?

Q.14. Give examples of formation of shadows in nature.

Q.15. Give some examples of screens that you observe in daily life.

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QUESTION BANK-4

I. Differentiate between luminous & non- luminous objects with examples.

II. Classify different objects on the basis of light passing through them, with the help of ray diagrams.

III. Explain how a shadow is formed.

IV. What are the essential requirements to form a shadow?

Procedure:

1. Place the mirror at one corner in a dark room
2. Stand in the other corner of the room with a torch
3. Cover the torch with the black sheet so as to get a narrow beam of light
4. Direct the beam of the light on the mirror

Observation: We observe a patch of light on the other side of the room after bouncing from the mirror.

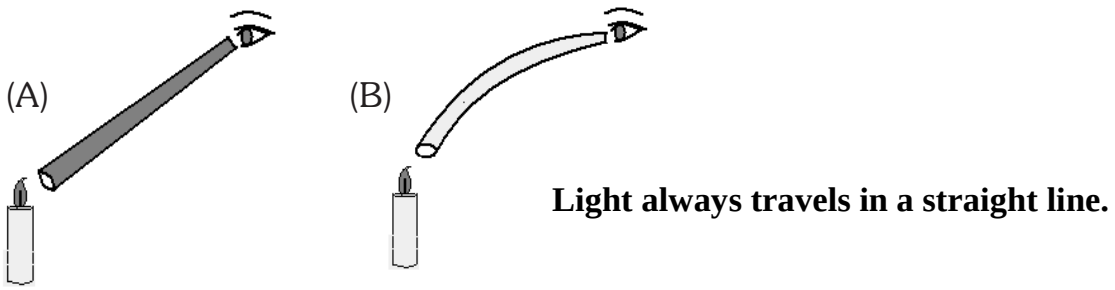
Result: A mirror changes the direction of the light falling on it. This phenomenon is known as _____.

P- 7

Aim: To prove that light always travel in a straight line (rectilinear propagation of the light).

Materials required: A candle, match box and a rubber pipe.

Diagram:



Light always travels in a straight line.

Procedure:

A:

1. Light a candle & fix it on a table.
2. Now look at the candle through the rubber pipe.
3. Note down the observation.

B:

1. Bend the rubber pipe a little, while looking at the candle.
2. Note down the observation.

Observation:

S.No.	Materials	Does Bulb Glow (Yes/No)	Inference (Insulator/Conductor)
1.	Iron Nail		
2.	Wooden Block		
3.	Graphite		

Result: Materials which allow electric current to pass through are known as conductors and which do not are called as insulators.

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SYLLABUS

CHEMISTRY

Half Yearly Examination:

1. Fibre to Fabric
2. Sorting Materials into Groups
3. Air Around Us.

Final Examination:

1. Separation of Substances
2. Changes Around Us.

MODULES

Module – 01
Unit – 1: FIBRE TO FABRIC
Contents:

1. Variety in Fabrics- Cotton, Solk, Wool, Synthetic
2. Fibre- Natural Fibres and Synthetic Fibres
3. From Where do we get Fibre?

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Module – 02
Unit – 1: FIBRE TO FABRIC
Contents:

1. Plant Fibres- Cotton, Jute
2. Process of Separating Plant Fibres- Ginning & Retting

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Module – 03
Unit – 1: FIBRE TO FABRIC
Contents:

1. Spinning Cotton Yarn
2. Yarn to fabric- Weaving and Knitting
3. History of Clothing Material

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Module – 04
UNIT – II – SORTING MATERIALS INTO GROUPS
Contents:

1. Introduction
2. Grouping things
3. Need of Grouping Materials

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Module – 05
UNIT – II – SORTING MATERIALS INTO GROUPS
Contents:

1. Different objects made from different materials.
2. Appearance of Materials
3. Hardness of Materials

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Module – 06
Unit II : SORTING MATERIALS INTO GROUPS
Contents:

1. Solubility or Insolubility of Materials
2. Sinking or Floating of Materials
3. Transparent, Translucent and Opaque Materials

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Module – 07
Unit – III: AIR AROUND US

Contents:

1. Introduction
2. Composition of Air

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Module – 08
Unit – III: AIR AROUND US
Contents:

1. Oxygen
2. Sources of Oxygen

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Module – 09
Unit – III: AIR AROUND US
Contents:
1. Interdependence of Plants and Animals
2. Uses of Air

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Module – 10
REVISION MODULE

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Module – 11
Unit – IV : SEPARATION OF SUBSTANCES
Contents:
1. Introduction
2. Need for separation
3. Use of separated components

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Module – 12
Unit – IV : SEPARATION OF SUBSTANCES
Contents:
1. Methods of separation – hand picking, threshing, winnowing, sieving.
2. Separation of insoluble solids from a mixture.

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Module – 13
Unit – IV : SEPARATION OF SUBSTANCES
Contents:
1. Separation of soluble solids from a mixture.
2. Solubility of Water and Effect of temperature on it.

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Module – 14
Unit – V: CHANGES AROUND US
Contents:
1. Introduction to changes.
2. Changes in daily life.
3. Classification of changes.

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Module – 15
Unit 5 – CHANGES AROUND US
Contents:

1. Classification of changes
2. Different ways to bring a change

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Module – 16
Unit 5 – CHANGES AROUND US
Contents:

1. Some common changes
2. Uses of Changes in Daily Life

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Module – 17 / 18

Revision Module

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List of Activities

1. To classify whether the given objects float or sink in water.
2. To show that oxygen is necessary for burning.
3. To separate a mixture of sand, salt and water by using various methods of separation.
4. To prepare a saturated solution of sugar in water and study the effect of temperature on the saturated solution.
5. Study the given changes and classify them as reversible or irreversible.

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Module – 01/02/ 03

FIBRE TO FABRIC

TUTORIAL

FIBRES

- Natural fibres → Obtained from plants & animals
  - (i) Plant fibres: E.g. Cotton, jute, fibre
  - (ii) Animal fibres: E.g. Silk (silkworm); Wool (sheep, goat, camel, yak, rabbit)
- Synthetic fibre → Obtained from chemicals
  - Egs. Rayon, nylon, polyester, acrylic, terylene, etc.

DEFINITIONS:-

1. **Fibres-** The thin strands of thread drawn out from a mass of cotton, jute, etc are called fibres.
2. **Yarn-** When several fibres are twisted together by spinning, they form a long thread called yarn.
3. **Fabric-** A continuous piece of cloth made from yarn by either weaving or knitting.
4. **Ginning-** The process of separating cotton fibres from seeds is called ginning.
5. **Spinning-** The process of making yarn by twisting together fibre is called spinning. It can be done by a hand spindle, spinning wheel and spinning machines.
6. **Weaving-** The process of arranging two sets of yarns together in a criss- cross fashion to make a fabric is called weaving. It is done on machine called LOOMS.
7. **Knitting-** The process of making a fabric by using a single thread is called knitting. It can be done by hand using knitting needles or by machines.

8. **Retting-** The process of dipping the bundles of jute stalks in water for a few days so that they rot and the fibres can be separated.

9. **Coir-** The brown coloured fibre present on the outer surface of coconut fruit is called coir.it is used to make mattresses, door mats, floor covers, etc.

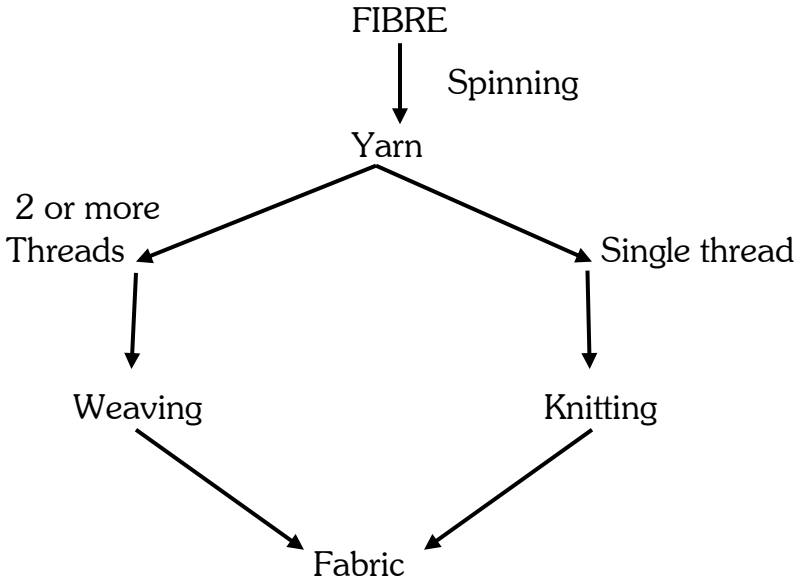
10. **Flax-** A plant fibre otd from the stem of flax plant. It is commonly known as linen. The fibre has excellent water soaking capacity seeds of flax are used to obtain linseed oil.

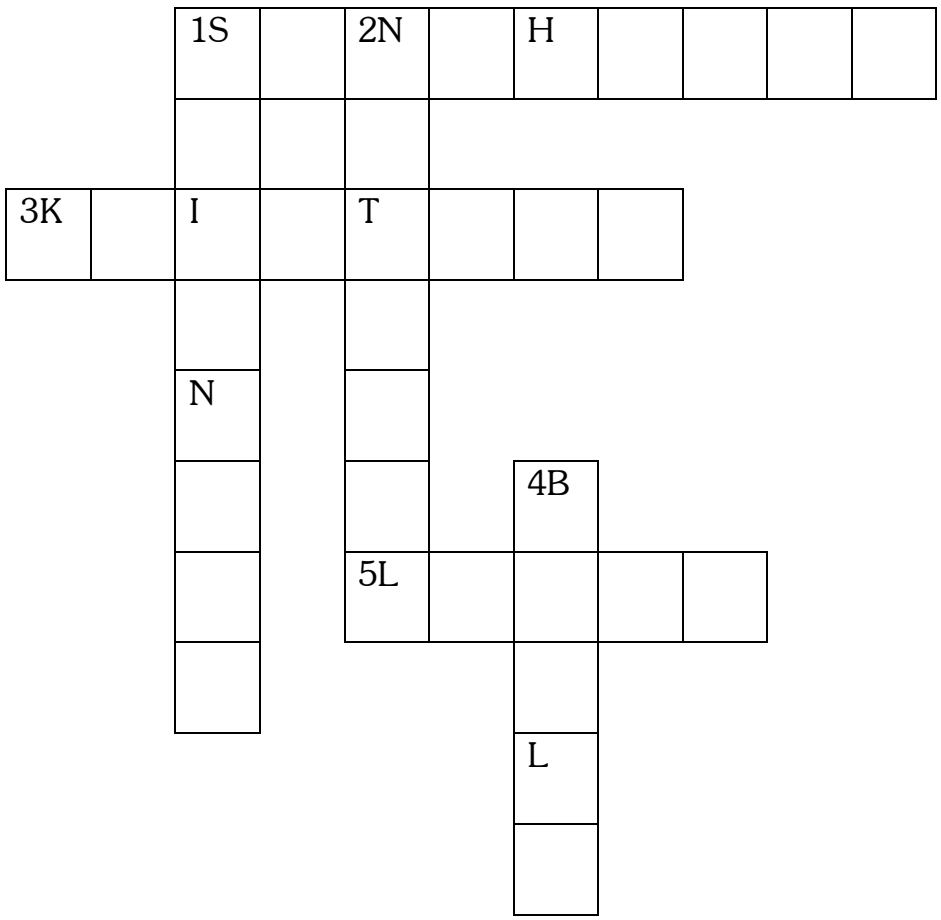
BURNING TEST FOR VARIOUS PLANT FIBRES

Both cotton and jute burn with the smell of burning paper. They both burn without shrinking
or melting.

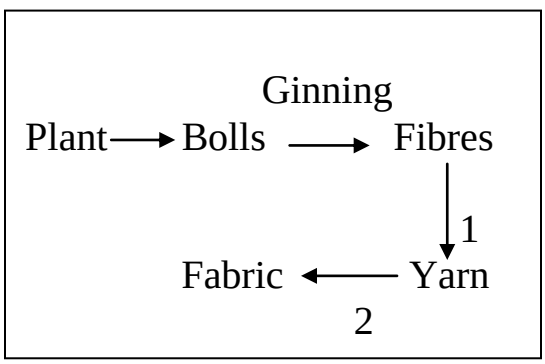
This is because both of them are obtained from plants.

Fibre to fabric:-





Q.4. Study the chart given below:-



Which could be the processes 1 and 2 in the manufacture of cotton fabric?

(a) 1- spinning, 2- weaving

(b) 1- ginning, 2- spinning

(c) 1- deying, 2- weaving

(d) 1- knitting, 2- weaving

Q.5. Identify the fabric in the following:

(i)	shawl	(ii)	saree
(iii)	muffler	(iv)	socks
(v)	mosquito net	(v)	curtains

Q.6. Name the following:-

(i) Two types of natural fibres.
(ii) Examples of unstitched fabrics used even today.
(iii) States where cotton is grown.
(iv) Conditions required for growing cotton.
(v) States where jute is grown.
(vi) Devices used for spinning.
(vii) Devices used for weaving.
(viii) Materials used by early people to cover their bodies.
(ix) Fibre cultivated in Egypt near river Nile.
(x) Items made from coir.
(xi) Person who popularized the use of charkha.

QUESTION BANK

Q.1. Outline the various steps involved in obtaining cotton from cotton plant.

Q.2. How are jute fibres obtained after its harvesting?

Q.3. At what stage is jute harvested?

Q.4. Why does cotton yarn burns with the smell of burning paper?

Q.5. From which part of a plant, cotton and jute are obtained?

Q.6. Differentiate between knitting and weaving. Which one of them is a better method and why?

Q.7. Give reasons for the following-

(i) Gunny bags are made up of jute.
(ii) Jute stems are immersed in water after harvesting.
(iii) We prefer to wear cotton clothes in summer season.

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Module : 04 / 05/06

SORTING MATERIALS INTO GROUPS

TUTORIAL

METHODS OF SORTING MATERIALS

1. **Appearance**	(a) Lustrous (shines when light falls) e.g. metals like gold (b) Non-lutrous (Does not shine), e.g., wood, plastic
2. **Texture**	(a) Rough, e.g., sandpaper, bark of a tree (b) Smooth, e.g., silk, glass
3. **Hardness**	(a) Hard, e.g., wood, plastic (b) Soft, e.g., cotton, sponge
4. **Solubility**	(a) Soluble (Dissolves), e.g., sugar, salt` (b) Insoluble (Does not dissolve), e.g., sand
5. **Floatation**	(a) Float, ne.g., plastic block (b)Sink, e.g., coin
6. **Transparency**	(a) Transparent (Allows light to pass through), e.g., window pane (b) Opaque (Light does not pass), e.g., book, wall (c) Translucent (Light passes through partially), e.g., tracing paper

SOLUTION:- A homogeneous mixture of two or more substances is known as solution.

For example sugar solution, salt solution. (Solution = solute + solvent)

SOLUTE:- The component of a solution that is present in smaller quantity is called solute.

SOLVENT:- The component of a solution present in larger quantity is called as solvent.

E.g. In sugar solution, sugar is the solute and water is the solvent.

SATURATED SOLUTION:- When no more solute dissolve in a given amount of solvent, the solution is said to be saturated.

MISCIBLE LIQUIDS:- Two liquids which can mix with each other are called miscible liquids. E.g. water and vinegar.

IMMISCIBLE LIQUIDS:- Liquids which do not mix with each other but form separate layer on mixing are called immiscible liquids. e.g water and mustard oil.

SOLUBILITY:- Phenomenon of dissolving a substance in a liquid is called its solubility.

Ray diagram for transparent, translucent & opaque objects.

Transparent objects

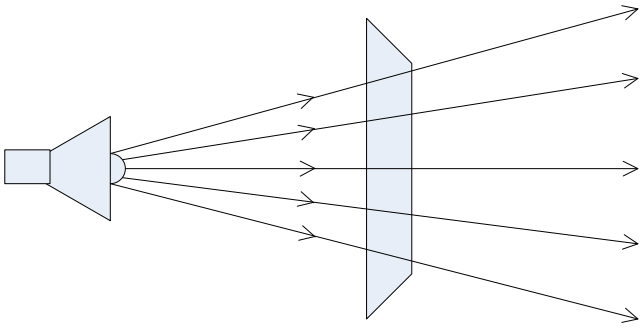

Figure: Transparent Object

Translucent objects

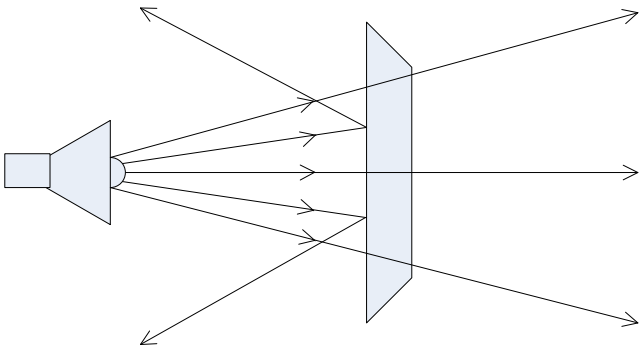

Figure: Translucent Object

Opaque objects

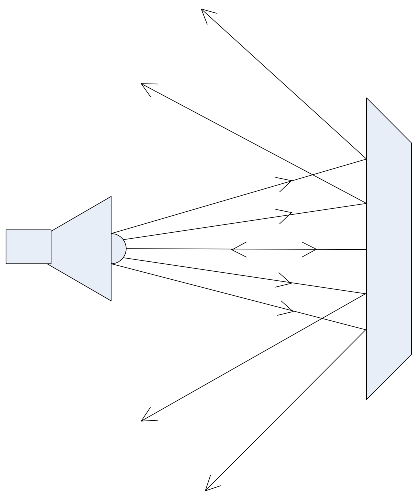

Figure: Opaque Object

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ASSIGNMENT

Q.1. Fill in the blanks;

(i) Materials that are difficult to compress are called ___________.
(ii) Vinegar is ____________ in water.
(iii) Insoluble substances do not _____________ in water.
(iv) Metal key ___________ in water whereas _____________ floats on water.
(v) Butter is a ___________ object.
(vi) __________ is the hardest known substance found in nature.
(vii) We can feel the presence of ___________ but cannot touch it.
(viii) A silk saree is ___________ to touch whereas a jute bag is __________ to touch.
(ix) Oil and water are examples of ___________ liquids.
(x) ____________ is the hardest substance known in nature.

Q.2. State True or False for the following:-

(i) Light can pass through the palm of a human being.
(ii) Wood is an opaque object.
(iii) Soft substances can be compressed easily.
(iv) Ice sinks in water.
(v) Lemon juice mixes well with oil.
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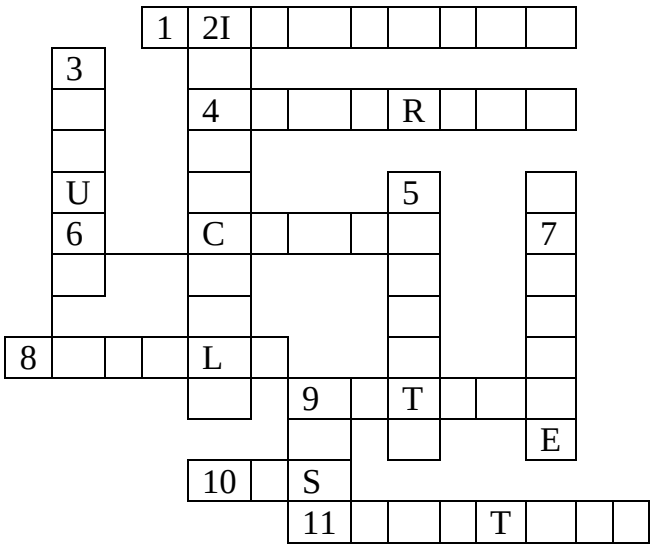
(vi) Gases do not have a definite shape.
(vii) Plastics are lustrous materials whereas metals are non lustrous materials.

Q.3. Solve the crossword given below:-



Across

1 The intermixing of molecules of one substance with another
4 Substance required to make various objects.
6 Substances that dissolve in water completely.
8 Good conductors of heat.
9 Anything that occupies space and has a definite mass.
10 A state of matter that neither occupies a definite space nor has a definite shape
11 A liquid containing a dissolved material

Down

2 Substances that do not dissolve in water completely
3 The amount of space occupied by some object
5 The mass per unit volume of a substance
7 Shining of metal
8 The amount of matter in an object

Q.4. Write 'S' for soluble and 'IS' for insoluble:

(a)	Coconut oil	.....	*(e)*	Wood	.....
(b)	Lemon	.....	*(f)*	Finger ring	.....
(c)	Lemon juice	.....	*(g)*	Rasna	.....
(d)	Sand	.....	*(h)*	Milk	.....

(iv) Glass ia an example of
- *(a)* Transparent object
- *(b)* Opaque object
- *(c)* Translucent object
- *(d)* Both (a) and (c)

(v) Which one is not matter
- *(a)* Water
- *(b)* Pen
- *(c)* Petrol
- *(d)* Feelings

(vi) A material that disappears in water
- *(a)* Sand
- *(b)* Salt
- *(c)* Saw dust
- *(d)* Stone

~~~~~~

QUESTION BANK

Q.1. Differentiate between.

(a) Hard and soft substances.
(b) Soluble and insoluble substances
(c) Lustrous and Non-lustrous materials
(d) Iron and Aluminium

*Paste /,Draw the pictures to show the difference in their properties.

Q.2. Answer the following questions.

(i) Why are materials grouped together?
(ii) How are metals different from other substances?
(iii) What will you observe if you mix mustard oil and water?
(iv) How do we choose a material to make an object?
(v) What would you do to make a metallic object regain its lustre after it has lost its shine?
(vi) Give one difference and one similarity between iron and aluminium?
(vii) Give any two properties of metals.

Q.3. Give reasons.

(i) Metals loose their shine and give dull appearance after sometime.
(ii) It is not wise to use a cloth like material to make a tumbler.
(iii) Paper like material cannot be used for making cooking vessels.
(iv) Frosted glass is used in window paves of bathrooms.
(v) Salt and washing powder sinks in water whereas chalk powder and saw dust float on the water surface.
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(vi) Sugar added to water disappears on stirring.

(vii) Water plays an important role in the functioning of our body.

Q.4. How does the solubility of a given solute in solvent changes with change in temperature?

Q.5. Classify the following materials in three ways each (on the basis of their properties).

(i) wood
(ii) glass
(iii) paper
(iv) iron

Q.6. Define the following with examples. Also draw or paste these pictures.

(i) Transparent materials
(ii) Translucent materials
(iii) Opaque materials
(iv) Lustrous materials

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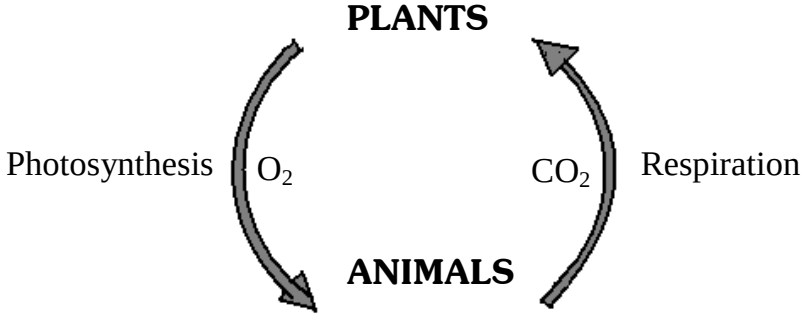
Module – 07 /0 8/09

AIR AROUND US
TUTORIAL

1. Air also contains noble gases. Noble gases are named so because they do not react with anything. Noble gases are helium, neon, argon, krypton, xenon and radon. Sign boards on the market place use neon bulbs. Helium is used for filing weather balloons
2. The composition of air is not strictly fixed.
   - Proportion of carbon dioxide in cities is greater than in rural areas.
   - The amount of water vapour is greater in rainy season than in the dry season.
   - The amount of dust particles is higher in industrial areas than in residential areas.
3. The oxygen-carbon dioxide balance in nature.



4. Gases expand on heating, so when we heat water the dissolved air expands and expelled in the form of bubbles.

5. Air helps in photosynthesis, respiration, regulating temperature, hearing, for inflating tyres, and is a source of many gases.
6. Percentage composition of air: 78% Nitrogen, 21% Oxygen, 0.9% Argon, 0.04% Water vapours, 0.03% Carbon dioxide, remaining 0.03% are trace gases.
7. **Air pressure**: Force exerted by air per unit area is called air pressure. It helps in movement of sailing yacht, air balloons, gliders and aeroplanes. Birds are able to fly because of air pressure.

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Assignment

Q.1. Match the columns:

(i)	Burning	*1.*	carbon dioxide
(ii)	Photosynthesis	*2.*	oxygen
(iii)	Wind mill	*3.*	oxygen
(iv)	Inhale	*4.*	plant
(v)	Exhale	*5.*	wind

Q.2. Fill in the blanks-

(i) Food is prepared by plants ___________ by the process of __________.
(ii) Increased humidity means increased presence of __________ in the air.
(iii) The percentage of carbon dioxide in the air is ___________.
(iv) __________ and ___________ are noble gases.
(v) Dissolved oxygen in water is the life saver of __________ animals.
(vi) Solubility of gases ___________ on heating.
(vii) Air occupies __________ and has mass.

Q.3. State true or false for the following-
(i) As we go higher, the atmosphere gets thicker.
(ii) Like any other matter, air cannot be compressed easily.
(iii) Oxygen is the largest component of air.
(iv) The concentration of CO_2 is more in polluted areas.
(v) Air is a compound.

Q.4. Answer in one word-
(i) Gas with maximum concentration in air.
(ii) Gas released by plants during respiration.
(iii) Device used by mountaineers for helping in breathing.
(iv) Process of burning of food by the body to release energy.
~~~~~~

QUESTION BANK

Q.1. What is the composition of air?

Q.2. How will you prove that air supports burning?

Q.3. How will you show that air is dissolved in water?

Q.4. Why does a lump of cotton wool shrink in water?

Q.5. Give reasons-

(i) Snakes and earthworms come out of the soil during rainy season.

(ii) We should not breathe air through mouth?

(iii) A traffic policeman at a crowded crossing wear a mask.

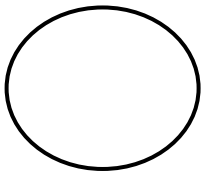
(iv) A large number of organisms consume oxygen everyday. Inspite of that, the oxygen in the atmosphere does not get used up. Why?

(v) The transparent glass of window if not wiped off regularly, appears hazy.

(vi) During an incident of fire one is advised to wrap a woollen blanket over a burning object.

(vii) We are advised not to cover our face with the quilt while sleeping?

Q.6. In the figure given below, show the components of air according to their composition.



Q.7. What will you observe when?

(i) You tilt an open bottle into a bucket filled with water?

(ii) You reheat boiled water kept in a container?

(iii) You allow sunlight to enter a room only through a slit?

Q.8. From where do the organisms that live in soil get oxygen to respire?

Q.9. What will you observe if you pour some water in a beaker containing dry soil?

Q.10. What is the use of chimneys?

Q.11. What products are obtained when plant and animal matter are burnt?

Q.12. What are the various uses of wind mill?

Q.13. How do sailing yachts and parachutes move?

Q.14. What prevents the dust particles from getting into our respiration system?

Q.15. State the importance of air.

Q.16. Why do mountaineer carries oxygen cylinder while climbing the mountains?

Q.17. How do plants and animals help each other in the exchange of gases in the atmosphere?

REVISION FOR HALF YEARLY EXAMINATION

MODULE-11/12/13

SEPARATION OF SUBSTANCES

TUTORIAL

SEPARATION: The process by which unwanted or harmful components of a mixture are removed to get a pure substance is called separation.

NEED FOR SEPARATION:

To separate two useful components eg: separation of butter from milk.

To separate harmful components eg: separation of stones from rice.

To separate non useful components eg: separation of tea leaves from tea.

Type of mixture	**Methods of separation**	**Principle**	**Example**
Two solids	Threshing	Clinging lighter and smaller components of the mixture separated by beating	Separating grains of rice and wheat from stalks
	Winnowing	Difference of weight of two solids, done by using wind or blowing air	Separating chaff from grains
	Handpicking	Size if impurities should not be very small and quantity should not be large.	Separating small stones from rice grains
	Sieving	Difference in sizes of the solid components of a mixture, by using a sieve	Removing husk from wheat flour
Insoluble solids in liquid	Sedimentation and decantation	Separating an insoluble solid component from a liquid by allowing it to settle (sediment) and	Cleaning of rice grains or pulses before cooking

		pouring out the liquid without disturbing the sediment	
	Filtration	Separating an insoluble solid component from a liquid mixture by using a strainer or a filter	Removing tea leaves from prepared tea
Soluble solids in liquid	Evaporation	By evaporating the liquid leaving behind the solute as residue	Obtaining salt from brine solution
	Evaporation and condensation	Cooling of the collected vapours to obtain the solvent after evaporation from the solution	Collecting water after separating salt from a brine solution

- The solution in which no more solute can be dissolved is called a saturated solution. If more solute can be added to a solution, it is said to be unsaturated solution, Solubility of a solute in a solvent increases on increasing the temperature.
- Oil and Water are immiscible liquids and can be separated using separating funnel.

==========

ASSIGNMENT

Q.1. Name the following:

(i) Process used to separate grains from stalk. .....
(ii) Process of separating tea leaves from tea. .....
(iii) The method of separating heavy and light components of a mixture by blowing air. .....
(iv) Method of separating large-sized impurities from rice.....
(v) Method used by farmers to separate husk from grain.....
(vi) Apparatus used to separate two immiscible liquids .....
(vii) Method used in dairies to separate cream from milk. .....

(viii) Process used to separate salt from sea water ……

(ix) Two materials that can be used as filters are …….. and …….

Q.2. Match the process with the mixture:

(i)	Churning	*1.*	stones / pulses
(ii)	Evaporation	*2.*	solid paneer / water
(iii)	Filtration	*3.*	water /salt
(iv)	Handpicking	*4.*	milk / butter
(v)	Sieving	*5.*	bran / flour

Q.3. Fill in the blanks:

(i) Few drops of lemon juice added to milk gives ……..

(ii) A mixture of sawdust and water can be separated by ……

(iii) Filtration can be done by using …….. paper.

(iv) Settling of heavier component in a mixture is called ……

(v) Evaporating salt solution leaves …… at the bottom of the beaker.

(vi) Common salt is obtained from ……

(vii) ……. is used to remove impurities from flour before preparing the dough.

Q.5. Tick (√) the only correct choice

(i) The property used in separating a mixture of two solids by winnowing is-

(a) Difference in weight *(c)* Difference in size

(b) Difference in colour *(d)* All of the above

(ii) Changing a liquid into its vapour state on its surface is called-

(a) Boiling *(c)* Evaporation

(b) Sublimation *(d)* All of these

(iii) Method used to separate a mixture of two immiscible liquids-

(a) Separating funnel *(c)* Sedimentation

(b) Decantation *(d)* Evaporation

(iv) Process used to separate pebbles

(a) Sedimentation *(c)* Winnowing

(b) Sieving *(d)* Any of the above

(v) The process of separating a liquid from a solid sediment is called

(a) Threshing (c) Winnowing

(b) Decantation (d) Filtration

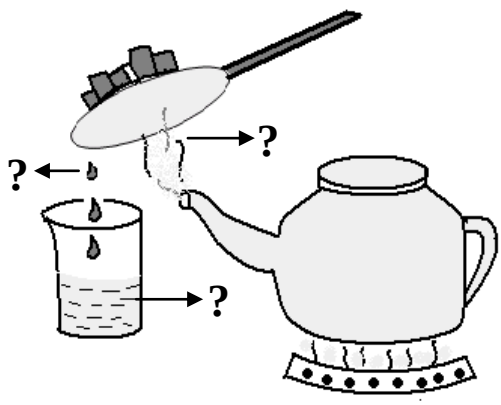
(vi) Which of the following mixtures cannot be separated by evaporation

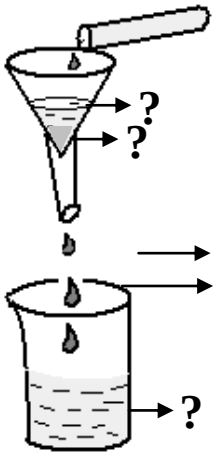
(a) Sea water (c) Sand in water

(b) Sugar solution (d) Sugar and salt

Q.5. Look at the diagrams below and name the methods of separation. Also label them.

(i)





State whether the following statement are true or false:

(i) Winnowing is used to separate grains from the stalks.

(ii) Saline solution can be separated by filtration.

(iii) Sieving is the method of separating the components of a mixture that are of different sizes, by passing through a sieve.

(iv) Solvent is the substance that dissolves in a liquid.

(v) A mixture of tea leaves and iron filings can be separated by magnet.

Q.7. Identify the solute and the solvent in the following solutions.

(i) Saline solution *(ii)* Sugar solution

(iii) Aerated drinks *(iv)* Horlicks in milk

(v) Lemonade

Q.8. Which method of separation should be used to-

(i) Separate suspended dust particles from water

(ii) Clean rice grains before cooking

(iii) Remove pebbles and weeds from soil

(iv) Separate water and alcohol

Q.9. Give 2 examples each of the mixtures found in nature and the mixtures prepared by us.

Q.10. Answer in one word:-

(i) Mixture obtained by dissolving a solute in a solvent.
(ii) A solution which cannot dissolve more solute at a given temperature.
(iii) Substance made of same type of particles.
(iv) Setting down of insoluble particles

Q.11. Name the components of the following mixtures:-

(i) Air
(ii) Milk
(iii) Sea water

==========

QUESTION BANK

Q.1. Why do we need to separate different components of a mixture? Give two examples.

Q.2. What is winnowing? Where is it used?

Q.3. What is sieving? Where is it used?

Q.4. How would you obtain clear water from a sample of muddy water?

Q.5. Answer the following questions.

(i) Why are fruits and vegetable juices filtered before drinking?
(ii) What is the principle used in the method of sedimentation and decantation?
(iii) How can you make a saturated solution an unsaturated?
(iv) Describe sieving giving two examples.
(v) Give a point of similarity between sand and salt?

Q.6. Define the following terms.

(i) Evaporation
(ii) Condensation
(iii) Sedimentation
(iv) Decantation

Q.7. How will you separate?

(i) Salt from sea water
(ii) Salt from a mixture of sand and salt
(iii) A mixture of salt, saw dust and iron filings
(iv) A mixture of sand, water and mustard oil

Q.8. Give reasons.

(i) Sugar dissolves easily in milk at room temperature in summer compared to winter.

(ii) Sugar cannot be separated from water by evaporation.

(iii) We cannot use either winnowing, sieving or handpicking techniques for the separation of sand and salt.

(iv) A roadside shopkeeper sprinkle water outside his shop on a dusty day.

Q.9. Differentiate between.

(i) Saturated and unsaturated solution

(ii) Winnowing and threshing

(iii) Sieving and filtration

Q.10. Draw a well labelled diagram of an apparatus used to separate a mixture of oil and water?

Q.11. By mistake your mother has added two extra spoons of sugar to a cup of tea. She finds out her mistake at once and does not want to throw the tea away. What can she do?

Q.12. Lemonade is prepared by mixing lemon juice & sugar in water. You wish to add ice to cool if should you add ice to lemonade before or after dissolving sugar? In which case would it be possible to dissolve more sugar?

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Module – 14/15/16

CHANGES AROUND US

TUTORIAL

Reversible change	**Irreversible change**	**Physical change**	**Chemical change**
A change that can be reversed to get the material in the original state.	A change that cannot be reversed.	No new substance is formed.	New substances are formed.
		It is generally reversible.	It is generally irreversible.

It is a temporary change.	It is a permanent change.	Change of physical properties like state, shape, size or mixing of two substances may form a new substance but the properties of the components are retained.	Mixing of two substances form a new substance whose properties are totally different.
Examples: evaporation, melting, folding of paper (origami) etc.	Examples: cutting, cooking, burning etc.	Examples: cutting of non- living things like paper and wood, evaporation, boiling, condensation, melting, solidification etc.	Examples: burning of paper, cooking of food, cutting of tree etc.

-Desirable change: A useful change which either occurs naturally or can be brought about by us is called desirable change. e.g change of seasons formation of curd from milk etc.

-Undesirable change: A change which occurs naturally but is harmful to humanity is called an undesirable change. e.g flooding of rivers during rainy season, rusting of iron etc.

-Periodic changes: Changes which keep repeating themselves after a regular period of time are called periodic changes. e.g the rising and setting of sun, swinging of a pendulum in a clock etc. They predictable in nature.

-Nonperiodic changes: Changes which do not occur at regular interval of time and thus are not predictable are called non periodic changes. e.g eruption of volcanoes, falling sick etc.

-Fast changes: Certain changes which take place at a very fast pace are called fast changes. e.g bursting of balloon, burning of paper etc.

-Slow changes: certain changes which take place at a very slow pace are called slow changes. e.g ripening of fruits, germination of seeds etc.

~~~~~~
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ASSIGNMENT

Q.1. Fill in the blanks:

(i) Boiling the water into its vapour is a …… change.
(ii) Growing old is a ……change.
(iii) Earthquake is …… change.
(iv) Breaking of glass is a ……change.
(v) A bud turning into a flower cannot be a …….... change.
(vi) Change of state is a …….. change.
(vii) Spoiling of food is a ……..change.
(viii) Revolution of earth is a ……change.
(ix) Formation of rust is a ……change.
(x) Formation of curd from milk is a ……..change.
(xi) The appearance of Haley's comet after every 76 yrs is an example of …… change.

Q.2. State true or false for the following statements-

(i) Cooking of rice is a physical change.
(ii) Rubbing chalk on a black board is a chemical change.
(iii) Souring of milk is a reversible change.
(iv) Floods occur at regular time intervals.

Q.3. Choose the correct answer-

(i) Which of the following involves a fast chemical change?

(a) The burning of a matchstick
(b) The rusting of iron
(c) The ripening of mango
(d) The growth of a plant.

(ii) Solubility of a solid in a liquid can be increased by

(a) Increase in temperature
(b) decrease in temperature
(c) both a and b
(d) none of thes

(iii) Most of the time measuring devices are based on –

(a) Periodic change
(b) Reversible change
(c) Non- periodic change
(d) None of these

(iv) An example of periodic change is-

(a) Appearance of spring
(b) Burning of paper
(c) Growth of a plant
(d) Burning of cracker

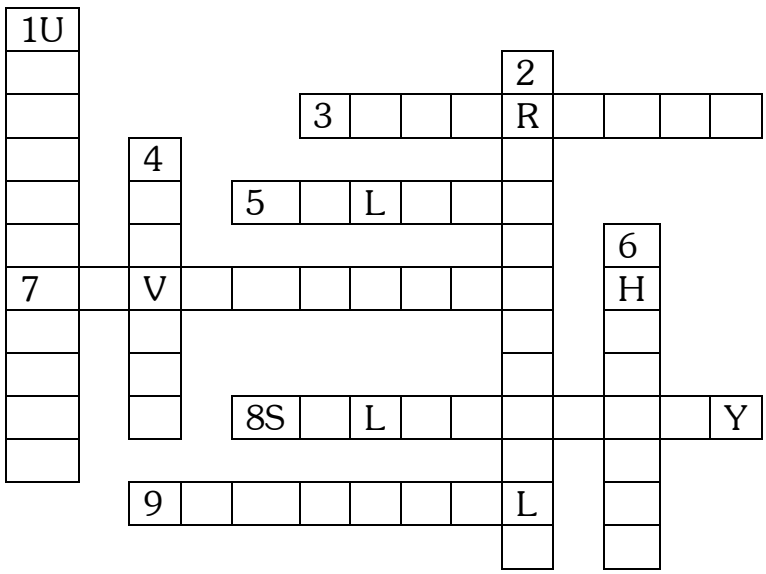
(v) Growth of a tree can be classified in many ways except as a:

(a) Slow change
(b) Irreversible change
(c) Chemical change
(d) Physical change

Q.4. Can the following changes be reversed? Write Yes or No.

(i) Salt dissolving in water .....
(ii) Blooming of bud into flower .....
(iii) Stretched rubber band coming back to its normal size .....
(iv) Melting of ice cream. .....

Q.5. Solve the crossword given below-



Across

3. The solution in which no more solute can be dissolved at a given temperature.
5. The component present in small amount in a solution.
7. Change that can be easily reversed.
8. Maximum quantity of solute that can be dissolved in a certain quantity of solvent.

9. Change in which a new substance with different properties is formed.

Down

1. The solution in which more solute can be dissolved.
2. Change that cannot be reversed.
4. The component present in large quantity in a solution.
6. Change in which no new substance is formed.

Q.6. Give one example each for the following changes from your everyday life.

(i) Change in shape
(ii) Change in size
(iii) Change in colour
(iv) Change in position

Q.7. Classify the following into physical and chemical changes

(i) Cooking of food
(ii) Expansion of metal
(iii) Charring of wood
(iv) Milk changing into curd
(v) Melting of ice cream
(vi) Crushing of stones

Q.8. Match the following changes:-

	Change	**Type of change**
(i)	Beating of human heart	Reversible & Physical
(ii)	Bursting of a cracker	Chemical & Slow
(iii)	Rusting of iron	Desirable
(iv)	Rain on a cold day	Fast
(v)	Burning of a candle	Physical
(vi)	Evaporation of petrol	Undesirable
(vii)	Burning of a fuel	Chemical & Slow
(viii)	Melting of wax	Both Reversible & Irreversible

~~~~~~

QUESTION BANK

Q.1. State two changes that are desirable as well as undesirable. Give reasons.

Q.2. Explain how burning of paper is different from tearing it.

Q.3. Give five examples each of-

(i) Periodic and non periodic change
(ii) Fast change and slow change

Q.4. Differentiate between the following along with suitable examples.

(i) Reversible and Irreversible changes
(ii) Desirable and Undesirable changes
~~~~~~

(iii) Expansion and contraction
(iv) Periodic and Non periodic change

Q.5. Name the changes observed in following cases-
(i) Burning of candle
(ii) Fixing the metal rim on the wooden wheel of a cart

Q.6. How does a blacksmith change a piece of iron into different tools?

Q.7. Distinguish between melting of wax and burning of wax with respect to reversible and irreversible change.

Q.8. Given below are a list of changes, observe and identify the change.
(i) A tray of ice cubes is kept at room temperature
(ii) Iron pieces are kept exposed for some days in humidity
(iii) Metal rim of a cart wheel is heated
(iv) A glass of milk is left out for 2 days in summer season

Q.9. Why does a hot glass crack under cold water?

Q.10. Are all physical changes reversible? Justify.

Q.11. Why are gaps left between the rails in railway tracks?

Chemistry Revision Assignment (S.A-II): 2011-12
(Chapter 5: Separation of substances)

1. Answer in one word:

(a) Mixture obtained by dissolving a solute in a solvent.
(b) A solution which cannot dissolve more solute at a given temperature.
(c) Process of liquidification of water vapours.
(d) A substance having same composition throughout.
(e) The component present in small amount in a solution.
(f) The component present in large quantity in a solution.

2. Define the following:

(a) Sedimentation
(b) Decantation
(c) Winnowing
(d) Threshing
(e) Sieving

3. Distinguish between –

(a) Winnowing & threshing **(b)** Sieving & filtration
(b) Sedimentation & decantation

4. Name the method (technique) that you would use to separate the following mixtures:

(a) water + sand
(b) water + sand + salt
(c) water +sand + salt + iron fillings
(d) water + sawdust
(e) sand + sawdust
(f) cream from milk

5. Answer the following:

(a) Why do we need to separate mixtures into its constituents?
(b) Mention the property used in separating a mixture of two solids by

(i) Winnowing *(ii)* Handpicking
(iii) Sieving

(c) Under which conditions can handpicking be used to separate the constituents of a mixture?
(d) How will you separate sugar crystals from salt?

6. Think and answer:

(a) A saturated solution of sugar in water is prepared. The temperature of water is lowered by 5 degree celsius. Will the solution continue to be saturated? Give reason(s).
(b) From the given figure, answer the below mentioned questions

(i) Identify the method of separation.
(ii) Define the method of separation.
(iii) Which property is used in separating a mixture by above method?
(iv) Give any one application.

ACTIVITIES
C-1

AIM: To classify whether the given objects float or sink in water.

MATERIALS REQUIRED:100ml beaker, water, glass rod.

GIVEN SUBSTANCES: wood shavings, plastics pieces, thermocol balls, iron nails, rubber ball, plastic ball, cotton, steel spoon, plastic bottle, shoe etc.

PROCEDURE:

1. Take 100ml beaker and fill it half with water.
2. Now drop the given substance into the water.
3. Stir it for sometime.
4. Now leave it undisturbed for sometime.
5. Observe the beaker.
6. Wash the beaker and repeat the above procedure with other substances.

OBSERVATIONS:

S.NO	GIVEN SUBSTANCE	OBSERVATION	INFERENCE

CONCLUSION:

C-2

AIM:Study the following changes and classify them as reversible or irreversible.

VARIOUS CHANGES:

1. Blowing of a balloon,
2. bursting of balloon,
3. cutting of paper,
4. melting of wax,
5. melting of ice,
6. heating of water,
7. folding of a paper
8. condensation of water vapours

PROCEDURE:

1. Take the above material.
2. Verify the change by bringing difference in its physical properties.
3. Record your observations and fill the observation table.

OBSERVATION TABLE:

S.NO	GIVEN CHANGE	TYPE OF CHANGE

.

CONCLUSION:

C-3

AIM: To separate the given mixture of sand, salt and water.

MATERIALS REQUIRED: Beakers, glass rod, spirit lamp, funnel, filter paper, wire gauze, tripod stand.

GIVEN MIXTURE: A mixture of sand, salt and water.

METHOD OF SEPARATION USED:

- Sedimentation, Decantation and Filtration
- Evaporation
- Condensation

PROCEDURE:

1. Take the mixture in the beaker.
2. Allow it to stand for sometime.
3. Separate sand by the method of sedimentation, decantation and filtration.
4. Evaporate salted water by heating the remaining solution to get salt.
5. Condense the water vapour formed by passing it through cool surface.

OBSERVATIONS:

1.
2.
3.

CONCLUSION:

DIAGRAM: Draw the procedural setup for the processes involved.

C-4

AIM: To prepare a saturated solution of sugar in water and study the effect of temperature on saturation of a solution.

MATERIALS REQUIRED: Sugar, water, beaker, glass rod, spirit lamp, tripod stand, wire gauze

PROCEDURE:

1. Take 100ml water in a beaker. Add sugar slowly to it while stirring continuously.
2. Keep adding more sugar until more sugar added does not gets dissolved ,but settles at the bottom of the beaker.
3. Heat the solution and stir it.
4. Add more sugar to the heated solution.
5. Observe the beaker carefully and note your observations.

OBSERVATION:

CONCLUSION:

DIAGRAM:

C-5

AIM: To show that oxygen is necessary for burning.

MATERIALS REQUIRED: two candles, gas jar, trough, water.

PROCEDURE:

1. Take two candles.
2. Now light up the candles.
3. Cover one of them with inverted gas jar and leave them untouched for sometime.
4. Observe it carefully and record your observations.

OBSERVATIONS:

1.

2.

CONCLUSION:

DIAGRAM:

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BIOLOGY

Module – 01

TOPIC : 1- Introduction to Biology
2-Food : Where Does It Come From?

Contents :

1. ***(i)*** Definition of Biology
(ii) Branches of Biology
(iii) Contribution of eminent Biologists
(iv) Advantages and disadvantages of studying Biology

2. ***(i)*** Food variety
(ii) Food materials and sources

~~~~~~

TUTORIALS

1 Advantages of studying Biology:

(i) helps to know more about ourselves.

(ii) helps to gain knowledge about plants and animals.

(iii) helps to know the nature, environment and their interaction with wild life.

(iv) helps to know the interdependence of plants and animals and importance of conserving them.

(v) helps to overcome the shortage of food by introducing improved variety of seeds.

(vi) helps to study about herbs and medicinal plants affective on curing diseases.

(vii) study of biology has given rise to Ayurvedic and Homeopathic system of medicine which are based on knowledge of herbs.

2 Disadvantages of studying Biology:

(i) Many animals are experimented upon and killed for research.

(ii) Man has started interfering with nature. He has used microbes to make powerful weapons of destruction called biological weapons e.g. some harmful fungal spores and bacteria are spread in air or mixed with water which harm the human population.

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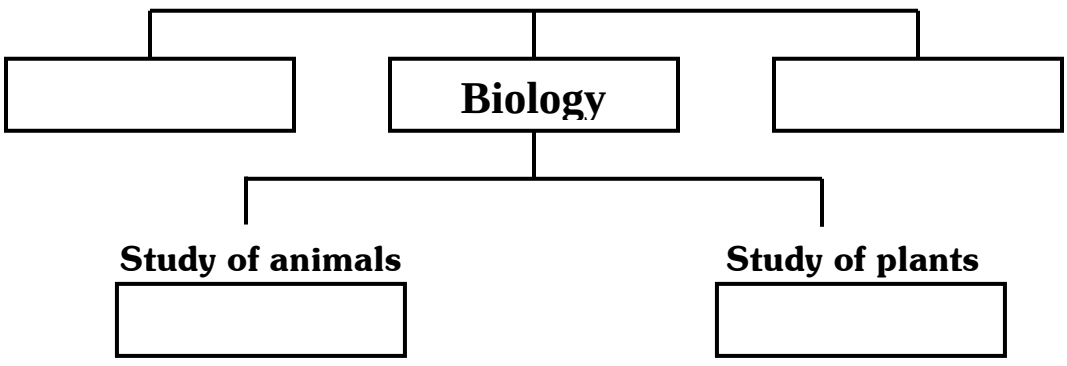
ASSIGNMENT- 1

Q.1. Match the following. (Mention the number of column A in box given)

Column A	
1. Aristotle	Discovered antibiotic called penicillin from a fungus called penicillium. ☐
2. Alexander Flemming	Discovered the vaccine for small pox. ☐
3. Edward Jenner	Father of biology. ☐
4. Louis Pasteur	Discovered sensitivity in plants. ☐
5. J.C. Bose	Study about birds. ☐
6. William Harvey	Theory of organic evolution. ☐
7. Dr. Salim Ali	Circulation of blood. ☐
8. Charles Darwin	Discovered Pasteurization. ☐

Q.2. Complete the chart:

Science
3 Branches



Q.3. Choose the correct answer:

a) Study of microbes is termed as-

(i) Zoology
(ii) Botany
(iii) Genetics
(iv) Microbiology

b) Study of life is termed as-

(i) Physics *(iii)* Biology
(ii) Chemistry *(iv)* Physiology

~~~~~~

ASSIGNMENT-2

Q.1. Fill in the blanks:

a) Lion eats only flesh and so, is called _____________.
b) Carbohydrates remain stored in plants as ______________________.
c) Body building food are called _____________.
d) __________ of mustard plant give us oil and leaves are used as ________.
e) Bees collect ___________ from flowers.
f) Flesh eating animals are called _______________.
g) Humans belong to this category of plant and flesh eating animals ___________.

Q.2. Which is the edible part of the following plant?

a) Rice _____________ *b)* Sugarcane ____________
c) Strawberry _____________ *d)* Pea ____________

Q.3. Complete the table:

Edible part of the plant	Name of the plant
1. Root	Carrot, _________, __________
2. Stem	Potato, _________, __________
3. Leaves	Cabbage, ________, _________
4. Flowers	Cauliflower, _________, ________
5. Fruits	Apple, brinjal, _________
6. Seeds	__________, __________, pulses
~~~~~~

Q.4. Choose the correct answer.

(a) Which of the following is not obtained from plants?

i	Butter	iii	Coffee
ii	Tea	iv	Cocoa

(b) Which of the following is not obtained from animals?

i	Milk	iii	Cheese
ii	Cereals	iv	Eggs

(c) Cows, Goats and Horses are all

i	Omnivores	iii	Carnivores
ii	Herbivores	iv	Scavengers

(d) An ingredient which is neither obtained from plant or animal is

i.	Salt	iii.	Sugar
ii.	Honey	iv.	Spices

==========

QUESTION BANK

NEW TERMS

Ingredients, Herbivore, Carnivore, Omnivore, Nectar, Sprouted seeds

Q.1. Why do we cook food?

Q.2. How is honey produced?

Q.3. What is the disadvantage of cooking food?

Q.4. Table Q.3 of Page 74 of Assignment booklet.

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Module – 02

Topic: 1-Food : Where Does It Come From?
2-Components of Food

Contents :-

1. (i) Plant parts and animal products as food
(ii) What do animals eat?

2.(i) Nutrients present in the food-carbohydrates, proteins, fats, vitamins and minerals. In addition to it food contains dietary fibres and water.
(ii) Test for starch – with iodine solution.
(iii) Test for proteins – with copper sulphate and caustic soda.
(iv) Test for fats.

~~~~~~

Assignment- 1

Q1. Give one word:

a) Protective foods are ____________ and ____________.
b) Meals that provide us all the nutrients in the proper quantities ____________.
c) Food rich in fibres is called ______________.
d) A balanced diet has all the five ___________ present in it.
e) Iodine turns a food sample blue black showing presence of ___________.
f) Fats and carbohydrates are called __________ giving foods.
g) Proteins are called ___________________ foods.
h) Ghee and butter are sources of ___________.

Q.2. Do as directed:

a) Food has following functions in our body –
1) ____
2) ____
3) ____

b) Name five food items which have fibre.

____

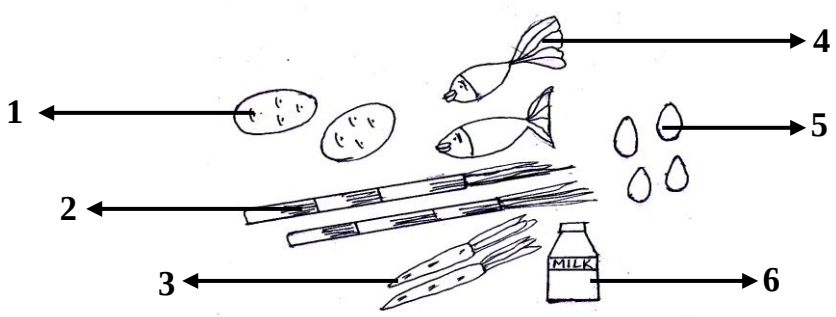
Q.3. Give difference between:

	Energy giving food	Body building food
Name of nutrient present in these foods	Carbohydrates Fat	
Example	1. Rice 2. Oil 3.	1. 2. 3.
~~~~~~

	4.	4.

	Starch test	Protein test
Chemicals used		
Colours observed		

Q.4. Shown below are pictures:



Identify various food nutrients present in each food product.

1._____ 4. _____

2. _____ 5. _____

3. _____ 6. _____

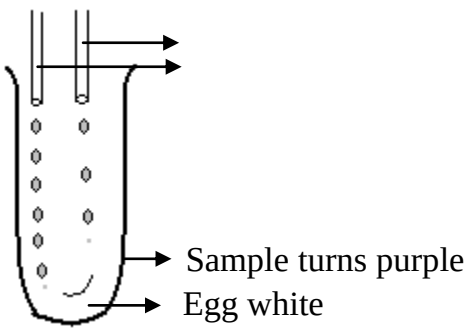
Q.5. Observe the following activity done with egg white. Label the diagram. The food sample contains

(a) Fat

(b) Protein

(c) Vitamin

(d) None of the above



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(b) Bleeding of gums is a symptom of the disease:

(i) Rickets *(iii)* Goiter

(ii) Beri Beri *(iv)* Scurvy

(c) Which of the following are not energy giving food:

(i) Raw potato *(iii)* Slice of a fruit

(ii) Cooked rice *(iv)* Ground nut

(d) Which of the following food is a source of roughage:

(i) Cooked rice *(ii)* Eggs

(iii) Whole grains *(iv)* Fish

Q.3. Complete the given table.

PEM: Protein Energy Malnutrition

	Kwashiorkor	**Marasmas**
i) Age of child	1 to 5 years	
ii) Deficiency of which nutrient	Protein	Protein, carbohydrate and fat
iii) Symptoms	Odema and skin becomes dark & scaly	

Q.4. Complete the given table:

Components of Balanced Diet

S.No.	Nutrient	Source	Benefits	Deficiency Disease (Name & Symptoms)
1.	Carbohydrates	1 Potato 2 3	It gives us energy	
2.	Proteins	1 2 3		
3.	Fat	1 Groundnuts 2 3		
4.	Roughage	1 Carrot 2 3		
5.	Water	1 Milk 2 3		
6.	Vitamin A	1 Papaya 2 3	Keeps skin and eyes healthy	Night blindness

7.	Vitamin B	1 Wheat 2 3		Beri Beri Scurvy
8.	Vitamin C	1 Amla 2 3		
9.	Vitamin D (Sunshine Vitamin)			
10.	Minerals			
	(a) Iodine	1 2 3		Goitre
	(b) Iron	1 2 Spinach 3		Anaemia
	(c) Calcium	1 2 Milk 3		Weak bones Tooth decay

==========

QUESTION BANK

NEW TERMS

Nutrients, Deficiency disease, Balanced diet, Obesity

Q.1. Name the major nutrients present in our food.

Q.2. Name the three groups of components of food according to their functions.

Q.3. How does dietary fibre help our body?

Q.4. Enumerate the importance of water in our food.

Q.5. Write the three improper cooking practices.

Q.6. Enumerate the Vitamins and Minerals required by our body along with their deficiency disease. Also mention the symptom of these diseases.
(Hint: Table- 2.3 of Page 16 of NCERT)

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Module – 04/05/ 06

Chapter : Getting To Know Plants
Contents :

a) Herbs, Shrubs , Trees, Creepers and Climbers.
b) Stem conducts water and minerals.
c) Leaf – shape, venation.
d) Transpiration, Photosynthesis.
e) Root – Tap Root and Fibrous Roots.
f) Roots absorb water and minerals from the soil.
g) Flower- petals, sepals, stamens and pistil.
h) Structure of ovary.

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ASSIGNMENT

Q.1. Classify the following into herbs, shrubs and trees, Teak, Bougainvillea, Carrot, Tulsi, Eucalyptus, Ginger, Mango, Wheat, Mustard, Rose, Palm, and Sunflower.

Herbs	Shrubs	Trees

Q.2. Fill in the blanks :

a) _____ system is found above soil in a plant.
b) Absorption of water in plants take place by _____
c) Leaves of Opuntia / Cactus gets modified into _____
d) Weak stems climb up to the support by with the help of _____
e) Fibrous roots do not have _____
f) In pitcher plant, _____are modified for trapping insects.
g) Leaves are green as they contain _____
h) Tiny pores present on the leaf surface are called _____

Q.3. Unscramble the 3 functions of leaves from the given jumbled letters.
- RRATSPTNIAOIN
- EYTHNPSOIOSHTS
- NOITARIPSER

Q.4. Tick the correct option:

a) Which plant has a tap root system?
1. Paddy *2.* Mustard
3. Maize *4.* Wheat

b) Which plant has a fibrous root system?

1. Pea *2.* Beans
3. Wheat *4.* Neem

c) Which part of potato plant is eaten?

1. Root *2.* Leaf
3. Stem *4.* None of these

d) Which of the following function is performed by the root?

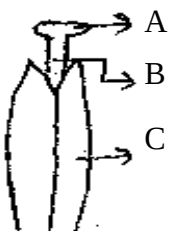
1) absorbs water and mineral from the soil
2) anchors the plant
3) checks soil erosion
4) All of the above

e) Which of the following function is performed by the stem?

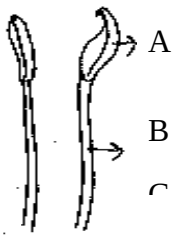
1) It neither bear branches nor leaves
2) It does not transport food made by leaves
3) It keeps plants straight and gives support to the plant
4) All of the above.

Q.5. Name and label the following:

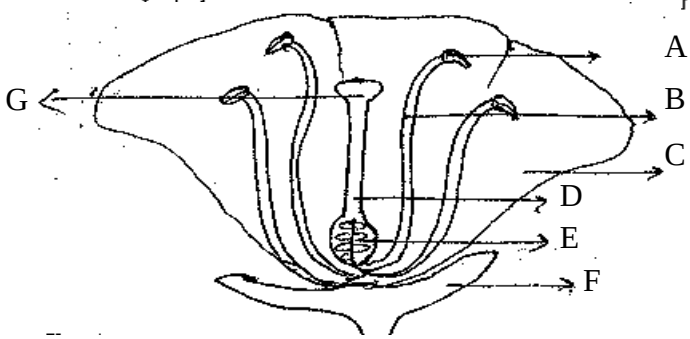
a)



b)



c)



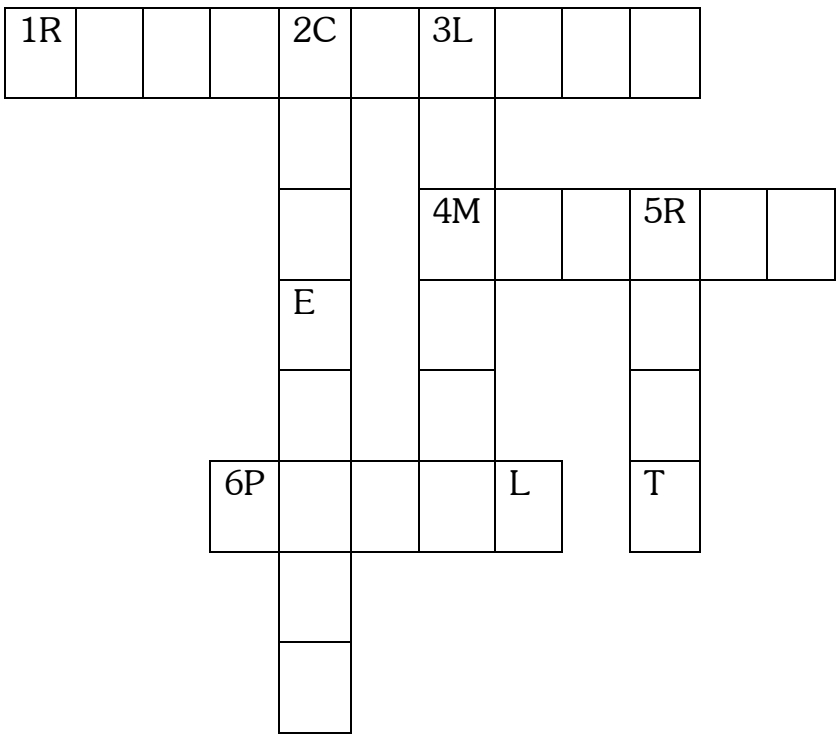
Q.8 Complete the following word puzzle with the help of the clues given below:-

ACROSS

1. Venation in leaves of plants with tap root.
4. Thickest vein in a leaf.
6. Colourful part of a flower.

DOWN

2. Plants which spread on ground.
3. The broad green part of the leaf.
5. Part of a plant which anchors it to the soil.



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QUESTION BANK

NEW TERMS

Leaf venation, Transpiration, Photosynthesis, Tap root, Fibrous root

Q.1. Compare herbs, shrubs and trees on the basis of following characteristics.

(i) Stem

(ii) Position of branches

(iii) Size of plant

Q.2. Define leaf venation. Describe its types.

Q.3. Write three functions each of

(i) Root *(ii)* Stem

Q.4. Describe different parts of flower. Draw and label parts of it.

Q.5. Differentiate between stamen and pistil.

Q.6. How does a flower change into a fruit?

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ACTIVITY BASED QUESTIONS

A. Read activity 2 on page 54 of NCERT book and answer the following question.

Q1 (a) Which part of plant is described in this activity?

(b) Which function of this part is described in this activity.

____

____

____

Q2 Why was ink added to water?

____

Q3 What do you conclude from this activity?

____

____

B. Read activity 4 on page 56 of NCERT book and answer the following question.

Q1 Why was bag tied to plant?

____

____
~~~~~~

Q2 On Which day do you think there will be more water droplets on the bag's surface dry day/ humid day and why?

____

____

Q3 Name the process which makes the water vapour appear on polythene bag.

____

Q4 Which of the following will produce more water droplets

(i) Narrow leafed plant/ broad leafed plant

(ii) Xerophyte/ Hydrophyte

(iii)Well- watered plant/ plant growing in dry soil

==

Module – 07/ 08/ 09

Topic : Garbage In, Garbage Out

Contents:

a) Dealing with Garbage.
- **1)** Landfill
- **2)** Compost
- **3)** Burning

b) Vermicomposting with the help of red worms.
c) Think and throw.
d) Recycling of paper.
e) Plastics – Boon or a curse?

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Assignment

Q.1. Differentiate between the following:

	Biodegradable Waste	Non biodegradable Waste
Nature	The waste which consists of organic matter or waste obtained from plants and animals.	
Role of micro organisms		Can not be broken down by action of micro organism
Colour the bin		

Q.2. Fill in the blanks:-

a) _____ wastes include materials of plant and animal origin.

b) Pollution causes contamination of natural elements such as _____, _____ and _____.

c) The waste which is inorganic in nature and cannot be broken down through the action of micro organisms is called _____.

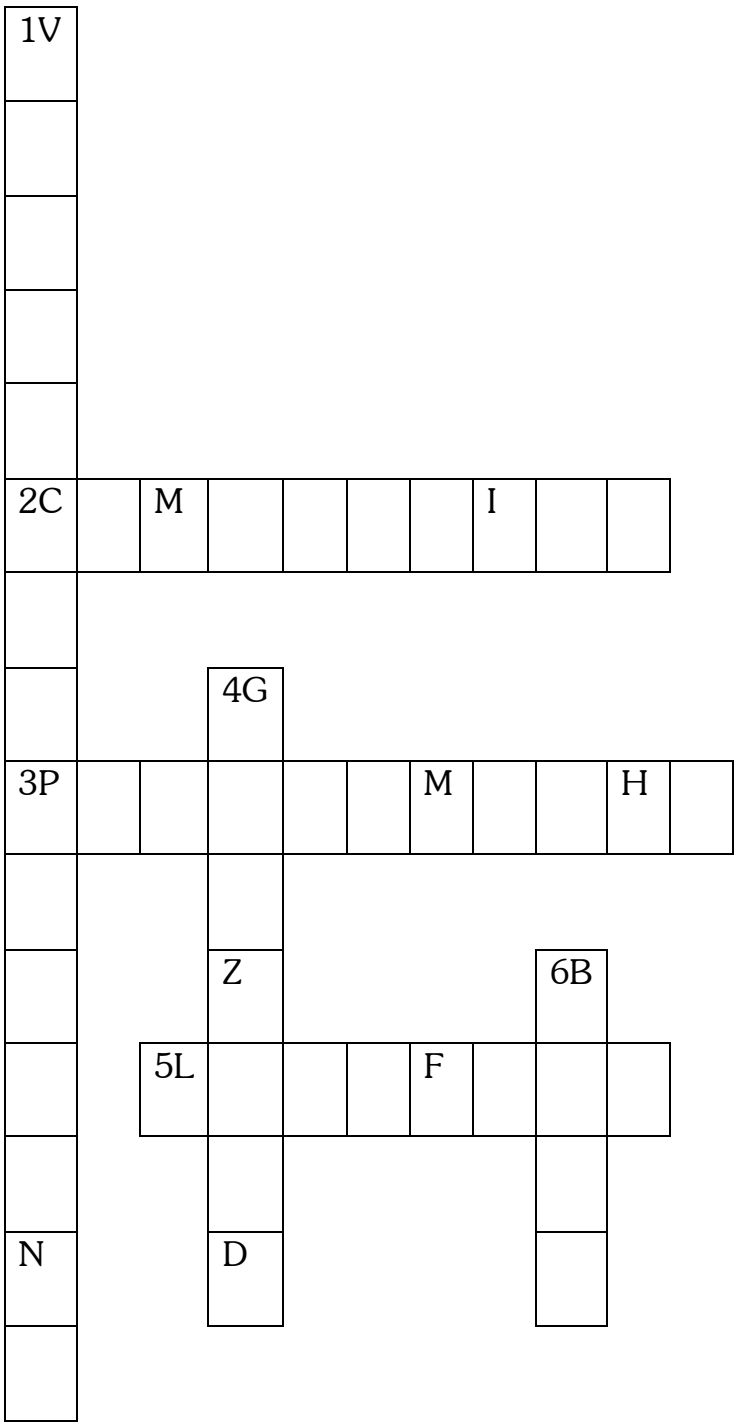
d) On burning plastic gives out…….. gases.

e) The pulp of paper with rice husk is called ……

f) Red earthworm grind the food in its ……

g) ……. is a key to happy future. (conservation/preservation)

Q.3. Complete the following word puzzle with the help of the clues given below:-



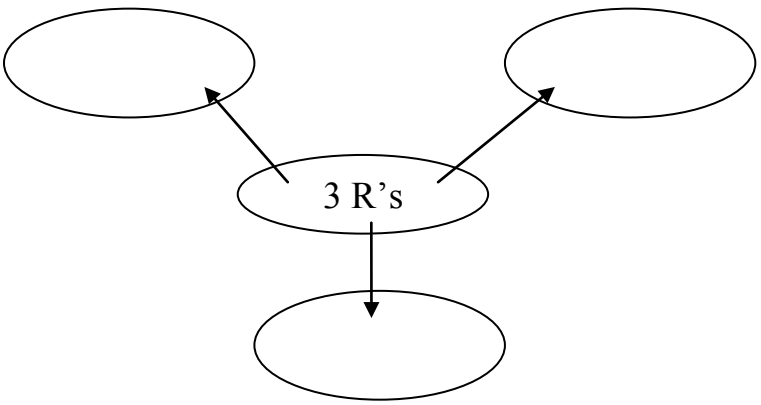
ACROSS

2. Converting garbage into useful manure.
3. Paper made from paste of clay and used paper.
5. Open low lying area used for dumping garbage.

DOWN

1. Composting using red worms.
4. Structure that helps red worms in grinding food.
6. Colour of bin used for throwing garbage that can't be converted into compost.

Q.4.



Q.5. Why is recycling important? List three products (each) that cannot and can be recycled.

_____

_____

_____

_____

Q.6.

Which one would you like to choose from the above picture for carrying things? State two reasons for it.

_____

_____

Q.7. Complete the table:

Name of substance	Should/ Could/ Shouldn't be added to vermicomposting pit	Reason
1. Green leaves/ husks/animal's dried dung.		
2. Waste that contain salt, pickle, oil, vinegar, meat and milk products.		
3. Powdered egg shell.		

Q.8. Read the list of items given below and write yes or no against each in the column that follows:

Items	Can be reused	Can be recycled	Is biodegradable
1. Glass bottle			
2. Tin can			
3. Egg shell			
4. Bones			
5. Cloth bag			
6. News paper			
7. Earthen cup			

Q.9. Raman's gardener burns the leaves (wet or dry both)collected from garden but Vishnu's gardener converts leaves and kitchen wastes into compost. Which one is the better practice and why?

_____

_____

_____

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QUESTION BANK

NEW TERMS

Land fill, Composting, Vermi composting, Bio-degradable, Non-biodegradable

Q.1. Why plastic can be called a necessary evil?

Q.2. Why do we refer earth worm as farmer's friend?

Q.3. Describe three R's which should be kept in mind while dealing with garbage.

Q.4. What can we do to minimize the over use of plastic?

Q.5. Do you think it is better to use compost instead of chemical fertilizers? Why?

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Module – 10

Revision and Examinations

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Module – 11/ 12/ 13

Topic : Body Movements

Contents:

a) Human body and its movements.
b) Joints – Ball and Socket joints, Pivotal joints, Hinge joints, Fixed joints.
c) Skeleton - Skull, Rib Cage, Back bone, Shoulder bone and Pelvic bones, breast bone and bones of hands and legs.
d) Cartilage.
e) Muscles and their contraction.
f) Gait of animals- Earthworm, Snail, Cockroach, Birds, Fish, Snake.

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Q.2. Name the joints used when,

a) A student climbs the stairs
b) A bowler throws a ball to batsman
c) A teacher turns her head

Q.3. Give reasons for the following:

a) Backbone is made up of many small bones
b) Body of a fish is streamlined

Q.4. Match the following :

	A	B
a)	Spinal Cord	a tough strand that joins a muscle to a bone.
b)	Tendon	a plate of bone at the front of the chest.
c)	Sternum	the nerves that run down the backbone.
d)	Earthworm	have a soft body covered with a tube like shell.
e)	Snail	along its body are tiny hair called bristles.

Q.5. Tick the correct option

1. Which of the following is made up of vertebrae?
   a) Sternum *c)* Backbone
   b) Cartilage *d)* None of these

2. Which of the following is formed by the shoulder blades and the collar bones?
   a) Backbone *b)* Shoulder Girdle
   c) Sternum *d)* Humerus

3. Which of the following animal has its body covered with a hard shell?
   a) Earthworms *b)* Fish
   c) Snail *d)* All of these

4. The lungs and heart are protected by…
   a) Rib Cage *b)* Pelvic Girdle
   c) Elbow *d)* Femur

Q.6. Human skeleton can be divided into-
1.Skull

2. _____

3._____

Q.10. Complete the following table regarding the gait of animal.

Name of organism	**Type of skeleton**	**Special parts which help in movement**
1. Earthworm	No skeleton	i)Hair like bristles to grip the ground ii)Slimy substance to move through soil
2. Snail		A single strong muscular foot
3. Cockroach		i)3 pairs of legs ii)
4. Birds		i) Streamlined body ii) _____ bones. iii) _____ modified into wings. iv) _____ modified as legs. v) Modified _____ to hold strong flight muscles. vi) _____ to change direction.

Q.11. Differentiate between the following:

(i)

Exoskeleton	Endoskeleton

(ii)

Bone		Cartilage
	Nature	
	Location	

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QUESTION BANK

NEW TERMS

Joints, Skeleton, Cartilage, Ligament, Tendons, Gait and Streamlined Shape

Q.1. What are different types of joint?
Q.2. Explain various movable joints?
Q.3. List three parts of skeleton that protects vital organs.
Q.4. Explain working of muscles with the help of diagram.
Q.5. What are the functions of skeleton?

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Module – 14/ 15/ 16

Topic : The Living Organisms And Their Surroundings.

Contents:

a) Organisms and the surroundings where they live.
b) Habitat and adaptation.
c) Biotic and abiotic components.
d) **Terrestrial habitats**
i Deserts
ii Mountain regions
iii Grasslands
e) **Aquatic habitats**
i Oceans.
ii Ponds and Lakes.
iii Living things around us.
iv Characteristics of living things.

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TUTORIALS

Schematic representation of adaptations in plants living in different habitats:

Plant	Habitat	Root	Stem	Leaves
Cactus	Desert Xerophyte	Roots that grow very deep into soil for absorbing water.	i) Thick and flashy to store water. ii) Green to do photosynthesis	Either absent, very small or are present in the shape of spine to prevent loss of water due to transpiration.
Pine and Fir	Mountain (Mesophyte)	Thick branching roots to anchor tall trees.	Tall with sloping branches to give a cone shape to the trees, such shape helps the rain water and snow to slide off quickly from trees.	Long, needle like leaves. These feature help to protect the plant from cold.
Lotus (floating) Tapegrass (submerged)	Ponds & Lakes (Hydrophyte)	Roots are much reduced in size or absent as water can be absorbed by all parts of plant.	- Long and narrow stem to withstand water current without getting damaged - Stem have air space to enable the plant to float.	- Floating leaves are large and flat to give buoyancy. They have waxy upper surface to make them water proof. They have stomata on upper surface. - Submerged leaves are long and narrow or highly divided to withstand water current.

Schematic representation of adaptations in animals living in different habitats:

Animal	**Habitat**	**Adaptation**	**Advantage**
Camel	Desert	i) Have long legs ii) They excrete small amount of urine, their dung is dry and they do not sweat.	- To keep their body away from the heat of sand. - So that they lose very little water and can live for many days without water.
Fish	Ocean, pond, lakes etc.	i) Slippery scales on their bodies. ii) Flat fins and tail.	-Protects the fish and also help in easy movement through water. - Helps to change directions and keep their balance in water.
Rats and snake	Desert	Stay in burrows deep in the sand during the day	It keeps them away from intense heat.
Yak	Mountain	Have long hair	Keeps them warm
Goat (Mountain)	Mountain	Have strong hoove	For running up the rocky sloves
Frog	Ponds	- strong back legs - webbed feet	- Help them in leaping and catching their prey. - Help them to swim in water.

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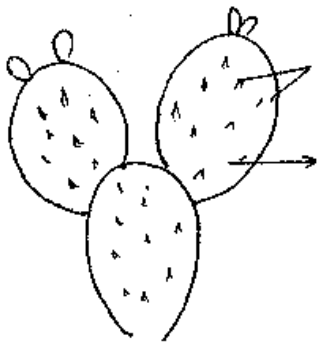
ASSIGNMENT

Q.1. Fill in the blanks

a) Temperature is the _____ component of a habitat.
b) _____ is a water plant.
c) _____ and _____ are the main components of any habitat.

Q.2.



CACTUS

(i) Name the habitat of the given plant. _____

A (ii) What is part A? Which part of plant is modified as A.

_____

B _____

(iii) Name part B and mention its 2 functions.

_____

_____

_____

Q.3. How are the following adapted to live in their respective environment?

a) Polar bear

_____

_____

b) Frog

_____

_____

Q.4. Answer the following questions:

a) A motor car moves, takes in oxygen and gives out carbon dioxide, consumes fuel but nonetheless is not a living creature. In what ways does it not qualify as a living organism?

_____
_____
_____

b) A student was asked to write seven life processes. He wrote the following six processes. Which life process has he forgotten to write?

Nutrition, Movement, Sensitivity, Growth, Respiration, Reproduction

Q.5. Which characteristic of living organisms is shown in the flow chart?

BABY ⟶ BOY ⟶ MAN ⟶ OLD MAN

_____

Q.6. Define the following terms:

a) Stimuli. _____

b) Phototropism._____

Q.7. Complete the table stating the difference between plants and animals:

Life Processes	**Plants**	**Animals**
Nutrition	Makes their own food	
Respiration	Occurs in all plants, is slow	
Reproduction	Generally by seeds or vegetative parts	By eggs or by giving birth to babies
Excretion		Excrete waste daily
Response to stimuli		
Movement	Show both locomotion and movements	
Growth	Occurs in localized parts	

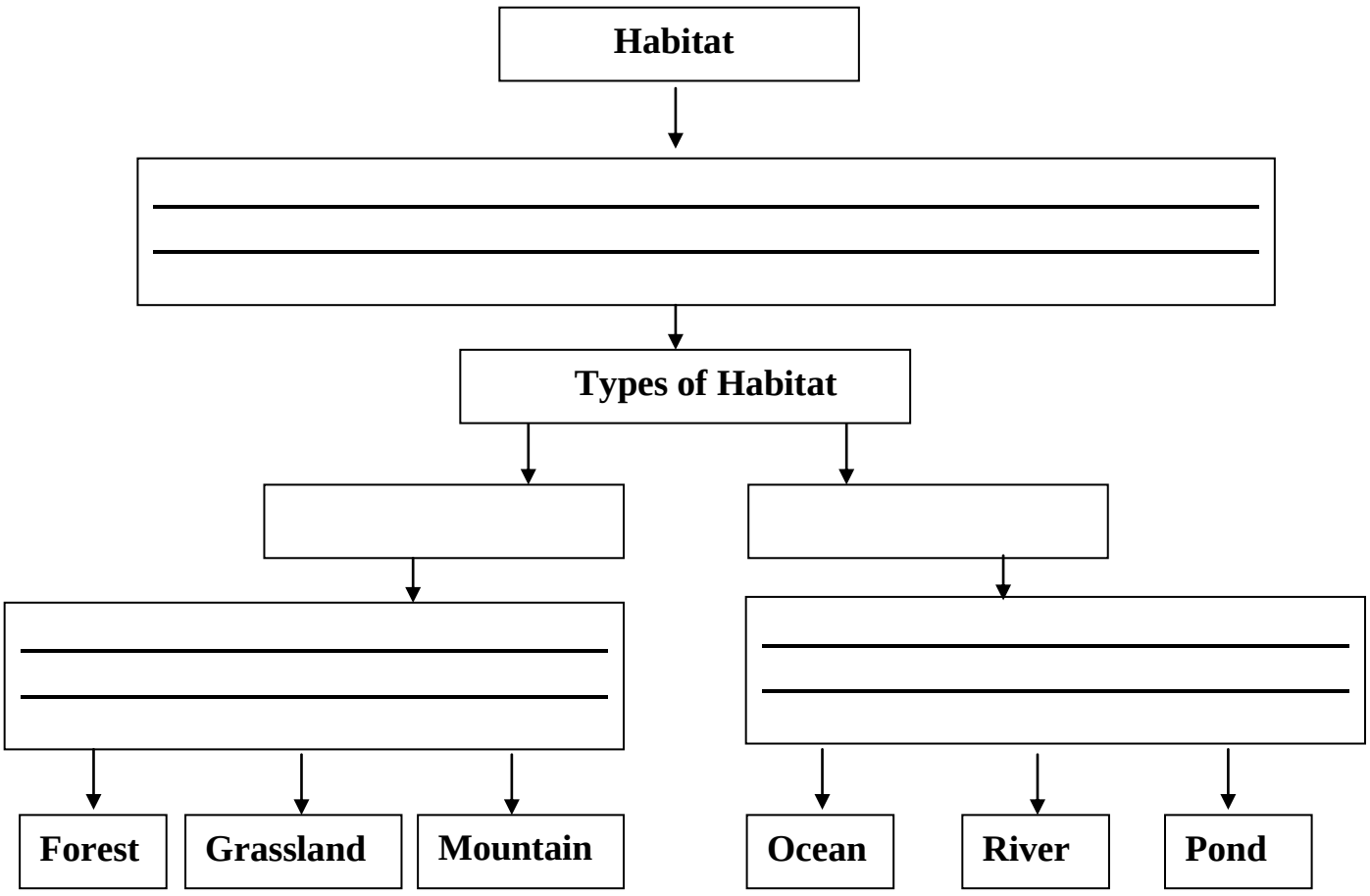
Q11. Differentiate between the following:

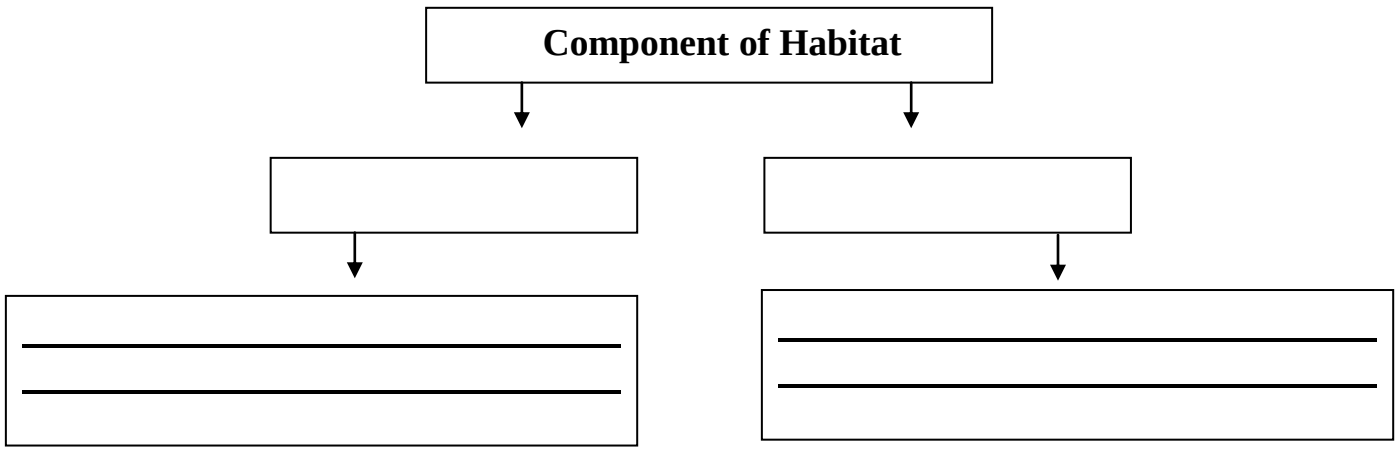
	Adaptation	Acclimatisation
Definition *(i)*		
Example		

	Xerophyte	Hydrophyte
Habitat		
Roots		Reduced as other parts also can absorb water easily.
Leaves	Spine shaped to reduce water loss	
Stem		
Example	Cactus	

	Respiration	Photosynthesis
Definition		
Gases exchanged		

Q.12. Complete the flow chart:





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QUESTION BANK

NEW TEMS

Habitat, Adaptation, Acclimatization, Biotic component, Abiotic component, Prey, Predator, Stimuli, Excretion

Q1. Give reason:

(i) Leaves in cactus are modified as spines.

(ii) Trees in hilly areas are cone shaped.

(iii) If a plant is kept near a window it bends towards the direction of light.

Q2. Identify stimuli and response in following:

(i) Running away of cockroaches when light is flashed on them.

(ii) Withdrawing of hand on pricking by thorn.

Q3. Bring out difference between biotic and abiotic components. Give examples of each.

Q4. Give an example of non-living things which shows characteristic of living things

Q5. Differentiate between prey and predator.

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Module – 17/ 18

Revision for Annual Examination

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ACTIVITY
B-1

Aim:-To know about ingredients of various dishes.

Requirement: Chart paper, picture of a dish.

Procedure:- Make a menu card. Enter the name of dish you had for dinner and complete the following table in menu card.

Observation:-

Name of dish	Ingredient	Source	Name of part of plant

B-2

Aim:-To test the presence of carbohydrate/ protein/ fat in the given food items.

Requirement: Food items, chemicals, test tube, Petri dish and paper.

Procedure:- Take the food items on the Petri dish or a test tube. Put a few drops of the required chemical on it.

Observation:-

Food Item	Chemical Used	Changes observed

B- 3

Aim:-To dissect and know about different parts of flower.

Things required: Hidiscus

Procedure:- Remove different whorls of flower carefully.

Paste them in your lab file and label.

Observations:

(i) Hidiscus has green coloured outermost whorl called _____.

_____ are _____ in number.

(ii) It has inner brightly coloured whorl called _____.

_____ are _____ in numbers.

(iii) In the centre it has female reproductive part known as _____ which consist of _____, _____ and _____.

_____ is _____ in number.

(iv) Male reproductive part are attached near stigma and are known as _____ they are _____ in number.

B-4

Aim:-To know about different types of venation.

Things required: Different types of leaves

Procedure:- Put a leaf under the white side of lab file.

Hold it in place.

Hold your pencil tip/ crayon sideways and rub it on the portion of paper having leaf below it

Observations:

(i) If the design made by veins in a leaf is net like on both the side of midrib it is called _____.

(ii) If veins are parallel to each other these are called _____.

B-5

Aim:-To know about the steps of vermicomposting. Draw the diagram.

Procedure:- Visit to vermicomposting pit in the school.

Steps of vermicomposting are:-

Step-1:Dig a _____ or keep a wooden box at a place which is neither too hot not too cold.

Step-2: Spread a _____ at the bottom of the pit.

Step-3: Spread some vegetable wastes including _____

_____.

Step-4: Sprinkle some _____ to make this layer wet.

Step-5: Buy some _____ and put them in your pit.

Step-6: Cover them with loose _____.

Step-7: Observe the content of pit carefully after 3- 4 weeks. If it is loose soil like material in the pit then vermicompost is ready.

B-6

Aim:-To know about steps of paper recycling.

Steps of paper recycling are:-

Step-1: Tear _____ in small pieces.

Step-2: Put them in a _____ and pour water in it.

Step-3: Let the pieces of paper remain sub merged in water for a _____.

Step-4: Make a thick _____ of paper by pounding on it.

Step-5: Spread the wet paste on the _____ fixed to a frame.

Step-6: Pat it gently to make _____ of layer of paste as uniform as possible.

Step-7: Wait till water _____.

Step-8: Carefully remove the layer of paste from wiremesh and spread it on a sheet of newspaper in sun.

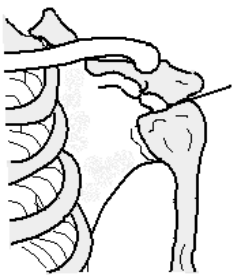
***NOTE*:** Make recycle paper and paste in lab file.

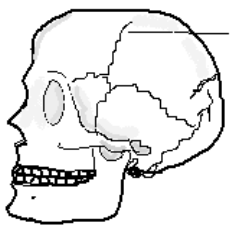
B- 7

Aim:-To observe in the skeleton.

(i) Bone
(ii) Cartilage
(iii) Moveable joints
(iv) Hinge joints (knee joint)
(v) Ball and socket joints (shoulder bones)
(vi) Pivot joints
(vii) Backbone
(viii) Immovable joint (skull)
(ix) Ribcage

-Draw and label the given pictures:





B- 8

Aim:-To know about various animals and plants in different habitat.

Requirement: Information about a particular animals or plant of a habitat.

Procedure:- Paste the picture in the file & write about the organism.

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