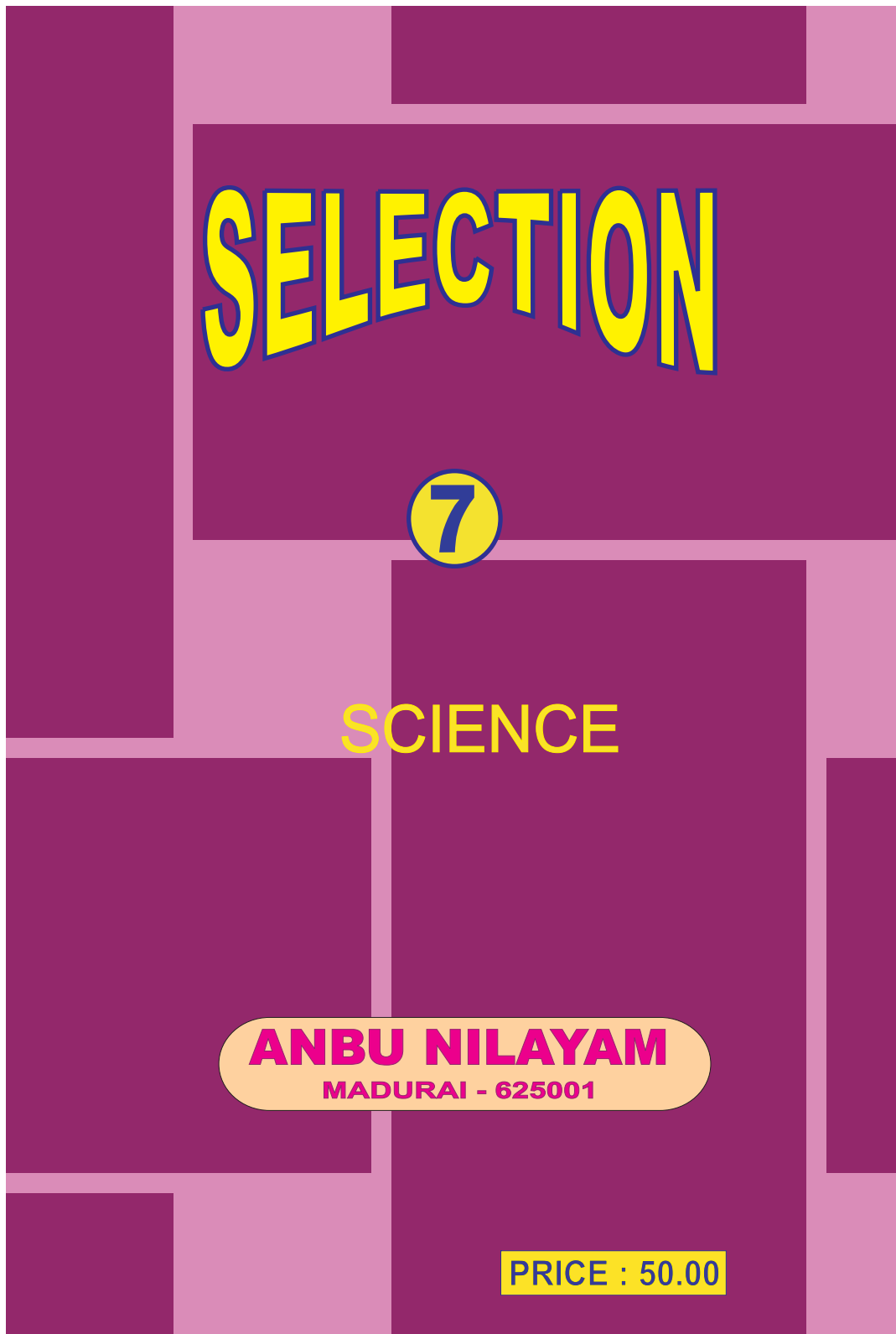




SELECTION

7 STANDARD SEVAN TERM - III SCIENCE

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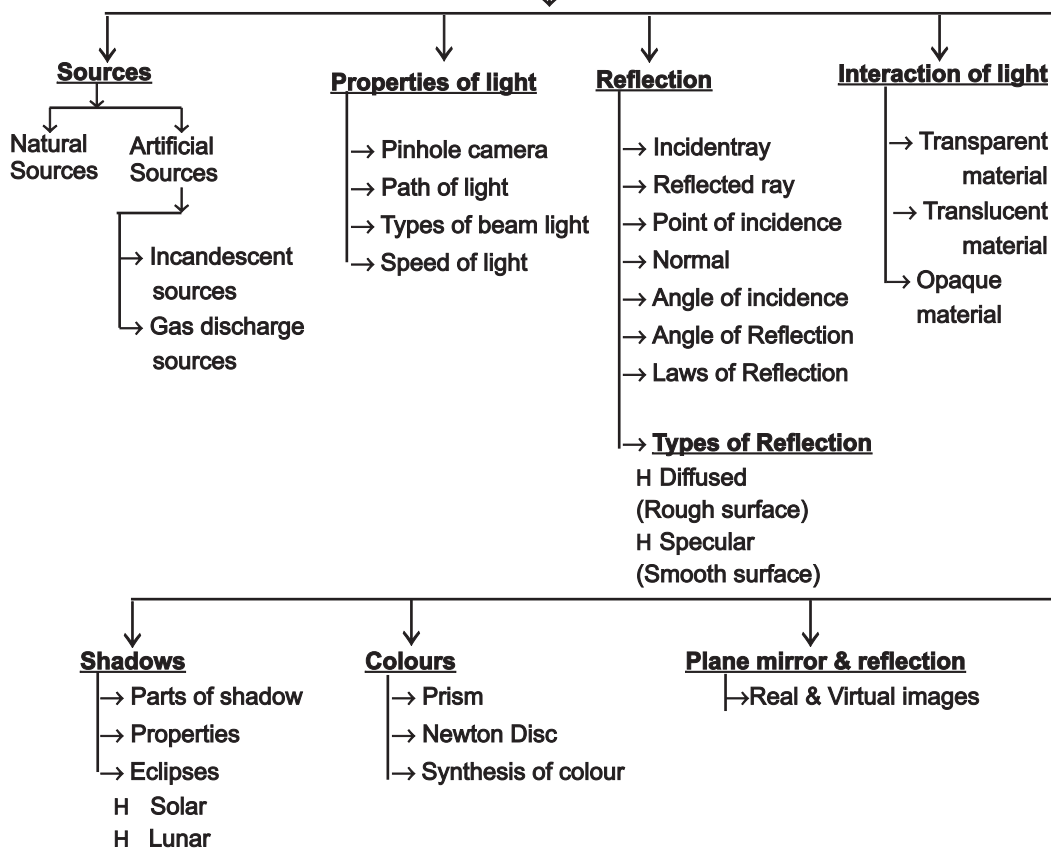
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PHYSICS

Unit - 1. Light

Mindmap

Light



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EVALUATION**I. Choose the correct option :****1. Light travels only in a . It is because of this property that _____ are formed**

- a) curved line, shadows
- b) straight line, shadows
- c) straight line, reflection
- d) curved line and then straight line, shadows

Ans : c) straight line, reflection**2. Light that hits a mirror gets _____**

- a) Transmitted
- b) Reflected
- c) Absorbed
- d) Refract

Ans : b) Reflected**3. _____ Surface reflects the light well.**

- a) water
- b) compact disc
- c) mirror
- d) stone

Ans : c) mirror**4. Light is a form of _____**

- a) matter
- b) energy
- c) medium
- d) particle

Ans : b) energy**5. You can see your image in polished floors, but not in wooden table because _____**

- a) regular reflection takes place in wooden table and irregular reflection in polished floor
- b) regular reflection takes place in polished floor and irregular reflection in wooden table
- c) regular reflection takes place in both polished floor and wooden table
- d) irregular reflection takes place in both polished floor and wooden table

Ans : b) regular reflection takes place in polished floor and irregular reflection in wooden table**6. Choose the translucent substance from the following**

- a) glass
- b) wood
- c) water
- d) Clouds

Ans : a) glass**7. Reflection occurs , when the light**

- a.) about to reach a surface
- b) approaches a surface
- c) passes through a surface
- d) None of these

Ans : b) approaches a surface**8. Which of the following is the best reflector of light?**

- a) plastic plate
- b) plane mirror
- c) wall
- d) paper

Ans : b) plane mirror**9. Sivarajan placed a meter stick in the playground at 7.00 am in the morning. How will the shadow of the stick at noon look in comparison to the one in the morning**

- a) There will be no shadow
- b) The shadow will be longer and on the opposite side as the sun
- c) The shadow will be shorter and on the same side as the sun
- d) The shadow will be shorter

Ans : b) The shadow will be longer and on the opposite side as the sun**10. The image formed by a pinhole camera is inverted because,**

- a) light travels in straight lines
- b) light rays become laterally inverted as they pass through a pinhole camera
- c) light rays pass through the pinhole
- d) light rays get reflected

Ans : a) light travels in straight lines**11. Which of the following facts explain how shadows are formed?**

- a. Light travels in straight lines
- b. Opaque bodies do not allow light to pass through them
- c. Reflection occurs at a smooth surfaces like mirrors
- d. Lateral inversion happens

- a) both A and B
- b) both A and D
- c) both B and C
- d) only A

Ans : a) both A and B

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II. Fill in the blanks :

1. A plane mirror produces a _____ image **Ans : virtual**
2. A _____ reflection helps us to see the objects **Ans : light**
3. The light ray gets _____ when it falls on any polished surface. **Ans : reflected**
4. Sunlight is a blend of _____ colors **Ans : all**
5. The splitting of white light in to seven colors is called _____. **Ans : dispersion**
6. The moon _____ sun light **Ans : reflects**
7. The sunlight can be split into its constituent colors using _____. **Ans : prism**
8. Reflection of light from rough surface is called _____ reflection **Ans : diffuse**

III. Say TRUE or FALSE.

1. The image of right hand in a plane mirror looks like a left hand **Ans : True**
2. Rainbow is formed by dispersion of light by water drops **Ans : True**
3. The image formed by the plane mirror is laterally inverted, hence the image seen through the periscope is also laterally inverted **Ans : False**
Correct statement : The image formed by the plane mirror is laterally inverted, but the image seen through the periscope is upright.
4. We see planets because they reflect light from the sun **Ans : True**
5. We see a book because it reflects the light that falls on its surface **Ans : True**
6. The image formed in a pinhole camera is always inverted **Ans : True**
7. The image formed in a pinhole camera is always the same size as the object. **Ans : False**
Correct statement : The image formed in a pinhole camera may not be equal to the size of the object.
8. The image formed in a plane mirror is upside down. **Ans : False**
Correct statement : The image formed in a plane mirror is laterally inverted.
9. A plane mirror is opaque. **Ans : True**
10. A shadow is formed on the same side of the object as the source of light. **Ans : False**
Correct statement : A shadow is formed on the opposite side of the object as the source of light.
11. we are able to see things around us with the help of regular reflection. **Ans : False**
Correct statement : we are able to see things around us with the help of irregular reflection.
12. After passing through a prism, white light splits into a band of seven colours. **Ans : True**

IV. Match the following

1. Rectilinear propagation	-	Primary source of light
2. Plane Mirror	-	Non-luminous object
3. Fire fly	-	Periscope
4. The Moon	-	Pinhole camera
5. Wide light source	-	Spectrum of light
6. Regular reflection	-	luminous object
7. The sun	-	Penumbra
8. Band of seven colors	-	Glossy surface

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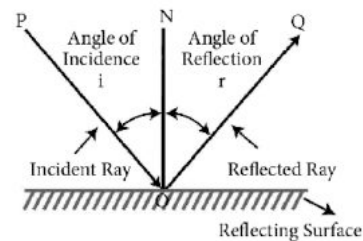
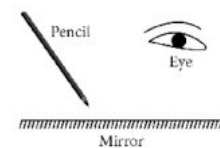
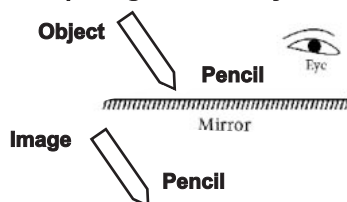
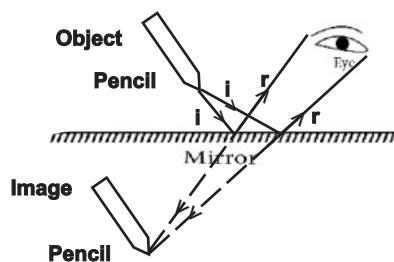
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Ans :

1. Rectilinear propagation	-	Pinhole camera
2. Plane Mirror	-	Glossy surface
3. Fire fly	-	luminous object
4. The Moon	-	Non-luminous object
5. Wide light source	-	Penumbra
6. Regular reflection	-	Periscope
7. The sun	-	Primary source of light
8. Band of seven colors	-	Spectrum of light

V. Answer the following questions in short**1. With the help of a diagram, state the laws of reflection****Ans : Laws of reflection:**

1. The angle of incidence is always equal to the angle of reflection. $\angle i = \angle r$
2. The incident ray, the reflected ray and the normal at the point of incidence lie on the same plane.

**2. Figure shows a pencil placed above a mirror****a. Draw its image formed by the mirror****b. Show how light rays from the object are reflected at the mirror to form the image for the eye.****Ans : a) Image formed by the mirror:****b)****(i) The image is caught by the intersection of extended reflected rays.****(ii) The image is formed behind the mirror.**

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3. A person is looking at the image of a tree in a mirror placed 3.5 m in front of him. Given that the tree is at 0.5 m behind his eyes. Find the distance between the image of the tree and his eyes. What are needed to see an object?

Ans :

Distance between the person and the image of a tree (mirror) = 3.5 m

Distance between the mirror and the tree = $3.5 + 0.5 = 4$ m

$\therefore$ Distance between the image of a tree and his eyes

= Distance between the person and the image of a tree + Distance between the mirror and the tree

= $3.5 + 4 = 7.5$ m

Ans : 7.5 m

Needed materials to see a object :

- H Light
- H Mirror
- H Object

4. What are luminous objects?

Ans :

H Object which exhibit light of their own are known as luminous objects.

H Eg : Sun.

5. Is the moon a luminous object?

Ans :

H No, the moon is not the luminous objects because it cannot produce light of its own.

H The light emitted by the Moon is the light of the Sun reflected towards the Earth.

6. What are the three types of materials based on the absorption of light?

Ans : Transparent Material:

H Materials that allow light to pass through completely are known as transparent material.

H Example: Eye glasses, clear drinking glass, clear water, face glasses used in buses.

Translucent Material:

H Objects that allow light to pass through partially are called translucent material.

H For example, we cannot see the image of someone who stands behind a rough window glass, because it allows only a part of light from the person.

Opaque Material:

H Materials that are not able to allow light to pass through, are called opaque material.

H Example: Wall, thick card board, stone, etc.

7. What are the parts of shadow?

Ans : Parts of shadow:

H When an opaque object is placed in the path of light from a point source, a uniform dark shadow will appear on the screen.

H This shadow is called as umbra. When an opaque object is placed in the path of light coming from a broad source of light, a small umbra will appear on the screen and an illuminated shadow area appears around umbra.

H This illuminated shadow area is called as penumbra.

H The penumbra always surrounds the umbra.

H The umbra is the darkest part of a shadow.

H In this part, light rays are completely prevented by the opaque object. The lighter shade of shadow is the penumbra.

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8. What are the properties of shadow?**Ans : Properties of shadow :**

1. All objects do not form shadows. Only opaque objects form shadows.
2. Shadows will be formed in the opposite side of light source. It cannot be determined the characteristics of an object by its shadow.
4. The shadow will be always darker, whatever may be the color of light rays.
5. Light source, opaque object and shadow all are in a straight line.
6. The size of shadow depends upon the distance between light source and object and the distance between object and the screen.

9. What is plane mirror?**Ans :**

- H A polished (or) smooth surface (like glass) which forms image by reflection is known as mirror.
- H A plane mirror is a mirror with a flat reflective surface.
- H A plane mirror makes an image of objects in front of it.

10. What is prism?**Ans :**

- H A prism is an object made up of a transparent material, like glass or plastic that has at least two flat surfaces that form an acute angle (less than 90° degrees).

11. What do you mean by visible light?**Ans :**

- H Visible light is a spectrum of a number of waves with different wavelength range from 400nm to 700nm. ($1\text{nm} = 10^{-9}$ meter)
- H Each wave has a definite wavelength represents a particular colour.

12. Write the items given here in the correct column (Stars, brick walls, plants, mirror, planets, electric light bulb, candle)**Ans :**

Sources of light	Objects that reflect light
H Electric light bulb	H Mirror
H Candle	H Planets
H Stars	H Plants
	H Brick walls

13. A boy of height 1m 45 cm is standing in front of a long mirror at a distance of 2 m. From this information, fill up the following sentences:**a. The distance between the boy and his image is _____****b. The height of the image is _____****c. When the boy moves 1m forward, the distance between him and his image is _____****Ans :**

- a) The distance between the boy and his image (u) is same as the distance between the mirror and the image (v).

$$\therefore u = v = 2\text{m}$$

Distance between object (boy) and the image is $U + V = 2 + 2 = \underline{4\text{m}}$

- b) The height of the image is 1m 45cm because the image and the object (boy) are of the same size.

- c) If the boy moves 1m forward, then distance between the boy and the image
 $= 4 - 1 = \underline{3\text{m}}$

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14. Draw a diagram of a pin hole camera showing the rays of light passing between the Object and its image.

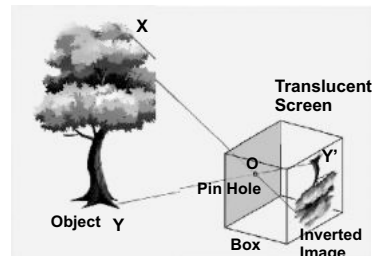
Ans : Pinhole Camera :

H Pin hole camera is a simple device which helps us to understand about the rectilinear propagation of light

H The above picture shows a model of a pinhole camera.

H O is small hole by a pin. XY is the object and Y'X' is the image of XY.

H As light travels in straight line, one light ray from X travels along the XO strikes the screen X'.



15. Why is the writing on the front of an ambulance back to front as shown in the picture?

Ans :

H Writing on the front of an ambulance back to front, is due to lateral inversion. The phenomenon due to which the left side of an object appears to be right side of the object in its image in a reflecting medium (mirror).

H so that drivers see the word the right way around in their rear-view mirror



16. Explain with examples, why some capital letters look the same in a mirror but others are reversed.

Ans :

H Image formed in the mirror is laterally inverted.

H However, some capital letters appear the same in the mirror because they have same left and right sides.

H For Eg : 'A' - will look like the same in the mirror but 'B' will be reversed as the right sides of B are different from each other.

A → A

B → Ɔ

17. Two plane mirrors M1 and M2 are placed perpendicular with each other, as shown in figure. The ray AB makes an angle 39° with the plane mirror M1, then

1. The reflected rays are _____,

Ans : BC, CD

2. The incident rays are _____,

Ans : AB, BC

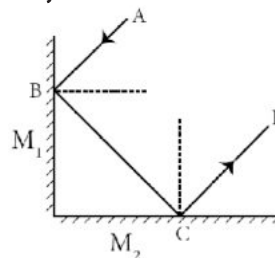
3. What is the angle of incidence corresponding to the ray BC?

Ans : Angle of incidence = $90^\circ - 39^\circ = 51^\circ$

4. What is the angle of reflection corresponding to the ray CD

Ans : Angle of incidence = angle of reflection

∴ Angle of reflection = 51°



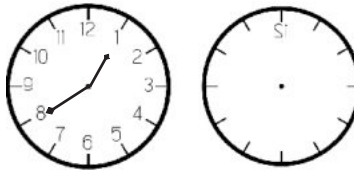
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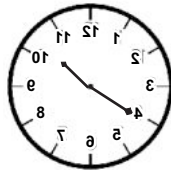
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18. Rajan was playing with the mirror images of a clock. He looked at the clock in his room. It was showing 1:40. Draw the position of the hands on the real clock and on its mirror reflection. Write below the picture what time each picture is showing.

1:40



Ans : 10:20



19. What is reflection of light?

Ans :

H The light rays bouncing off the surface of the mirror is known as reflection of light.

Types of reflection :

H Diffuse reflection - Rough surface

H Specular reflection - Smooth surface.

20. If a ray of light is falling on a plane mirror at an angle of 50° is formed, what will be the angle of reflection?

Ans :

H Angle of incidence = 50°

H Angle of reflection = 50°

H because, $\angle i = \angle r$

H The angle of incidence is always equal to angle of reflection

21. What do you mean by lateral inversion?

Ans :

H Lateral inversion is the phenomenon due to which the left side of an object appears to the right side of the object in its image in a reflecting medium (mirror).

22. How do you obtain a spectrum of light?

Ans :

H The spectrum of light can be obtained when white light is passed through a prism.

H The colours of the rainbow (VIBGYOR) emerge from the prism.

23. Why do we see white color in Newton's disc, when we rotate it very fast?

Ans :

H When Newton's disc is rotated fast, the retina receives the sensation of the spectrum simultaneously and the disc appears white.

Reason :

H When light ray of particular wavelength (colour) strikes the retina of our eye, our brain perceives that specific colour.

H When all colours of visible light strikes the retina of our eye at the same time, our brain perceives white.

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24. What is a shadow? What things are necessary for the formation of a shadow?**Ans : Shadow :**

H A Shadow is a dark area where light from a light source is blocked by an opaque object.

Things necessary for the formation of a shadow :

H Opaque object

H Light source.

VI. Answer the following questions in detail**1. What are regular and irregular reflection? Explain with the help of diagrams****Ans : a) Regular reflection :**

H If the surface is smooth, and flat, all points on it have the normal in the same direction.

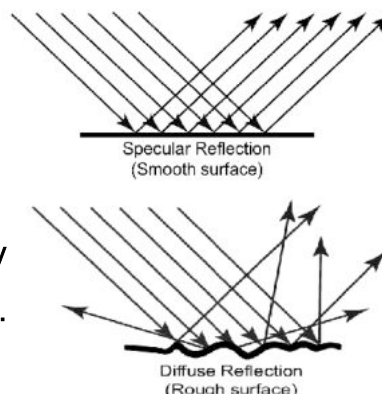
H Therefore a set of parallel rays striking the surface will be reflected at an angle, but the rays themselves will still remain parallel to each other.

H If the surface is smooth then we have specular reflection or regular reflection.

b) Irregular reflection :

H Roughness of the wall means that each individual ray meets a surface which has a different orientation.

H If the surface is rough, then we have difused reflection. Light rays, after reflection go in many directions.

**2. What are the difference between luminous and non-luminous objects? Give two examples of each.****Ans :**

Luminous objects	Non - Luminous objects
H The objects which are able to emit their own light are called luminous objects.	H The objects which are not able to emit their own light are called non-luminous objects.
H Examples : Sun, burning candle	H Example : Book, pencil, bench

3. Write about two everyday situations that tell you that light travels in a straight line.**Ans :**

H Torch is an example that proves light travels in a straight line.

H When we switch on torch, the light travels in a straight line.

H Light travels through the holes in cement grill.

H Light penetration through trees.

H Laser beam.

4. Differentiate between a reflection and a shadow**Ans :**

Reflection	Shadow
H Reflections are caused by light bouncing off objects	H Shadows are formed when light is obstructed by certain materials.
H The image is formed by the reflected rays.	H Shadows are formed by the opaque objects
H We can see the image as same as the size of the object by reflection.	H Shadow only shows the outline of the object placed in front of the light source.

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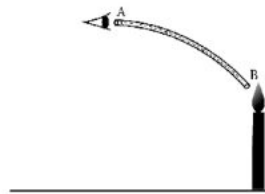
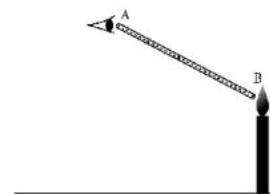
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5. What are the characteristics of an image formed in a plane mirror?**Ans : Characteristics of an image formed in a plane mirror :**

- H The image is upright.
- H The image and the object are the same size.
- H The image is virtual.
- H The image is laterally inverted.
- H The distance of the object from the mirror is equal to the distance of the image from the mirror.

6. Describe the pictures.**Ans :**

- H Some light rays are not focussed on retina but focussed in front of or behind the retina
- H As a result of multiple focal points, vision is distorted and object appear-bent in Fig. A
- H Due to rectilinear propagation of light, the object appear straight in Fig. B.

**Fig. A****Fig. B****7. Define the following terms****a. Incident ray****b. Reflected ray****c. Normal****d. Angle of incidence****Ans : a. Incident ray:**

- H The ray of light that falls on the surface of the reflection materials.

b. Reflected ray :

- H The ray of light that comes from the point when the incident ray falls on the reflection material.

c. Normal

- H The perpendicular lines drawn from the point of incidence to the plane of reflecting surface is called normal.

d. Angle of incidence

- H The angle formed between the incident ray and the normal is called angle of incidence ($\angle i$)

8. Compare the images formed by plane mirror with that by pinhole camera.**Ans : Difference between the images formed in pinhole camera and plane mirror**

Images formed by pinhole camera	Images formed by plane mirror
H The image is real	H The image is virtual.
H The image may not be equal to the size of the object	H The image is equal to the size of the object.
H The image is inverted.	H The image is erect.

Additional Questions and Answers**I. Choose the best answer.****1. is the natural source of light.**

- a) Flame of candle b) Glow worm
 c) Incandescent lamp d) Neon lamp **Ans : b) Glow worm**

2. colour has the highest wavelength of all the other colours.

- a) Blue b) Yellow
 c) Green d) Red **Ans : d) Red**

II. Fill in the blanks**1. A scientific thinker who contributed understanding of vision, optics and light is.....****Ans : Al-hasan-Haytham****2. Photography is called as****Ans : solography****3. Periscope uses the laws of****Ans : reflection****4. The band of visible light is****Ans : VIBGYOR****5. is scattered the least by air molecules.****Ans : Red colour****III. Answer the following.****1. What is bioluminescence?****Ans :**

H Some living organisms have the ability to produce light due to certain chemical reactions. This is known as bioluminescence.

Eg.: Fire flies, jelly fish, glow worm.

2. Differentiate Incandescent sources and Gas discharge sources.**Ans :**

Incandescent sources	Gas discharge sources.
H When certain objects are heated to a high temperature, they begin to emit light. The glowing of hot iron rod is a kind of Incandescent light.	Passing electricity through certain gases at a very low pressure (discharging) can produce light.
H Example : Candle, incandescent lamp.	Example : Neon lamps, Sodium lamp

3. What is Rectilinear propagation of light?**Ans :**

H Light travels in straight line, it cannot bend the path itself.

H This is called as the rectilinear propagation of light.

H It is one of the most important property of light.

4. Mention the different surfaces which holds laws of reflection**Ans :**

H Vertical surfaces

H Angled surfaces

H Curved surfaces

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5. What do you mean by synthesis of colour? Mention the two types of colours.**Ans : Synthesis of colours :**

H It is the method of creating colour by mixing various proportion of two (or) three distinct colours of light.

Types of colours :**Primary colours :**

H Red, green, blue.

Secondary colours :

H Equal proportions of two primary colour create a secondary colour.

H Magenta, cyan and yellow are secondary colours.

IV. Answer in detail :**1. Write a note on Newton Disc.****Ans : Newton Disc:**

H Newton suggested a process of mixing different colors to make white color by setting an arrangement as shown figure below.

H Newton Disc is a card board disc with seven equal sectors colored red, yellow, orange, green, blue, indigo and violet.

H When the disc turned quickly, the retina receives the sensation of the spectrum simultaneously and disc appears white.

H Using this disc, one can explain that white is a combination of VIBGYOR.

ACTIVITY : 1**Requirement:** Three empty match boxes, pin, candle and wooden blocks.

Procedure: Arrange empty match boxes and wooden blocks as shown in the figure. First, you make a hole in the inner tray of each match box such that all three holes are in the same spot.

Arrange the match boxes as shown in figure. Now, adjust the three inner trays in such a way that the three holes are in a straight line.

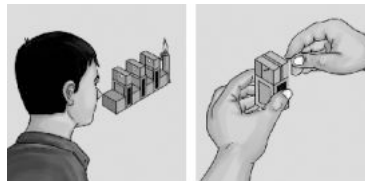
Place a lighted candle at one end of this arrangement and try to see the flame of candle from a hole at the other end.

Is the flame visible?**Ans :** Yes, the flame is visible.

Now, arrange the trays such a way that they are not at the same height. Try to see the flame.

Is it visible?**Ans :** No, flame is not visible.**What does this activity tell you about the path of light?**

Ans : Light travels in straight line, it cannot bend the path itself. This is called as the rectilinear propagation of light. This is one of the most important property of light.



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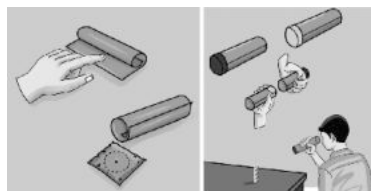
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ACTIVITY :2**Make your pin-hole camera**

Requirement : Two rectangular pieces of thick paper, carbon paper, a semi-transparent paper, adhesive

Procedure : Make two tubes using thick paper as shown in figure. One tube should be slightly smaller in diameter so that it can slide into the other tube without leaving much gap between the tubes. Fix a carbon paper to one side of the tube of greater diameter. Make a hole with a pin at the center of the carbon. Close one end of the second tube with the butter paper. Slide the smaller tube into the bigger one such a way that the butter paper is inside. Keep a lighted candle on a table and look through the hole with black side towards the candle. If you go closer to the candle, you will see a smaller, but brighter image. You can also change the image size by adjusting the tubes.



Use the pin- hole camera to see things in sun light outside the window and see how good an image you get. What are your observations about the image? Is it straight, inverted, bright and sharp?

Ans : Observation :

- H The image is real.
- H The image may not be equal to the size of the object.
- H The image is inverted.

ACTIVITY : 3

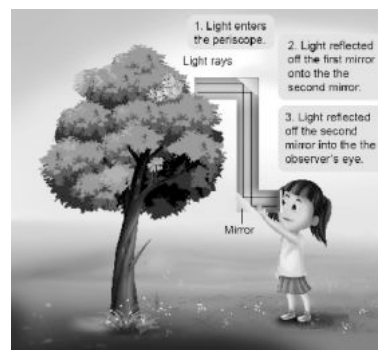
Make your own periscope : You can use an empty agarbathi box and two plane mirrors to make a periscope.

As shown in the figure below, two plane mirrors are kept 45 degrees to horizontal.

As shown the figure above,

Ans :**Working of Periscope :**

- H The light rays from the distant object enter through the tube at 1, and hit the mirror at 2.
- H As the angle of incident must be equal to angle of reflection, the reflected rays flow through the tube downwards.
- H As the light rays hit the mirror at 3 once again they are reflected.
- H This reflected rays then travel out of the box to our eye.
- H As you can see, periscope uses the laws of reflection.



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ACTIVITY : 4

H Let's categorize transparent material, translucent material and opaque material among the given materials

(Clear plastic ruler, cellophane paper, some water in a glass jar, tissue paper, drinking glass, beaker, tap water, kerosene, coconut oil, note paper, card board, milk, diluted milk, aluminium foil, thick colored plastic lid, rough glass piece, measuring glass with water, wooden piece)

H Place all the materials given above in the dark room. Focus a torch light on one side of each material. Inspect the light coming out at the other side of each material and then classify the materials in the table.

S. No	Transparent Material	Translucent Material	Opaque Material
1.	Measuring glass with water	Rough glass piece	Wooden piece
2.	Tap water	Note paper	Thick coloured plastic lid
3.	Drinking glass	Tissue paper	Aluminium foil
4.	Beaker	Cellophane paper	Milk
5.	Some water in glass jar		Card board

ACTIVITY : 5

Requirement : A white screen, a cylindrical opaque object and three bulbs in different sizes.

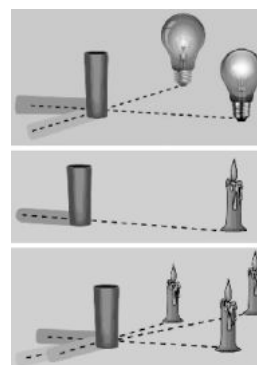
Use the three different size lamps and examine the umbra and penumbra formed. Keep the distance between the lamp and the cylinder, cylinder and the screen same. As the size of the lamps grow smaller, the umbra region begins to enlarge. If the size of the lamp is a point, then there will be no penumbra. There would be only umbra shadow. Can you tell what the reason is for that?

Reason :

H When an opaque object is placed in the path of light from a point source, a uniform dark shadow will appear on the screen. This shadow called as umbra.

H The umbra is the darkest part of a shadow.

H In this part, light rays are completely prevented by the opaque object.

**ACTIVITY : 6**

Surfaces	Property of Image (Clearer / blurred)
Glass	Clearer
Metal Sheet	Clearer
Aluminium foil	Blurred
White paper	Blurred

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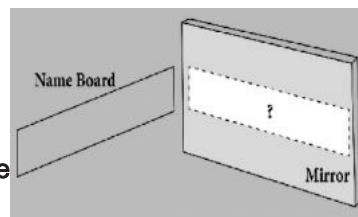
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ACTIVITY : 7

There are eight letters in the word

EINSTEIN

1. Write the word in front of a plane mirror shown in diagram
2. Write down how these letters appear in the mirror
3. How many of these letters appear to be different, when the word is reflected?
4. Write down the letters that appear to be the same.



Ans:

1) EINSTEIN

2) **NIETSI**

3) 5

4) 3

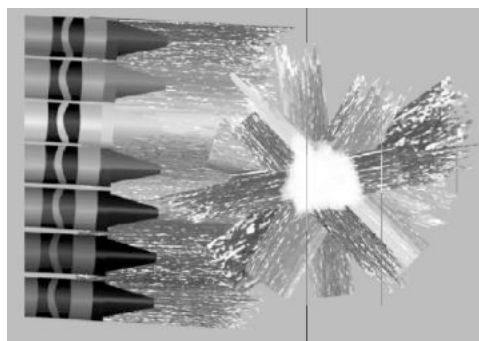
ACTIVITY : 8

We have seen that white light is made of different colors and we can split white light. Is it possible to do the reverse? That is, can you get white color by mixing colors? Try this activity.

You need oil pastel and white paper. Take different oil pastel colors. Choose colors which are exactly seen on the rainbow. Apply colors over each other on a white paper. Did you get white color?

Ans :

Yes, I got white colour

**ACTIVITY : 9****Classroom activity.****Aim :**

H Let's make a rainbow

Materials needed :

H Deep Pan, Plain mirror, Water.

Procedure :

H Place a flat but deep pan.

H Place this pan where there is direct sunlight. H Place a plain mirror in the pan as shown in the diagram,

H so that you see sunlight reflected on your ceiling or on a white wall.

H Next slowly pour water in to the pan.

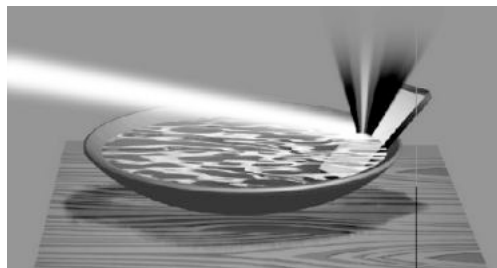
Observation :

H At particular level of water, you will get a beautiful rainbow colors on the wall.

H If the colors are not clear adjust the position of the mirror to bring it into focus.

Result :

H This arrangement of colors in sunlight is called spectrum.



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ACTIVITY : 10

You need Gelatin papers of Red, Blue and Yellow. Fold each gelatin paper three times and look different color objects listed below through each folded paper. Observe what color each object has. Write your observations in the table.

Ans :

Object	Original color of object	Color through Red gelatin paper	Color through Blue gelatin paper	Color through Yellow gelatin Paper
Blue sky	Blue	Magenta	Blue	Yellow
Orange flower	Orange	Red	Magenta	Red
Yellow banana	Yellow	Red	Blue	Yellow
leaves	Green	Yellow	Cyan	Yellow
Brown trouser	Brown	Brown	Brown	Brown
White shirt	White	Red	Blue	Yellow
Black board	Black	Black	Black	Black

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II. Fill in the blanks :

- _____ is an example of polyester fabric. **Ans : Polycot**
- _____ are used to identify different types of plastics. **Ans : Resin code**
- A _____ is a long chain made up of many repeated small units called monomers. **Ans : Polymers**
- The fully natural fibre is called _____. **Ans : Cotton**
- A natural fibre obtained by boiling of cocoons is called _____. **Ans : Silk**

III. True or False.

- A lot of plastic pollutes our environment. **Ans : True**
- Refuse (avoid) is the best way to manage plastic. **Ans : True**
- It is good to wear clothes made of synthetic fibres while cooking. **Ans : False.**
Correct statement : It is good to wear clothes made of **natural** fibres while cooking.
- Degradable plastics break down into tiny pieces called microplastics. **Ans : True**
- Cotton is a natural polymer. **Ans : True**

IV. Match the following

A	B
Nylon	Thermoplastic
PVC	Thermosetting plastic
Bakelite	Fibre
Teflon	Wood pulp
Rayon	Non-stick cookwares

Ans :

A	B
Nylon	Fibre
PVC	Thermoplastic
Bakelite	Thermosetting plastic
Teflon	Non-stick cookwares
Rayon	Wood pulp

V. Arrange In Correct Sequence

- Mix water, starch, vinegar and glycerin in a cooking pot.
- Let the article cool for 24 hours before we use it.
- Shape material to form a cup or bowl.
- Continuously mix on medium heat until the liquid turns clear.
- When the liquid begins to bubble it is ready to be taken off the stove.
- Spread the gel onto aluminium foil and cool.

Ans :

- Mix water, starch, vinegar and glycerin in a cooking pot.
- Continuously mix on medium heat until the liquid turns clear.
- When the liquid begins to bubble it is ready to be taken off the stove.
- Spread the gel onto aluminium foil and cool.
- Let the article cool for 24 hours before we use it.
- Shape material to form a cup or bowl.

VI. Analogy

- Cotton: natural :: Polyester: _____ **Ans : synthetic**
- PLA spoon :compostable :: Plastic spoon : _____ **Ans : non-biodegradable**
- Nylon :melts on heating :: Silk: _____ **Ans : burns**

VII. Assertion And Reason

- A: Vegetable peels buried in the soil disappear within two weeks.

R: Vegetable peels are compostable.

Ans : R explains A. Both Assertion and Reason are correct

2. A: It takes a very long time for nylon clothes to breakdown into microfibers but cotton clothes need only six months to decompose.

R: Nylon made out of petrochemicals is non-biodegradable and cotton cloth is biodegradable.

Ans : R explains A. Both Assertion and Reason are correct

3.A: It is good to avoid plastics.

R: Plastics end up polluting the environment.

Ans : R explains A. Both Assertion and Reason are correct

VIII. Crossword

Across

1. Fibre that is used as synthetic wool.

Ans : ACRYLIC

2. A plastic used for making water bottles.

Ans : POLYTHENE

3. A long chain made of small repeating monomers.

Ans : POLYMERS

4. Another name for this semi-synthetic fibre is artificial silk.

Ans : RAYON

Down

5. A type of fibre that is naturally obtained from a cocoon.

Ans : SILK

6. A synthetic fibre classified as polyester.

Ans : TERRY COT

7. A polymer used for making rope.

Ans : NYLON

[illegible]

IX. Very Short Answer

1. What is the chemical name of the polymers that make up cotton?

Ans :

H Cellulose is made of sugar molecules and is the main component of cotton used in clothing.

H Example : Carbohydrate polymer.

2. What gives plastic different qualities and characteristics?

Ans :

H Different chemicals (additives) are added to plastic to give them various qualities and characteristics.

3. It is not advisable to burn plastic and synthetic fabrics. Why?

Ans :

H Burning of plastics is not a good solution, as we end up wasting non-renewable resources and produce super toxic chemicals that are difficult to store or dispose safely.

4. A bucket made of plastic does not rust like a bucket made of iron. Why?

Ans :

H A bucket made of plastic does not rust like a bucket made of iron because,

H Plastics do not decompose by natural processes and action of bacteria and are therefore not biodegradable.

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5. Why is it better to avoid the use of plastic products?**Ans :**

H The best thing to do is to avoid using plastic products. One-time use throw away plastics can often be avoided.

H For example, we can carry cotton or jute bags when we go for shopping and say no when a shopkeeper offers us a plastic bag.

6. Give two examples of thermosetting plastics.**Ans : Examples of thermosetting plastics :**

H Bakelite

H Melamine

7. What is the 5 R principle?**Ans : Plastic disposal is the 5R principle. They are :**

H Refuse

H Reduce

H Reuse

H Recycle

H Recover

X. Short Answer**1. What does the term biodegradable mean?****Ans :**

H Organic waste such as the peels of vegetables, fruits and food remains can get broken down by bacteria in the soil to create a rich source of nutrients in the form of compost.

H A material that gets decomposed through natural processes and action by bacteria is called biodegradable.

2. What kind of fabric is suitable to dress-up and play in summer? Why?**Ans :**

H In summer it is better to wear clothing that is made out of cotton materials rather than synthetic.

H This is because most synthetic fibres absorb very little moisture and do not allow air circulation making them hot and uncomfortable to wear.

3. How do plastics impact animals and the environment?**Ans :**

H Many animals confuse plastic for food and eat it by accident.

H When left over food is thrown away it is often packed in plastic.

H Animals smell the left over food and eat the plastic by accident.

H Many birds eat plastic items and small pieces of plastic, which are covered in algae.

H Once in the stomach of animals, plastics cannot be digested and this decreases the amount of space for food and can lead to starvation.

H A lot of one-time use plastic such as polythene bags and food packaging that are thrown away are responsible for littering the environment and clogging drains.

H Standing water breeds mosquitoes that can spread diseases such as malaria, dengue and chikungunya and also lead to flooding.

XI. Long Answer**1. List the advantages and disadvantages of synthetic fibres.****Ans : Advantages of Synthetic Fibres :**

- H Clothing does not need ironing and looks bright and colourful for many years
- H This is because they are made from synthetic fibres such as polyester
- H They do not wrinkle easily and they keep their colour and brightness for a much longer time than natural fibres such as cotton.
- H A lot of materials such as fishing net are made from synthetic fibres.
- H One of the main advantages of using synthetic fibres such as nylon, is that they are stronger than many natural fibres such as silk or wool.
- H For example, trampoline is a synthetic fibre which is strong and elastic that it has the ability to bounce.

Disadvantages of Synthetic Fibres :

- H Synthetic clothing when a person is cooking or working in a laboratory has disadvantage.
- H As polyester is that they are not heat resistant and catch fire easily.
- H In summer it is better to wear clothing that is made out of cotton materials rather than synthetic.
- H This is because most synthetic fibres absorb very little moisture and do not allow air circulation making them hot and uncomfortable to wear.
- H Synthetic fibres are made out of petrochemicals and last in the environment for a very long time.
- H The disadvantage is that they break down into very small pieces called micro plastics which cause pollution to soil and water bodies such as rivers, lakes and oceans.

2. Suggest safe methods of disposing plastics.**Ans :**

- H Plastic disposal is the 5R Principle – Refuse, Reduce, Reuse, Recycle and Recover.

Refuse (Avoid) :

- H The best thing to do is to avoid using plastic products. One-time use throw away plastics can often be avoided.
- H For example, we can carry cotton or jute bags when we go for shopping and say no when a shopkeeper offers us a plastic bag.

Reduce :

- H Reducing the amount of plastic we use is important. Before buying a plastic product we can check to see if there are any substitutes or alternatives that can be used.
- H If we use fewer plastics, we will create less plastic waste.

Reuse :

- H If possible products made of plastics can be used again and again.
- H For example, if we have a plastic bag in good condition, instead of throwing it away we can use it again the next time we go for shopping.
- H If we have a plastic product and if you do not feel like using it again, we can give it to others instead of throwing it out.

Recycle :

- H It is better to recycle plastic waste. Separating plastic waste (based on the resin code) and making sure it gets recycled is good as it turns waste materials into something new.
- H Many thermoplastics can be recycled.
- H They can be softened by heating and can be made into another article by recycling,
- H Every time plastic is melted and recycled it loses quality, this is called 'downcycling'.
- H Recycling of plastic waste cannot be the only solution to plastic pollution.



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Recover (Compost And Incinerate) :

H Burning plastics at high temperatures in incinerators and trapping the gases and collecting the toxic ash is widely used to produce energy.

H This is often seen as a positive way to deal with plastic waste.

XII. HOTS

1. The Tamil Nadu Government has banned the use of one-time use throw away plastics. Why do you think this is important?

Ans :

H Just as plastic is a material that can be used for a good application, it can also be used for the wrong application.

H For Example, a simple article such as a thin plastic carry bag.

H You use this bag for a very short time and then throw it in a dustbin.

Many of these carry bags do not get recycled and they litter and pollute our environment for a long time.

H If you want to learn more about plastic which is used for the wrong application then you can refer to the Government of Tamil Nadu's ban on one-time use and throw away plastics (Environment and Forests Department, T.N.G.O. No 84, dated 25/06/2018, with effect from 1st January 2019).

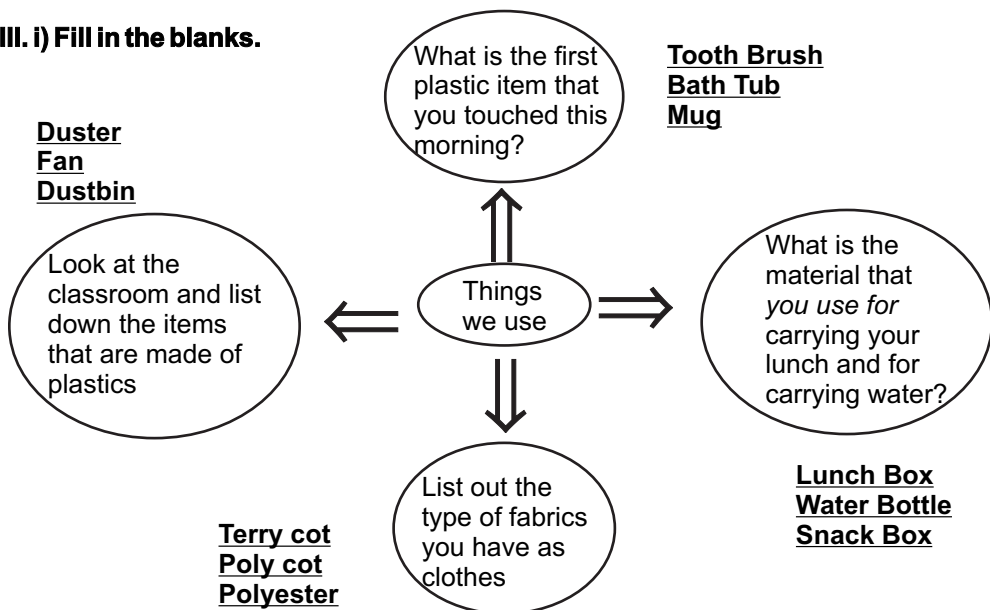
2. A plastic bag dumped in the soil stays without breaking down for 500 years. If a new generation starts in every 30 years, how many generations would it take to see the plastic bag finally broken down?

Ans :

H Plastic bag dumped in the soil without breaking = 500 years.

H Every new generation = 30 years.

$$\therefore \text{No. of generation would it take to see the plastic bag} = \frac{500}{30} = 16.66 = 17 \text{ years}$$

XIII. i) Fill in the blanks.

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ii) Look at the following picture and explain what is happening.

Ans :

H We have seen that synthetic clothes are made from plastic. Every time when we wash synthetic clothes, small fibres called microfibers escape and end up in the soil, streams, rivers and oceans.

H Dangerous pollution called Persistent Organic Pollutants (POPs) floating in the ocean sticks to these small pieces of plastic making them toxic.

H Marine animals such as shrimp and fish often eat microplastics, confusing them for their natural source of food. H The toxins build up in these animals and move up the food chain and can end up in our bodies.

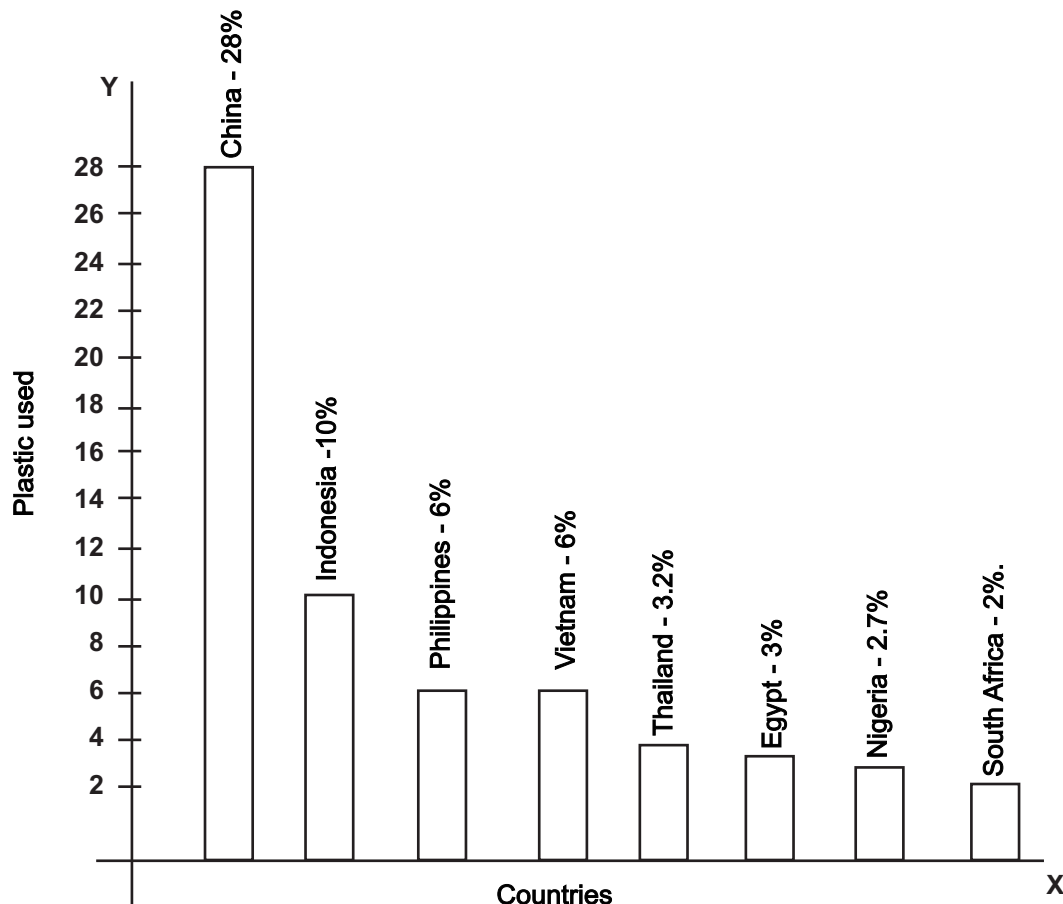
H Microplastics can be found in the food we eat, the water we drink, and the air we breathe.



iii) Read the following information and convert them into a graph to compare the countries and the amount of plastic they use.

China contributes the highest share - that is around 28%, of the total plastic used globally. Indonesia uses 10%, both the Philippines and Vietnam use 6% each; Thailand uses 3.2%, Egypt 3%, Nigeria 2.7% and South Africa 2%.

Ans :



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Fill the data in the following table

Ans :

S.No	Type of thread/fibre	Total weight required to break the thread (in g)
1	Cotton	36 grams
2	Wool	1 - 2 grams
3	Silk	2 grams
4	Nylon	1 kg to 2 kg

Additional Questions and Answers**I. Choose the best answer.****1. is an example of protein polymer.**

- a) Lignin
c) Cellulose

- b) DNA
d) Chitin

Ans : b) DNA**2. Syringe is made from a type of plastic called**

- a) Ethylene
c) Propylene

- b) Petroleum
d) Acrylic

Ans : c) Propylene**3. Decomposable plastics are derived from**

- a) PVC
c) Corn

- b) Avacado seeds
d) Sugarcane

Ans : a) PVC**4. is otherwise known as lime stone.**

- a) Calcium carbonate
c) Silicon dioxide

- b) Sodium carbonate
d) Boron oxide

Ans : a) Calcium carbonate**II. Fill in the blanks****1. is a common plastic used for water pipes.****Ans : Polyvinyl chloride (PVC)****2. Protein polymers are made from monomers.****Ans : amino acid****3. and are the building block of different types of plastics.****Ans : Ethylene, Propylene****4. was the creator of the first plastic called parkesine.****Ans : Edmund Alexander Parkes****5. First commercial production of artificial silk was successful in****Ans : USA****6. The first rayon factory in India was established in****Ans : Kerala****III. Match the following :****Ans :**

1) Nylon	Bounce	1) Nylon	Rock climbing
2) Petroleum	Cancer	2) Petroleum	Fractional distillation
3) Trampoline	Rock climbing	3) Trampoline	Bounce
4) Polystyrene	Tooth paste	4) Polystyrene	Cancer
5) Micro beads	Fractional distillation	5) Micro beads	Tooth paste

IV. Answer the following.**1. What are the fibres?****Ans :**

H Fibres are long strands of polymers interwoven to form linear string like structures that can be woven, knitted, matted or bonded.

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2. What are polymers ?**Ans :**

H Polymers are very long chains made of repeating smaller molecules called monomers.

3. Write a note on - Ideonellasa Kaiensis 201 - F₆**Ans :**

H Ideonellasa Kaiensis 201 - F₆ - is a bacteria discovered by scientists that digests plastic resin code # 1 PET used to make single - use drinks bottles.

4. What are compostable plastics?**Ans :**

H Compostable plastics are derived from renewable resources such as corn, sugar cane, avocado seeds or shrimp shells.

H Compostable plastics can be broken down completely by microbes and turned back into food for plants carbon dioxide, methane, water and other natural compounds.

5. Write a short note on PLA?**Ans :**

H Poly Lactic Acid (PLA) – a substitute for some types of plastics. Poly Lactic Acid or polylactide is compostable and bioactive thermoplastic.

H This polymer is obtained from plant starch such as corn, sugarcane and pulp from sugar beets.

H PLA is a biodegradable material. It is useful for making food packaging, garbage bags and disposable tableware.

V. Answer in Detail.**1. Differentiate Thermoplastic and Thermosetting plastics.****Ans:**

Thermo plastic	Thermo setting
H Tangled polymer chain.	H Polymer chains held together by strong.
H No cross-links between chains.	H Covalent cross-lined bonding.
H Weak forces of attraction between chains.	H Does that not break on heating.
H Soften when heated.	H Remains hard when heated.
H Eg: PET water bottles	H Eg: Electrical switches.

2. Differentiate Natural and Synthetic fibres.**Ans :**

Natural fibres	Synthetic fibres
H Fibres obtained from plant or animal sources are called natural fibres	H Fibres that are made using raw materials from petroleum are synthetic fibres.
H Eg.: Coconut, coconut fibre, hair, wool and silk.	H Eg. : Polyester, acrylic, Nylon.

3. Explain the preparation of different types of glass.**Ans :****Soda - lime - Silica glass :**

H In a commercial glass plant, sand is mixed with waste glass (obtained from recycling collections), soda ash (sodium carbonate) and limestone (calcium carbonate) and heated in a furnace.

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H The soda ash reduces the sand's melting point and produces a kind of glass that would dissolve in water.

H The limestone is added to stop that happening.

H The end product is called soda-lime-silica glass. It is the ordinary glass we see all around us.

Green tinted glass :

H Chemicals are added to change the appearance or properties of the finished glass.

H For example, iron and chromium based chemicals are added to the molten sand to make green-tinted glass.

Pyrex :

H Oven-proof borosilicate glass (widely sold under the trademark PYREX) is made by adding boron oxide to the molten mixture.

Sandwich glass :

H Adding lead oxide makes from a sandwich or laminate of multiple layers of glass and plastic bonded together.

Toughened glass :

H Toughened glass used in car windshields is made by cooling molten glass very quickly to make it much harder.

ACTIVITY : 1

Aim : To find out the polymers:

Compare the following things. Ice cubes and a polythene bag. In both the materials, there are large number molecules combined together. Are both polymers.

Ans :

H **Ice cubes** - Water absorbing polymer.

H **Polythene bag** - Poly-thene an plastic.

It is a thermoplastic polymer.

**ACTIVITY 2**

How Strong is Nylon?

Take an iron stand with a clamp. Take samples of cotton, wool, nylon and silk threads of about 50cm in length. First tie cotton thread to the stand so that it hangs freely from it. At the free end, attach a CD as plate so that weights can be placed on it. Add weights starting from 10 grams one by one, until the thread breaks. Note down the total weight required to break the cotton thread. Repeat the same activity with the wool, silk and nylon threads. **NOTE: All the varieties of threads should be of same thickness.**

(i) Arrange the threads in the order of increasing strength.

..Ans : Nylon, Cotton, Silk, Wool.....

(ii) What do you infer from the above activity?

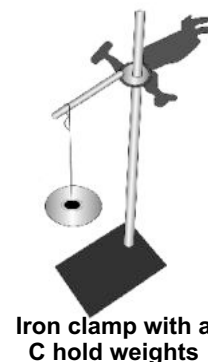
..Ans : Nylon is strong.

(iii) Which type of fibre is the strongest?

..Ans : Nylon.....

(iv) Which type of fibre is the weakest?

..Ans : Wool.....



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ACTIVITY 3**Identify The Fibre : Let us do an activity.****Look at the images below and identify and write down the name of the different types of fibres observed.****Ans : Natural / plant****Ans : Natural / plant****Ans : Natural / animal****Ans : Semi-Synthetic fibre
(cellulose of wood pulp)****Ans : Natural / animal****Ans : Synthetic fibre****ACTIVITY 4****Synthetic or Natural Fibres :** The teacher can give the learner a piece of each and every type of fibre.

The learner can feel the fibre and write down the name of the fibre and state whether it is natural or synthetic fibre.

S.No	Name of the fibre	Type of the fibre – Natural /Synthetic
1	Cotton	Natural
2	Coconut fibre	Natural
3	Polyester	Synthetic
4	Nylon	Synthetic

We have done four activities so far. Which activity helped you better to identify the

type of fibre? **Ans : All the three activities**

(Both the use of familiar images as well as touch can help us to identify the different types of fibres. Right!) We have learned about fabrics such as polyester, nylon and acrylic and their common uses.

These synthetic fibres are polymers about which we will learn later in this chapter.

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ACTIVITY : 5**Burning A Piece of natural fibre and a synthetic Fibre**

Note: This activity should be performed only by the teacher.

Take a piece of cotton cloth and a piece of polyester cloth. Both the pieces of cloth can be of same size (2cm x 2cm is enough). Hold the pieces of cloth using tongsto protect yourself from the flame and heat. Burn both the pieces of cloth one by one and see what happens when they burn. What do you observe while the cotton cloth burns?

Ans : Cotton cloth burns and forms ashes. It will not melt and stick to the body.

What do you observe while the polyester cloth burns?

Ans : Polyester is a synthetic fibre. It melts when it burns. If a synthetic cloth comes into contact with fire the fabric melts and sticks to the body causing severe burns. Therefore, one should not wear synthetic clothes while cooking or working in a laboratory.

You must have noticed that natural (cotton) fibres burn very differently compared to synthetic (polyester) fibres.

The cotton cloth will burn when it is held in flame. On the other hand, the synthetic polyester cloth will melt on burning. This is one of the disadvantages of wearing clothes made out of synthetic fibres.

**ACTIVITY : 6****Wetting A Cotton Cloth And An Umbrella Cloth**

We use an umbrella on rainy days. What kind of umbrella do we use?

Ans : Umbrella with synthetic fibres can be used on rainy days.

Can you use an umbrella made of cotton?

Let us do an activity to see why we do not use a cotton umbrella to protect ourselves from the rain.

Take a piece of cotton cloth of approximately 10 cm X 10 cm size and a piece of nylon or polyester cloth 10 cm X 10 cm in size from an old unusable / untorn umbrella. Ask four students to hold the four corners of the piece of cotton cloth and pour a glass of water over it.

Then ask four students to hold the piece of umbrella cloth and pour a glass of water over it. Compare the effect of water on the piece of cotton cloth and an umbrella cloth and record your observation in the notebook.

Ans : Umbrella with cotton cloth absorbs water but umbrella with synthetic will not absorb water.

Which of these fabrics allows water to pass through?

Cotton cloth or Umbrella cloth (nylon or polyester) Now ask the students to put both the pieces of cloth in the hot sun to dry. Which of these fabrics dries the fastest? The cotton cloth or the umbrella cloth?

Ans : Synthetic fabrics dries faster (Umbrella cloth)

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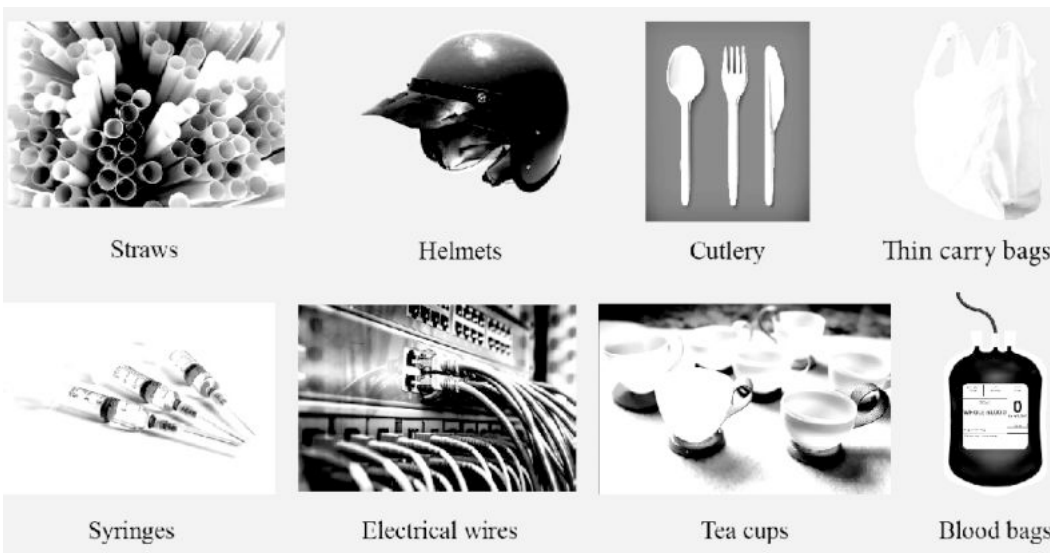
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ACTIVITY : 7**Right and wrong application of plastics**

Look at the list of eight plastic items. Decide which four plastic items are used for the right application and which four are used for the wrong application by filling in the chart below:

Plastic items: straws, helmets, cutlery, thin carry bags, syringes, electrical wires, tea cups and blood bags



Right application	Wrong application
Helmet	Straws
Syringes	Cutlery
Electrical wires	Thin carry bags
Blood bags	Tea cups

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ACTIVITY : 8**Identify the different types of plastics**

Collect different kinds of plastic products and look carefully for the resin code and/or acronym on them. With the help of the resin code chart, mark the resin code number, acronym, if you think it is a safer, unsafe or questionable (when you cannot find the resin code in the article) type of plastic. What resin codes do you find? Is the resin code safer, unsafe or questionable?

Product	Resin code number	Acronym	Category of safety	Use of product

PLASTIC RESIN CODE CHART

Plastic resin codes can be found on the label or bottom of most plastic items.

It is a number or acronym found in the middle of a chasing arrow triangle.

There may be other numbers or letters on the plastic items, but these are not resin codes.

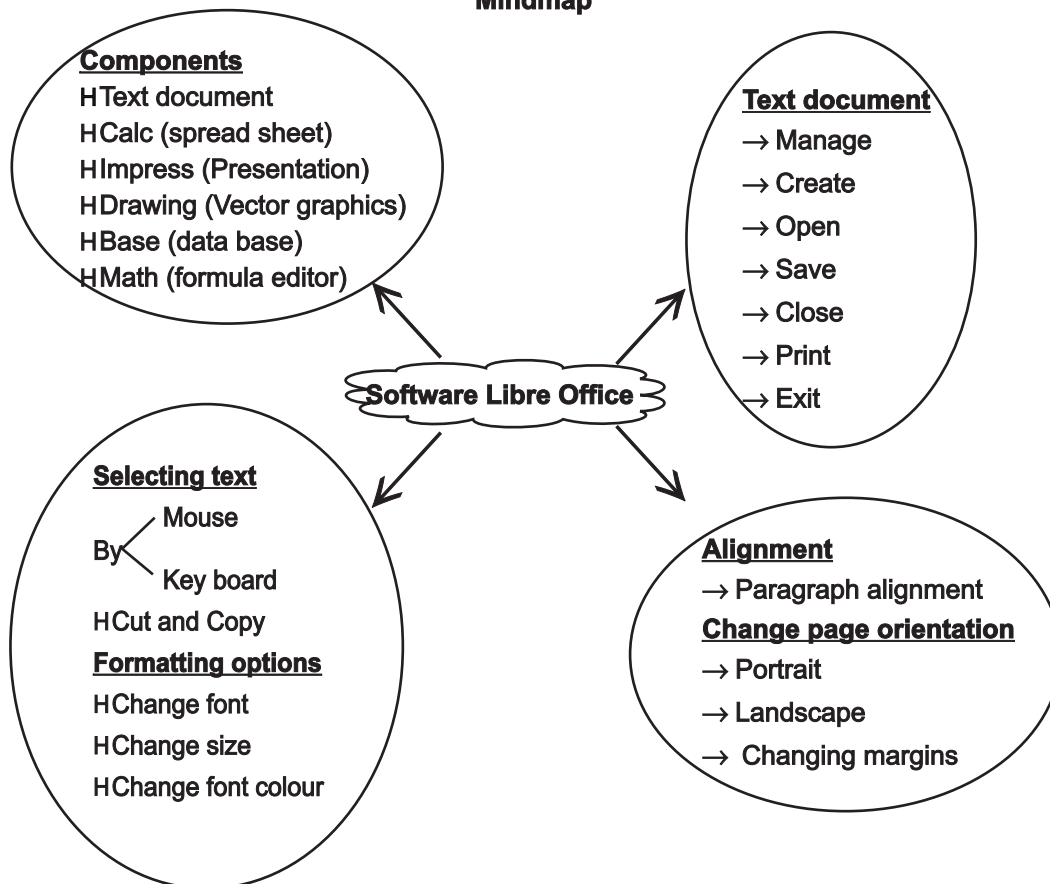
Ans :

Resin Code	Other Names	Common Items	About
	PETE, Polyester	Umbrella, sports clothing, warm fleece jackets/sweaters, rope, sails, polyester fibre made into sleeping bags.	This plastic is designed to be used only ONCE. Reusing PET plastic can release a chemical called antimony which is not good for your health. Polyester is the most widely used synthetic fibre for clothes. 
	PEHD	Cement/rice/cow food sacks, crocheted/woven tiffin bags, rope, fishing nets, shade nets/structures, fibre reinforced concrete (taken from plastic cans), bulletproof material - vests (Ultrahigh Molecular Weight Polyethylene-UHMW).	Considered one of the safer plastics. It is light, very strong and has excellent impact strength. It is an effective moisture barrier. It is widely recycled. 
	V, Vinyl	PVC fibres / Vinyon fibres are used to make shower curtains, outdoor fabrics, raincoats, boots, fishing nets, synthetic yarns, children's clothing & blankets. Vinyl is used for stickers on clothing, dress costumes and fake leather.	The most toxic plastic. Vinyon has good resistance to weathering and fire. 

Computer Science

Unit - 6. Visual Communication

Mindmap



EVALUATION

I. Choose the correct answers :

1. The Keyboard shortcut is used to copy the selected text

- a) Ctrl+c b) Ctrl+v
c) Ctrl+x d) Ctrl+A

Ans : a) Ctrl+c

2. The Keyboard shortcut is used to cut the selected text

- a) Ctrl+ c b) Ctrl+v
c) Ctrl+x d) Ctrl+A

Ans : c) Ctrl+x

3. How many types of page orientation are there in Libre office Writer?

- a)1 (b) 2
(c) 3 (d) 4

Ans : (b) 2

4. If the ruler is not displayed in the screen, _____ option is clicked.

- a) View-> ruler b) view-> task
c) file-> save d) edit->paste

Ans : a) View-> ruler

SELECTION 7 SCIENCE

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TERM- III

5. The menu is used to save the document

- a) File-> open b) file-> print
c) file-> save d) file->close

Ans : c) file-> save**II. Answer the following Questions.****1. What is the use for Text document software?****Ans :**

H Text document software is a feature rich tool for creating letters, books, reports, newsletters, brochures and other documents.

2. What is selecting text?**Ans : Selecting Text :**

H Even though the document is built up by typing one character at a time, while editing and formatting one always work with words, lines, paragraphs and sometimes with the whole document.

H Once the text is selected, change can be made to that text.

H The text can be moved, copied and made as bold.

H The font and colour of the text can also be changed.

H For selecting text, the mouse or the keyboard can be used.

3. How to close a document?**Ans :**

H Close the current document by selecting File → Close command on the menu bar or click the close icon if it is visible on the standard toolbar.

4. What is right alignment?**Ans :**

H By default, word aligns paragraphs to the left.

H We can align paragraphs in word, so the right sides or symmetrical.

H This is called right alignment.

5. How to open an existing document?**Ans : Open an Existing Document :**

To open an existing document, do any one of the following methods:

H Click the Open File button on the menu bar.

H Choose File → Open command from the menu bar.

H Press CTRL+O keys on the keyboard. Each of the above method will show the Open dialog box. Choose the file and click the Open button

Additional Questions and Answers**I. Fill in the blanks**

1. is a powerful and free office suite.

Ans : Libre Office

2. Math is the Libre office formula or.....

Ans : equation editor

3.has all the advanced analysis

Ans : Calc / spread sheet

4. The grey area of the ruler indicates the

Ans : margin's top area

5. For changing the orientation portrait or landscape..... are used

Ans : radio buttons.

SELECTION 7 SCIENCE

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TERM- III

II. Answer the following questions.**1. Write the important features of Libre office.****Ans :**

- H Libre office is a powerful and free office suite.
 - H It's clean interface and feature rich tools helps to unleash creativity and enhance productivity.
-

2. What are the component of Libre office?**Ans :**

- H Text document
 - H Calc (spread sheet)
 - H Impress (Presentation)
 - H Drawing (Vector graphics)
 - H Base (data base)
 - H Math (formula editor)
-

3. How to get the software of Libre office?**Ans :**

- H Versions of Libre office for windows, Linux and Mac OS X can be downloaded free from [http : // www.libreoffice.org/download](http://www.libreoffice.org/download).
-

4. What is the significance of print preview?**Ans :**

- H Print preview provides a way to see how your document will look when printed.
 - H You can see several pages at once.
 - H It is similar to Print Layout View.
 - H An advantage of Print preview is that it has its own toolbar.
 - H The toolbar allows you to easily view multiple pages and change the magnification of the screen.
 - H You can also edit your document in print preview mode.
 - H To switch to print preview, use one of these methods:
 - H Click on the Print preview in the file menu. Or Press CTRL+Shift+ O keys.
-

5. What is the difference between cut and copy?**Ans :**

- The main difference between cut and copy is that,
 - H Cut removes the selected data from its original position.
 - H Copy creates a duplicate of the original text.
-

SELECTION

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