SELECTION

7

SCIENCE

ANBU NILAYAM
MADURAI - 625001

SELECTION

⑦

SEVENTH STANDARD

SCIENCE

TERM-I + TERM-II + TERM-III

📠 94430 43338
📠 94430 46662

Publishers:

ANBU NILAYAM

129, North Avani Moola Street, MADURAI - 625001.

PRICE ₹ 140

Contents

SELECTION ⑦ SCIENCE
SEVENTH STANDARD
TERM - I

Unit - 1. Measurement

Evaluation

I. Choose the best answer :

1. Which of the following is a derived quantity?
a) mass   b) time   c) area   d) length   **Ans : c) area**

2. Which of the following is correct ?
a) 1L = 1cc   b) 1L = 10cc   c) 1L = 100cc   d) 1L = 1000cc   **Ans : d) 1L = 1000cc**

3. SI unit of density is
a) kg/m^2 b) kg/m^3 c) kg/m d) g/m^3 **Ans : b) kg/m^3**

4. Two spheres have mass and volume in the ratio 2:1. The ratio of their density is
a) 1:2   b) 2:1   c) 4:1   d) 1:4   **Ans : a) 1:2**

5. Light year is the unit of
a) distance   b) time   c) density   d) both length and time
                                                    Ans : a) distance

II. Fill in the blanks :

1. Volume of irregularly shaped objects are measured using the law of ....
                                                    Ans : Archimedes

2. One cubic metre is equal to ....cubic centimetre   **Ans : 1000000**

3. Density of mercury is ....   **Ans : $13600kg/m^3$**

4. One astronomical unit is equal to ....   **Ans : $1.496 \times 10^{11}m$**

5. The area of a leaf can be measured using a ....   **Ans : graph sheet**

III. State true or false. If false, correct the statement.

1. The region covered by the boundary of a plane figure is called its volume. **Ans : False .**

Correct statement : The region covered by the boundary of a plane figure is called its **area.**

2. Volume of liquids can be found using measuring containers.   **Ans : True**

3. Water is denser than kerosene.   **Ans : True**

4. A ball of iron floats in mercury.   **Ans : True**

2. Distinguish between the volume of liquid and capacity of a container.

Ans :

Volume of liquid	Capacity of container
The volume of any liquid is equal to the space that it fills.	The maximum volume of liquid that a container can hold is known as the 'capacity of container'.

3. Define the density of objects.

Ans :   Density of a substance is defined as the mass of the substance contained in unit volume($1m^3$).

$$\text{Density (D)} = \frac{\text{Mass (M)}}{\text{Volume(V)}}$$

SI unit of density is Kg/m^3

4. What is one light year?

Ans : One light year is defined as the distance travelled by light in vacuum during the period of one year.

1 Light year = 9.46×10^{15} m.

5. Define - Astronomical unit ?

Ans :   One astronomical unit is defined as the average distance between the earth and the sun.

1 AU = 1.496×10^{11} m.

X. Answer in detail.

1. Describe the graphical method to find the area of an irregularly shaped plane figure.

Ans :

★ Take a leaf from any one of the trees.

★ Place it on a graph sheet and draw the outline of the leaf with a pencil.

★ Remove the leaf.

★ You can see the outline of the leaf on the graph sheet.

i. Now, count the number of whole squares enclosed within the outline of the leaf. Take it to be M.

ii. Then, count the number of squares that are more than half. Take it as N.

Area of an irregularly shaped plane figure

iii. Next, count the number of squares which are half of a whole squares. Note it to be P.

iv. Finally, count the number of squares that are less than half. Let it be Q.

v. M = **52**   ;   N = **12**

   P = **6**   ;   Q = **12**

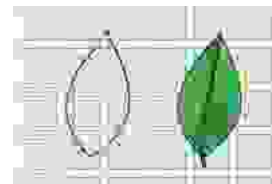Now, the approximate area of the leaf can be calculated using the following formula :

   Approximate area of the leaf = M + (3/4) N + (1/2) P + (1/4) Q square cm.

   Area of the leaf   = 52 + (3/4) x 12 + (1/2) x 6 + (1/4) x 12

   $= 52 + \dfrac{3}{4} \times 12 + \dfrac{1}{2} \times 6 + \dfrac{1}{4} \times 12$

   = 52 + 9 + 3 + 3 = 67

   Area of the leaf   = **67 sq.cm**
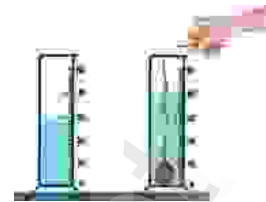
2. How will you determine the density of a stone using a measuring jar ?

Ans :

★ Take a measuring cylinder and pour some water into it (Do not fill the cylinder completely).

★ Note down the volume of water from the readings of the measuring cylinder.

★ Take it as V_1.

Volume of an irregularly shaped object

★ Now take a small stone and tie it with a thread.

★ Immerse the stone inside the water by holding the thread.

★ This has to be done such that the stone does not touch the walls of the measuring cylinder.

★ Now, the level of water will raise. Note down the volume of water and take it to be V_2.

★ The volume of the stone is equal to the raise in the volume of water.
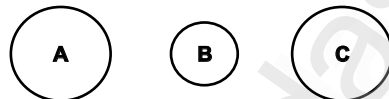
$V_1 = 30 m^3$; $V_2 = 40 m^3$

Volume of stone $= V_2 - V_1$

$= 40 - 30 = 10 m^3$

XI. Questions based on Higher Order Thinking skills :

There are three spheres A,B,C as shown below :

Sphere A and B are made of same material. Sphere C is made of a different material. Spheres A and C have equal radii. The radius of sphere B is half that of A. Density of A is double that of C.

(A)   (B)   (C)

Now answer the following questions :

   i. Find the ratio of masses of spheres A and B.

   ii. Find the ratio of volumes of spheres A and B.

   iii. Find the ratio of masses of spheres A and C.

Solution :

i) The ratio of masses of spheres A and B.

   Mass A : Mass B

$M_A : M_B$ $(\therefore D_A = D_B)$

$\cancel{D}_A \times V_A : \cancel{D}_B \times V_B$

$V_A : V_B \rightarrow \dfrac{\cancel{4}}{\cancel{3}} \pi r_A^3 : \dfrac{\cancel{4}}{\cancel{3}} \pi r_B^3$

$r_A^3 : \left(\dfrac{1}{2} r_A\right)^3 \quad \left[\therefore r_B = \dfrac{1}{2} r_A\right]$

$$r_A^3 : \frac{1}{8} r_B^3$$

$$1 : \frac{1}{8}$$

$$8 : 1$$

Ratio of masses = 8 : 1

ii) The ratio of volumes of spheres A and B.

$$V_A : V_B \qquad \frac{4}{3} \pi r_A^3 : \frac{4}{3} \pi r_B^3$$

$$r_A^3 : r_B^3$$

$$r_A^3 : \left(\frac{1}{2} r_A\right)^3 \qquad \left[\therefore r_B = \frac{1}{2} r_A\right]$$

$$r_A^3 : \frac{1}{8} r_B^3$$

$$1 : \frac{1}{8}$$

$$8 : 1$$

Ratio of their volumes = 8 : 1

iii) The ratio of masses of spheres A and C

$$M_A : M_C \qquad (\therefore V_A = V_C)$$

$$D_A \times V_A : D_C \times V_C$$

$$D_A : D_C$$

Since density of A is double that of C, $2D_C : D_C$

$$2 : 1$$

Ratio of masses of spheres A and C is = 2 : 1

XII. Numerical problems :

1. A circular disc has a radius 10cm. Find the area of the disc in m². (Use π = 3.14)

Solution :

r = 10cm = 10 / 100 m

Area of the disc = πr^2

$$= 3.14 \times \frac{10}{100} \times \frac{10}{100}$$

$$= 0.0314 \, m^2$$

Area of the disc = 0.0314 m²

Unit - 3. Matter Around Us

Evaluation

I. Choose the appropriate answer.

1. Which one of the following is an example for a metal ?
a) Iron   b) Oxygen   c) Helium   d) Water   **Ans : a) Iron**

2. Oxygen, hydrogen, and sulphur are examples for
a) Metals   b) Non- metals   c) Metalloids   d) Inert gases   **Ans : b) Non - metals**

3. Which of the following is a short and scientific way of representing one molecule of an element or compound ?
a) Mathematical formula   b) Chemical formula
c) Mathematical symbol   d) Chemical symbol   **Ans: b) Chemical formula**

4. The metal which is liquid at room temperature is
a)Chlorine   b) Sulphur   c) Mercury   d) Silver   **Ans : c) Mercury**

5. An element which is always lustrous, malleable and ductile is
a) Non-metal   b) Metal   c) Metalloid   d) Gas   **Ans : b) Metal**

II. Fill in the blanks.

1. The smallest particle of matter that can exist by itself is................ **Ans : atom**

2. A compound containing one atom of carbon and two atoms of oxygen is .... **Ans : Carbon - di - oxide**

3. .... is the only non-metal which conducts electricity. **Ans : Graphite**

4. Elements are made up of .... kinds of atoms. **Ans : same**

5. .... of some elements are derived from Latin or Greek names of the elements. **Ans : Symbols**

6. There are .... number of known elements. **Ans : 118**

7. Elements are the .... form of pure substances . **Ans : simplest**

8. The first letter of an element is always written in .... letter **Ans : Capital**

9. Molecule containing more than three atoms are known as .... **Ans : Poly atomic molecules**

10. ....is the most abundant gas in the atmosphere. **Ans : Nitrogen**

III. Analogy.

1. Mercury: Liquid at room temperature:: Oxygen: .... **Ans : Gas at room temperature**

2. Non - metal conducting electricity: .... :: Metal conducting electricity: Copper **Ans : Graphite**

3. Elements: Combine to form compounds::Compounds: .... **Ans : Can be split into elements**

4. Atoms: Fundamental particle of an element:: .... : Fundamental particles of a compound. **Ans : Molecules**

IV. State true or false. If false, give the correct statement.

1. Two different elements may have similar atoms.   **Ans : False**
Correct statement : Two different elements have **different** atoms.

2. Compounds and elements are pure substances.   **Ans : True**

3. Atoms cannot exist alone. They can only exist as groups called molecules.

Ans : False. Correct statement : Atoms **can** exist alone.

4. NaCl represents one molecule of sodium chloride.

Ans : False. Correct statement : NaCl represents **1 sodium atom, 1 chlorine atom.**

5. Argon is mono atomic gas.

Ans : True

V. Answer in brief.

1. Write the chemical formula and name the elements present in the following compounds:
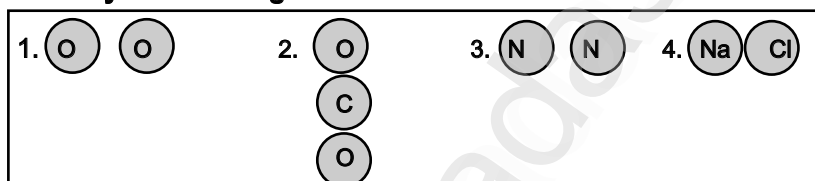
a. Sodium chloride   b. Potassium hydroxide   c. Carbon di oxide
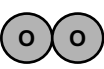
d. Calcium oxide   e. Sulphur dioxide
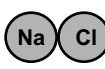
Ans :

S.No	Compounds	Chemical Formula	Name of the elements
a	Sodiumchloride	NaCl	Sodium, Chlorine
b	Potassium hydroxide	KOH	Potassium, Hydrogen, oxygen
c	Calcium oxide	CaO	Calcium, oxygen
d	Sulphur dioxide	SO_2	Sulphur, oxygen

---

2. Classify the following molecules as the molecules of element or compound

Ans :

---

3. What do you understand by chemical formula of a compound? What is its significance?

Ans :

A chemical formula is a symbolic representation of one molecule of an element or a compound.

The chemical formula tells us the types of atoms and the number of each type of atom in one molecule of susbtance.

---

4. Define the following terms with an example for each:

a. Element   b. Compound   c. Metal   d. Non-metal   e. Metalloid

Ans :

a) Element :

Matter in its simples form is called an element.

VII. Rewrite the given sentence in correct form

1. Elements contains two or more kinds of atoms and compounds contain only one kinds of atom.

Ans :

   <u>Compounds</u> contains two or more kinds of atoms and <u>elements</u> contains only one kind of atom.

VIII. Higher Order Thinking skills :

**1. List out the metals, non-metals and metalloids which you use in your house, schools. Compare their properties.**

Ans :

Elements	Metals	Non- metals	Metalloids
Used in house	Aluminium	Oxygen	Antimony
Used in schools	Iron	Carbon	Silicon
Properties	★ Hard and lustrous.	Soft and non lustrous.	lustrous.
	★ Conductors electricity.	Bad conductors of electricity.	Semi conductors.
	★ Conductors heat.	Bad conductors of heat.	Conducts of heat.

2. What changes take place in the movement and arrangement of particles during heating process?

Ans :

★ When solids are heated, the particles in them gain energy and vibrate vigorously. They move slightly further apart from one another.

★ This causes the volume of matter to increase. This process is called expansion.

★ The matter begins to expand when heated and the volume increases due to the increases in the distance between the particles. But the size of the particles remains in same.

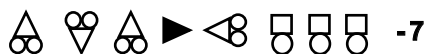★ During heating or expansion, the mass of matter does not change.

3. In the diagram given below, the circle, square and triangle represent the atoms of different elements.
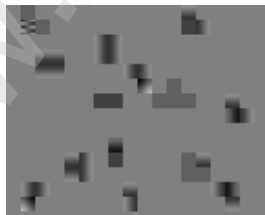
Identify all combinations that represent

a. Molecule of a compound

Ans :

 -7

b. Molecule of an element consisting of two atoms

Ans :

 -4

Unit - 6. Health and Hygiene

Evaluation

I. Choose the appropriate answer.

1. Ravi has sound mind and physically fit body. It refers to
a) Hygiene   b) Health   c) Cleanliness   d) wealth   **Ans : b) Health**

2. Sleep is not only good for body, but it is also good for
a) Enjoyment   b)Relaxation   c) Mind   d) Environment **Ans : c) Mind**

3. Our living place should be
a) Open   b) Closed   c) Clean   d) Unclean / Untidy **Ans : c) Clean**

4. Tobacco chewing causes
a) Anemia   b) Periodontitis   c) Tuberculosis   d) Pneumonia   **Ans : b) Periodontitis**

5. The first aid is to
a. Save money   b. Prevent scars
c. Prevent the medical care   d. Relieve the pain   **Ans : d) Relieve the pain.**

II. Fill in the Blanks.

1. A group of people living together in a particular area is called _____ **Ans : Community**
2. I am green colour box with garbage. I am? ____ **Ans : Biodegradable dustbin**
3. Eyes are considered as ____ to the world.   **Ans: Windows**
4. The hair follicles produce _____ which keeps the hair smooth.   **Ans : Oil**
5. Tuberculosis is caused by the bacterium___.   **Ans: Mycobacterium tuberculae**

III. State true or false . If false, correct the statement.

1. All food should be covered.   **Ans : True**
2. Chicken pox is also known as Leucoderma.   **Ans : False**
Correct statement : Chicken pox is also known as **varicella**
3. Stomach ulcer is a non- communicable disease. **Ans : True**
4. Rabies is a fatal disease.   **Ans : True**
5. First – degree burns damage the whole skin.   **Ans: False**
Correct statement : First - degree burns damage the **outer layer of the skin**.

IV. Match the following :

1. Rabies	Salmonella
2. Cholera	Yellow Urine
3. Tuberculosis	Cramps in legs
4. Hepatitis	Hydrophobia
5. Typhoid	Mycobacterium

Ans:

1. Rabies	Hydrophobia
2. Cholera	Cramps in legs
3. Tuberculosis	Mycobacterium
4. Hepatitis	Yellow Urine
5. Typhoid	Salmonella

V. Analogy.

1. First degree burn: Epidermis :: Second degree burn: _____
   Ans : Epidermis and layer beneath
2. Typhoid : Bacteria :: Hepatitis : _____   **Ans : Virus**
3. Tuberculosis : Air :: Cholera : _____   **Ans: Contaminated food or water**

III. Answer very briefly

1. What are the causes for the development of disease ?

Ans :

    1. Infection caused by disease-causing microbes.

    2. Lack of balanced diet

    3. Poor lifestyle and unhealthy habits.

    4. Malfunctioning of one or more body parts or organs.

2. Write a note on - 'Dengue".

Ans :

★ Dengue is spread by mosquitoes of Aedes aegypti caused by DEN -1, 2 virus belonging to the type - flavivirus.

★ It decrease counting of the blood platelets of human blood.

★ It has a maximum flight range of 50 - 100 meters in and around the places.

ACTIVITY : 1

List out your daily activities in the given table.

Ans :

Activities	Number of times in a day
Brush teeth	2
Take shower	1
Wash hair	1
Wash hands and feet	6
Wearing Clean clothes / Uniforms	1

Do you follow personal hygiene properly? How these activities will keep you physically fit?

Ans :
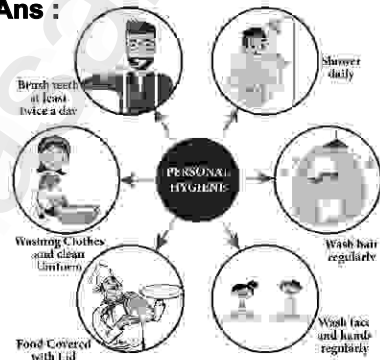
ACTIVITY : 2

Observe the picture and write remedial measures.

Ans :

★ Street wastes, Unclosed dustbins, Useless tyres, Drainage leads to increased number of mosquitoes.

★ The surroundings should be kept clean.

★ Drains should be covered properly.

★ The domestic wastes should be segregated and properly disposed off safely in separate dustbins provided by the Government (Green and Blue).

SELECTION ⑦ SCIENCE
SEVENTH STANDARD
TERM - II

Unit - 1. Heat and Temperature

Evaluation

I. Choose the correct answer :
1. International unit of measuring temperature is ....
a) Kelvin   b) Fahrenheit   c) Celsius   d) Joule   **Ans : a) Kelvin**
2. In thermometer when bulb comes in contact with hot object, liquid inside it
a) expands   b) contracts
c) remains same   d) none of above   **Ans : a) expands**
3. The body temperature of a healthy man is;
a) 0°C   b) 37°C   c) 98°C   d) 100°   **Ans : b) 37°C**
4. Mercury is often used in laboratory thermometers because it _____
a) is a harmless liquid   b) is silvery in colour and is attractive in appearance
c) Expands uniformly   d) is a low cost liquid   **Ans :c) Expands uniformly**
5. Which of the following temperature
conversions is incorrect
K (Kelvin) = °C (Celsius) + 273.15

	°C	K
a)	-273.15	0
b)	-123.	+150.15
c)	+127.	+400.15
d)	+450	+733.15

	°C	K
Ans : d)	**+450**	**+ 733.15**

II. Fill in the blanks :
1. Doctor uses _____ thermometer to measure the human body temperature.
                                                                      Ans : clinical
2. At room temperature Mercury is in_____ state.   **Ans : liquid**
3. Heat energy transfer from _____to _____
                                                  Ans : hot substance, cold substance
4. -7°C temperature is _____ than0°C temperature.   **Ans : lower**
5. The common laboratory thermometer is a_____ thermometer   **Ans : celsius**

2. What is relation between Fahrenheit scale and Celsius scale ?

Ans :

$$\frac{(F-32)}{9} = \frac{C}{5}$$

V. Short answers :

1. What is temperature?

Ans :

★ The measurement of warmness or coldness of a substance is known as its temperature.

2. The human body temperature is 37°C. Convert it into Kelvin.

Ans : $\boxed{K = C + 273}$

$= 37 + 273$

$= 310\,K$

The human body temperature is 310 K

VI. Numerical Problems
Solved examples

1. How much will the temperature of 68°F be in Celsius and Kelvin?

Given : Temperature in Fahrenheit = F = 68°F

Temperature in Celsius = C = ?

Temperature in Kelvin = K = ?

$$\frac{(F-32)}{9} = \frac{C}{5}$$

$$\frac{(68-32)}{9} = \frac{C}{5}$$

$$C = 5 \times \frac{36}{9}$$

$$= 20°C$$

K = C + 273.15 = 20 + 273.15 = 293.15

Thus, the temperature in Celsius = 20°C and in Kelvin = 293.15 K

2. At what temperature will its value be same in Celsius and in Fahrenheit?

Given : If the temperature in Celsius is C, then the temperature in Fahrenheit (F) will be same,

i.e. F = C $\dfrac{(F-32)}{9} = \dfrac{C}{5}$

(or)

$$\frac{(C-32)}{9} = \frac{C}{5}$$

(C-32) X 5 = C X 9

5C - 160 = 9 C

4 C = - 160

C = F = - 40

The temperatures in Celsius and in Fahrenheit will be same at – 40

3. Convert the given temperature :

1) 45°C = ... °F

Ans : 45°C = ... °F

$$\frac{(F-32)}{9} = \frac{C}{5}$$

$$F = C \frac{9}{5} + 32 \qquad [C = 45]$$

$$F = 45 \times \frac{9}{5} + 32$$

$$= 81 + 32 = 113°$$

$$\boxed{45°C = 113 °F}$$

2) 20°C = ... °F

Ans : 20°C = ... °F

$$\frac{(F-32)}{9} = \frac{C}{9}$$

$$F = C \frac{9}{5} + 32 \qquad [C = 20]$$

$$F = 20 \times \frac{9}{5} + 32$$

$$= 36 + 32 = 68°$$

$$\boxed{20°C = 68°F}$$

3) 68°F = ... °C

Ans : 68°F= .... °C

$$\frac{(F-32)}{9} = \frac{C}{5}$$

$$C = (F-32)\frac{5}{9} \quad [F=68]$$

$$C = (68-32) \times \frac{5}{9}$$

$$= \overset{4}{\cancel{36}} \times \frac{5}{\cancel{9}} = 20°$$

$$\boxed{68°F = 20°C}$$

4) 185°F = ... °C

Ans : 185°F = ... °C

$$\frac{(F-32)}{9} = \frac{C}{5}$$

$$C = (F-32)\frac{5}{9} \quad [F=185]$$

$$C = (185-32) \times \frac{5}{9}$$

$$= \overset{17}{\cancel{153}} \times \frac{5}{\cancel{9}} = 85°$$

$$\boxed{185°F = 85°C}$$

5) 0°C = ... K

Ans : K = 273.15 + C
$$= 273.15 + 0$$
$$= 273.15 \, K$$
$$\boxed{0°C = 273.15 \, K}$$

6) -20°C = ... K

Ans : K = 273.15 - 20
$$= 253.15 \, K$$
$$\boxed{-20°C = 253.15 \, K}$$

7) 100 K = ... °C

Ans : C = K - 273.15
$$= 100 - 273.15$$
$$C = -173.15 \, °C$$
$$\boxed{100 \, K = -173.15°C}$$

8) 272.15 K = ... °C

Ans : C = K - 273.15
$$= 272.15 - 273.15$$
$$= -1°C$$
$$\boxed{272.15 \, K = -1°C}$$

ACTIVITY : 1

What is required?

A small glass bottle, a rubber cork, an empty refill, water, colour, a candle, a fork, a paper.

What to do?

• Take a small glass bottle. Fill it with coloured water.

• Make hole at the centre of the rubber cork.

• Pass empty refill from the hole of the rubber cork.

• Make the bottle air tight and observe the water raised in the refill.

• Make a scale on paper, place it behind the refill and note down the position of the surface of water.

• Hold bottle with fork and supply heat to it with candle. Then observe.
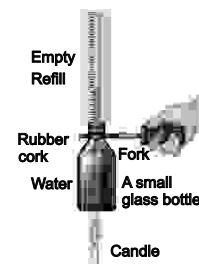
What is the change in the surface of water?

Ans : The surface of water level rises up.

• Stop the supply of heat. When water is cooled, observe the surface of water in the refill, what change takes place? Why?

Ans : The surface of water level goes down because water contracts when it is cooled.

When, a liquid is heated, it expands and when it is cooled down, it contracts.

Unit - 4. Cell Biology

Evaluation

I. Choose the correct answer :

1. Basis unit of life.

A) Cell 　　　　　　　　B) Protoplasm

C) Cellulose 　　　　　　D) Nucleus 　　**Ans : A) Cell**

2. I am the outer most layer of an animal cell. Who am I?

A) Cell wall 　　　　　　B) Nucleus

C) Cell membrane 　　　　D) Nuclear membrane 　**Ans : C) Cell membrane**

3. Which part of the cell is called the brain of the cell?

A) Lysosome 　　　　　　B) Ribosome

C) Mitochondria 　　　　D) Nucleus 　　**Ans : D) Nucleus**

4. _____ helps in cell division

A) Endoplasmic reticulum 　B) Golgi complex

C) Centrioles 　　　　　　D) Nucleus 　　**Ans : C) Centrioles**

5. Suitable term for the various components of cell is _____

A) Tissue 　　　　　　　B) Nucleus

C) Cell 　　　　　　　　D) Cell organelle 　**Ans : D) Cell organelle**

II. Fill in the blanks :

1. The jelly like substance present in the cell is called _____ 　**Ans : Cytosol**

2. I convert the Sun's energy into food for the plant. Who am I? ____

　　　　　　　　　　　　　　　　　　　Ans : Chloroplast

3. Mature Red blood cell do not contain a ____. 　**Ans : Nucleus**

4. Unicellular organisms can only be seen under a _____. 　**Ans : Microscope**

5. Cytoplasm plus nucleoplasm is equal to___. 　**Ans : Protoplasm**

III True or False – If False give the correct answer

1. Animal cells have a cell wall. 　　　　　**Ans : False**

Correct statement : <u>Plant cells</u> have a cell wall. (or) Animal cells have a <u>cell membrane</u>.

2. Salmonella is a unicellular bacteria. 　　**Ans : True**

3. Cell membrane is fully permeable 　　　**Ans : False**

Correct statement : Cell membrane is <u>selectively permeable</u>

4. Only plant cells have chloroplasts. 　　　**Ans : True**

5. Human stomach is an organ. 　　　　　**Ans : True**

6. Ribosomes are small organelles with a membrane. 　**Ans : False**

Correct statement : Ribosomes are small organelles <u>without</u> membrane.

IV. Match the following　　　　**Ans :**

1.	Transporting channel	Nucleus
2.	Suicidal bag	Endoplasmic reticulum
3.	Control room	Lysosome
4.	Power house	Chloroplast
5.	Food producer	Mitochondria

1.	Transporting channel	Endoplasmic reticulum
2.	Suicidal bag	Lysosome
3.	Control room	Nucleus
4.	Power house	Mitochondria
5.	Food producer	Chloroplast

★ **Classification of organism based on number of cells :**
1. Unicellular organism -   Single celled (eg) Bacteria.
2. Multicellular organism -   Many celled (eg) Human beings.

★ **Specialised cells - in human :**
1. Epithelial cells   -   Body covering
2. Muscle cells   -   Movement
3. Nerve cells   -   Conduct messages
4. Red blood cells   -   Carry oxygen.

★ **cell structure :**
1. ★ Cell membrane (in animal cell)   ★ Cell wall in (in plant cell)
2. Cytoplasm.   3. Nucleus.

★ **cell organelles :** Tiny structures inside the cell, which has a specific function for the cell.
They are,
★ Mitochondria   ★ Ribosome   ★ Endoplasmic reticulum   ★ Vacuoles
★ Chloroplast is present only in plant cell.   ★ Centrioles is present only in animal cell.

IX. Long answer

1. Write about any three organelles in detail.
Ans :
  1. Mitochondria :
★   Mitochondria is the power house of the cell.
★   It is an oval or rod shaped double membrane bounded organelle.
★   Aerobic respiratory reactions take place to release energy.

  2. Chloroplast :
★   Chloroplast are food producers found in plant cell.
★   Photosynthesis takes place with green pigment chlorophyll.
★   Chlorophyll can absorb radiant energy from the sun and convert it to chemical energy.
★   Energy is used by plants and animals.

  3. Lysosome :
★   Lysosomes are very small.
★   They are the main digestive compartments of the cell.
★   They lyse a cell, hence they are called "Suicidal bag".
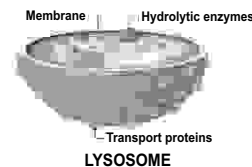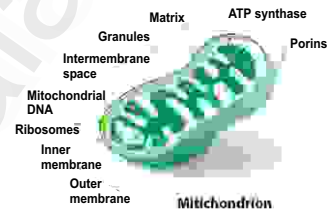
2. In a situation, how to explain, while your friend ask what is this , never seen before?
Ans :
★   This is Animal cell.
★   Which are very small to view using a light microscope.
★   The cell organelles are golgi apparatus, Lysosomes, Ribosomes, Membrane Rough and Smooth endoplasmic reticulum,mitochondria and nucleus.
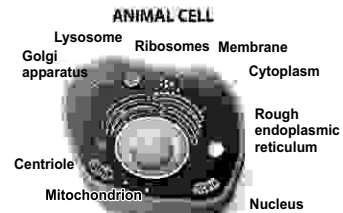
3. Compare the plant cell and the animal cell and complete the illustration given below.

Ans :

Animal cell	Nucleus	Plant cell
Cell wall is absent	It is present in both plant cell & animal cell. One or two nucleolus present inside the nucleus.	Cell wall is present
Chloroplast is absent		Chloroplast is present
Centriole is present		Centriole is absent

X. Higher order thinking question
Virus is called Acellular. Why?

    Ans : ★ The organisms which don't possess a cell are termed as a cellular (ex.) Virus.

★   A cellular organisms are devoid of cell and cell products.

★   They are non-living outside the host and living inside a host.

Additional Questions and Answers

I. Choose the correct answer.
1. .... are unicellular organisms.
a) Bacteria   b) Onion   c) Man   d) Tree   **Ans : a) Bacteria**

2. Roots are .... of plants.
a) Tissues   b) Cells   c) Organ   d) Organ system   **Ans : c) Organ**

3. .... helps to maintain the shape of the plant cell.
a) Cytosol   b) Nucleoplasm
c) Cellulose   d) Protoplasm   **Ans : c) Cellulose**
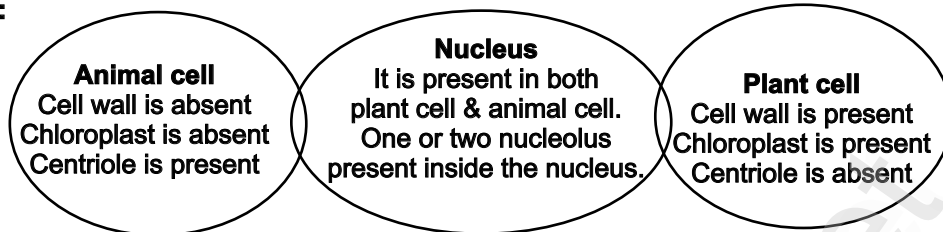
4. ....cells carry oxygen and collect carbondioxide.
a) Nerve   b) Red blood
c) Muscle   d) Epithelial   **Ans : b) Reb blood**

II. Fill in the blanks
1. The .... is made up of the cytosol and cell organelles.   **Ans : cytoplasm**
2. Chloroplast is a type of ....   **Ans : plastid**
3. .... is converted to sugar   **Ans : Starch**
4. During cell division, the chromatin body is organised into a ....
                    Ans : chromosome.

III. Say True or False. If false give the correct answer.
1. Leucoplast impart colour to flower and fruits   **Ans : False.**
Correct statement : Chromoplast impart colour to flower and fruits
2. Centrioles are the brain of the cell.   **Ans : False.**
Correct statement : Nucleus are the brain of the cell.
3. Cells with nucleus is called as eukaryotic cells.   **Ans : True**

IV. Match the following :

Column - A	Column - B
i) Plasmodesmata	ATP
ii) Mitochondria	Spindle fibres
iii) Ribosome	Openings
iv) Cell division	Area of movement
v) Cytoplasm	RNA

Ans :

Column - A	Column - B
i) Plasmodesmata	**Openings**
ii) Mitochondria	**ATP**
iii) Ribosome	**RNA**
iv) Cell division	**Spindle fibres**
v) Cytoplasm	**Area of movement**

V. Very short Answer.

1. What are the types of roots in the root system of a plant?
Ans : ★ Primary root   ★ Secondary root   ★ Tertiary root

2. What are stem cells?
Ans : ★ Stem cells are cells that have the ability to divide and develop into many different types of the cells.

3. Expand - ATP.
Ans : Adenosine Tri Phosphate

VI. Short Answer.

1. Differentiate Unicellular and Multicellular organism.
Ans :

Unicellular organism	Multicellular organism
★ Single - celled organism	★ Many celled organism
★ Microscopic organism	★ Macroscopic organism
★ (eg) Chlamydomonas, Amoeba.	★ (eg) Onion, Man.

VII. Draw and label the parts.

a) Golgi apparatus
Ans :
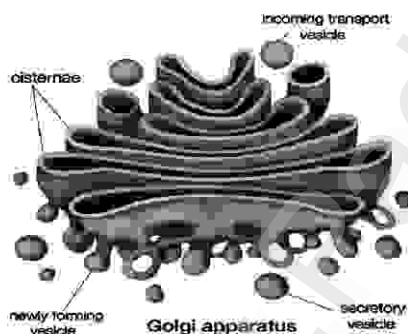
b) Nucleus
Ans :
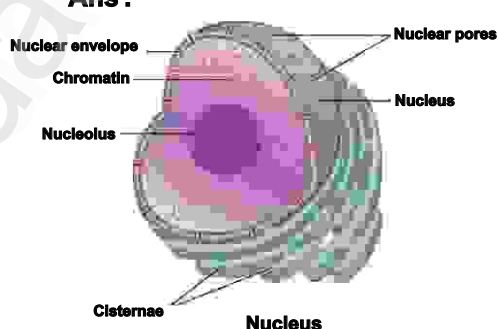
ACTIVITY :1

Do you remember the lesson studied in previous class, how will you find whether on object is living or non – living? Write it down. An object is living or non – living?

1. Form a team and work together to write down some of the functions of life, which you can remember.

Ans: Functions of life :
★ Respiration   ★ Digestion   ★ Excretion   ★ Circulation

2. Do you think that an individual cell is living? Explain your answer

Ans: ★ Living cells breathe.   ★ They take food.   ★ They also reproduce.

3. Write about various organelles of a cell which you know.

Ans: Organelles :
★ Nucleus   ★ Mitochondria   ★ Golgi body   ★ Lysosome
★ Centriole   ★ Chloroplast

Unit - 6. Digital Painting

Evaluation

I. Choose the correct answer :

1. Tux paint software is used to………
a) Paint   b) program
c) Scan   d) PDF   **Ans : a) Paint**

2. Which toolbar is used for drawing and editing controls in tux paint software?
a) Left Side: Toolbar   b) Right side : Toolbar
c) Middle : Tool bar   d) Bottom : Tool bar   **Ans : a) Left Side: Toolbar**

3. What is the shortcut key for undo option?
a) Ctrl + Z   b) Ctrl + R
c) Ctrl + Y   d) Ctrl +N   **Ans : a) Ctrl + Z**

4. Tux Math software helps in learning the _____
a) painting   b) arithmetic
c) programming   d) graphics   **Ans : b) arithmetic**

5. In Tux Math, Space cadet option is used for ……
a) simple addition   b) division
c) Drawing   d) Multiplication   **Ans : a) simple addition**

II. Answer the following Questions.

1. What is Tux Paint ?
   Ans :
✶ Tux paint is a free drawing program designed for young children.
✶ It has a simple, easy -to - use interface, fun sound effects and an encouraging cartoon mascot which helps guide children as they use the program.

2. What is the use of Text Tool ?
   Ans : Text tool is used to type texts.

3. What is the Shortcut key for Save option?
   Ans : Shortcut key for save option is ctrl + s

4. What is Tux Math?
   Ans :
✶ Tux math is an open source arcade - style video game for learning arithmetic.
✶ The main goal is to make learning effective and fun.

5. What is the use of Ranger ?
   Ans : Ranger is used for addition, subtraction, multiplication and division to ten.

SELECTION ⑦ SCIENCE
SEVENTH STANDARD
TERM - III

Unit - 1. Light

EVALUTION

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 : b) straight line, shadows

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 : d) clouds

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 : a) about to reach a surface

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

Ans :

| 1.	**Rectilinear propagation**	-	**Pinhole camera**
2.	**Plane Mirror**	-	**Periscope**
3.	**Fire fly**	-	**luminous object**
4.	**The Moon**	-	**Non-luminous object**
5.	**Wide light source**	-	**Penumbra**
6.	**Regular reflection**	-	**Glossy surface**
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. $\angle i = \angle r$
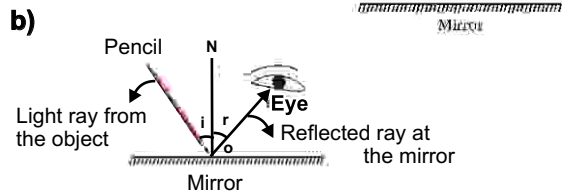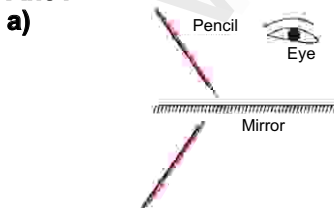2. The incident ray, the reflected ray and the normal at the point of incidence lie on the same plane.
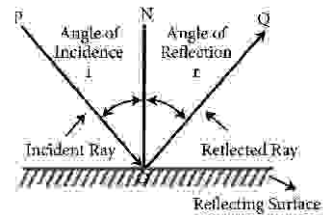
2. Figure shows a pencil placed above a mirror
a. Draw its image formed by the mirror
b. Show how light rays from the object are reflected at the mirror to form the image for the eye.

Ans :

a)

b)

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

Ans :

★ Any object that has a bilateral symmetry will have its mirror image the same as that of the object. The capital letters A, H, I, M, O, T, U, V, W, X, Y have bilateral symmetry. So they look the same in a mirror.

★ Other capital letters like B, D, E etc. do not have bilateral symmetry. So, they are reversed in a mirror.

---

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

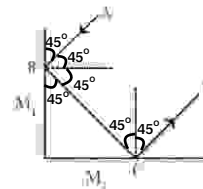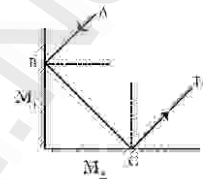**2. The incident rays are _____,_____**

Ans : AB, BC

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

Ans : Angle of incidence corresponding to the ray BC $\angle i = 90° - 45°$

$$= 45°$$

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

Ans :   Angle of incidence corresponding to the ray CD = 45°

So, the angle of reflection corresponding to the ray CD $\angle r = 45°$

---

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.

Ans :
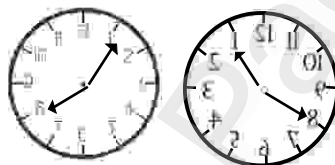
1:40

---
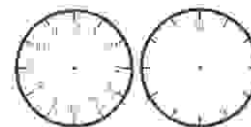
19. What is reflection of light?

Ans :   ★ The bouncing back of t he light rays as they fall on the smooth shiny and polished surface is called reflection of light.

---

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 :

★ Angle of incidence i = 90° - 50° = 40°

★ According to the laws of reflection, The angle of incidence = The angle of reflection

So, $\boxed{r = 40°}$

---

21. What do you mean by lateral inversion?

Ans : ★ Lateral inversion is a phenomenon in which left appears to be right and vice versa.

★ It is due to direction that light follows when it strikes a reflecting surface generally a mirror.

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.

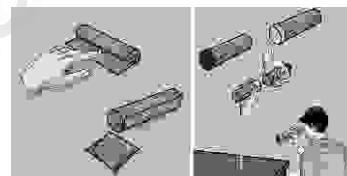**What does this activity tell you about the path of light?**

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.

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 :

★ The image is real.   ★ The image may not be equal to the size of the object.

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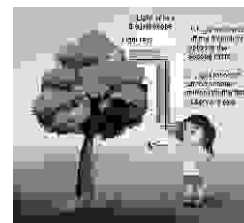
Ans : Yes. I can see.

Unit - 3. Polymer Chemistry

EVALUATION

I. Choose the correct answers :

1. The first man-made fibre is _____
a) Nylon   b) Polyester   c) Rayon   d) Cotton   **Ans : a) Nylon**

2. Aspirin is _____ Which of the following is the strongest?
a) Rayon   b) Nylon   c) Acrylic   d) Polyester   **Ans : b) Nylon**

3. When you place a natural fibre in a flame it_____
a) melts   b) burns   c) gets nothing   d) explodes   **Ans : b) burns**

4. A synthetic fibre which has similar properties to wool is _____
a) Nylon   b) Polyester   c) Acrylic   d) PVC   **Ans : c) Acrylic**

5. A good application of plastic is the use of _____
a) Blood bags   b) Plastic cutlery
c) Plastic straws   d) Plastic carry bag   **Ans : a) Blood bags**

6. _____ is non-biodegradable material
a) Paper   b) A plastic bottle
c) Cotton cloth   d) Wool   **Ans : b) A plastic bottle**

7. PET is the acronym for _____
a) Polyester   b) Polyester and terylene
c) Poly ethylene terephthalate   d) Polyethene terylene
                                  Ans : c) Poly ethylene terephthalate

II. Fill in the blanks :

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

III. True or False.

1. A lot of plastic pollutes our environment.   **Ans : True**
2. Refuse (avoid) is the best way to manage plastic.   **Ans : True**
3. 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.
4. Degradable plastics break down into tiny pieces called microplastics.   **Ans : True**
5. 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**

SELECTION 7 SCIENCE   **111**   **TERM- III**

XIII. i) Fill in the blanks.

What is the first plastic item that you touched this morning?

Tooth Brush
Bath Tub
Mug

Duster
Fan
Dustbin

Look at the classroom and list down the items that are made of plastics

Things we use

What is the material that *you use for* carrying your lunch and for carrying water?

Lunch Box
Water Bottle
Snack Box

Terry cot
Poly cot
Polyester

List out the type of fabrics you have as clothes

---

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

Ans : ★ One - time use plastic bags and bottles are thrown away. They litter the environment and clog the drains.

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

---

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 :
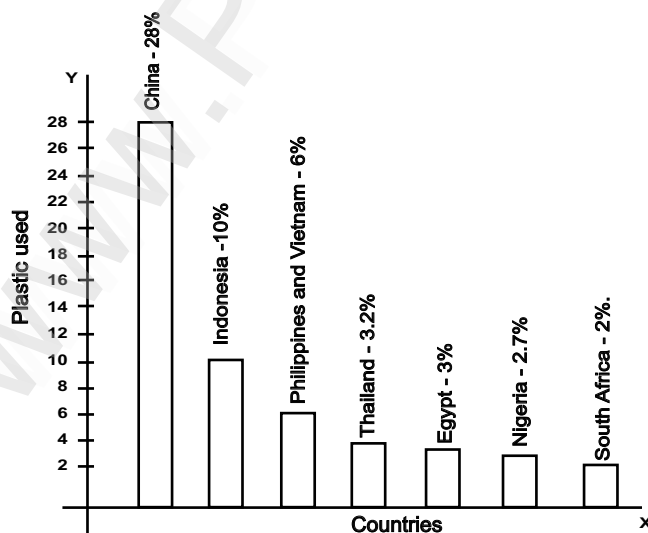
Ans : **Cotton cloth absorbs water but umbrella cloth (synthetic) will not absorb water.**
Which of these fabrics allows water to pass through?
    Cotton cloth or Umbrella cloth (nylon or polyester)
Ans : **Cotton cloth allows water to pass through.**
 Now ask the students to put both the pieces of cloth in the hot sun to dry. Which of these fabrics dries the fastest? The cotton cloth or the umbrella cloth?
**Ans :** **Umbrella cloth (Nylon or polyester) dries faster**

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
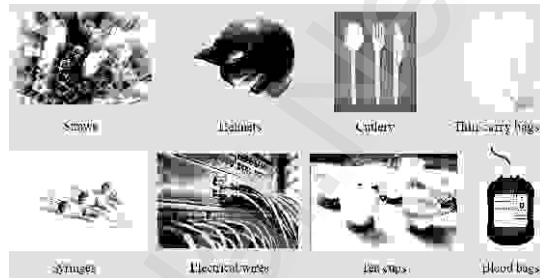
Ans :

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

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?
Ans :

Product	Resin code number	Acronym	Category of safety	Use of product
Rain coat	03	PVC	Unsafe	During rain
Pens	06	PS	Unsafe	To write

Unit - 4. Chemistry in Daily Life

EVALUATION

I. Choose the correct answers :

1. A drug effective in the treatment of pneumonia, and bronchitis, is _____
a) Streptomycin   b) Chloramphenicol
c) Penicillin   d) Sulphaguanidine   **Ans : c) Penicillin**

2. Aspirin is _____
a) Antibiotic   b) Antipyretic   c) Sedative   d) Psychedelic   **Ans : b) Antipyretic**

3. _____ are that neutralize stomach acid.
a) Antacid   b) Antipyretic   c) Analgesic   d) Antihistanics   **Ans : a) Antacid**

4. The lowest temperature at which a substance catch the fire is called its _____
a) Boiling point   b) Melting point
c) Critical temperature   d) Ignition temperature.   **Ans : d) Ignition temperature**

5. Which is the hottest part in the flame of candle _____
a) Blue   b) Yellow   c) Black   d) Way part   **Ans : a) Blue**

II. Fill in the blanks :

1. Penicillin was first discovered by _____   **Ans : Dr. Alexander Fleming**
2. World ORS Day is _____   **Ans : July - 29**
3. Combustion is a chemical reaction in which and substance react with _____   **Ans : Oxygen**
4. In the presence of water, the ignition temperature of paper is _____   **Ans : Increased**
5. Fire produced by oil cannot be controlled by _____   **Ans :   Water**

III. True or False. If False give the correct answer.

1. Antibiotics does work for viruses like cold and the flu.   **Ans : False**
Correct statement : Antibiotics **don't** work for viruses like cold and the flu.
2. Analgesics are the substances that lower the temperature during fever.   **Ans : False**
Correct statement : Antipyretics are the substances that lower the temperature during fever.
3. All fuels form flame.   **Ans : False**
Correct statement : All fuels **do not** form flame.
4. Oxygen is necessary for combustion   **Ans : True**
5. Burning wood and coal causes pollution of air.   **Ans : True**

IV. Match the following

			Ans :		
1.	Antipyretic	reduce pain	1.	Antipyretic	reduce body temperature
2.	Analgesic	reduce body temperature	2.	Analgesic	reduce pain
3.	Antacid	spontaneous combustion	3.	Antacid	ORS Solution
4.	Phosphorus	ORS Solution	4.	Phosphorus	spontaneous combustion
5.	Carbon – di –oxide	leads to respiratory problem.	5.	Carbon – di –oxide	leads to respiratory problem.

V. Analogy

1. Inner zone of flame : -------------- : : outer zone of flame : --------------
                    Ans : Black / Least hot part, Blue / Hottest part
2. Tincture: --------------- : :   histamine : --------------.
   **Ans : Antiseptic, Antihistamine**

VIII. Answer in Detail.

1. Explain briefly about antibiotic and analgesic?
Ans :

Antibiotics :

★ Dr. Alexander Fleming discovered the world's first antibiotic Penicillin, from the mould (fungus) Penicillium notatum.

★ Naturally, many micro organisms and plants synthesize chemicals which are toxic in nature to protect them from invading organisms.

★ Those biosynthesized chemicals can be isolated from the plants/micro organisms and was used as medicines against infectious diseases.

★ These substances were called as antibiotics.

★ Ex: Chloramphenicols, tetracyclines, Penicillin derivatives, cephalosporin's and their derivatives.

★ The over use of antibiotics make it inactive or less effective.

★ We are forced to either consume a larger dose or shifting towards the use of other virulent variants of antibiotics.

Analgesics:

★ Injury, burn, pressure from sharp objects and other conditions cause pain in our body.

★ The unpleasant emotion of 'pain' is created in the brain and not at the spot of the injury.

★ Analgesics or pain killers that react like the pain-suppressing chemicals released by the body.

★ They suppress the feeling of 'pain'.

★ This analgesics drug selectively relieves pain by acting either in CNS (Central Nerves System) or on peripheral pain mechanism, without significantly altering consciousness. Eg. Paracetamol.

★ Paracetamol interact with the receptors and reduce the intensity of pain signals to the brain.

★ It also suppresses the release of substances, called prostaglandins that increase pain and body temperature.

2. Make labeled diagram of a candle flame.
Ans :

Wax Candle
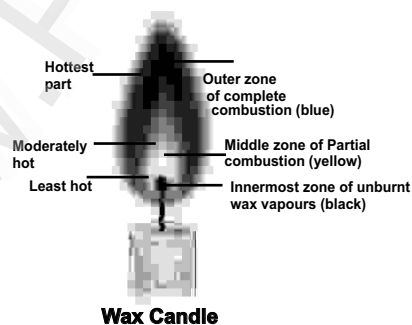
SELECTION 7 SCIENCE   119   TERM- III

IX. Picture based question.

Arul and Aakash were doing an experiment in which water was to be heated in a beaker.

Arul kept the beaker near the wick in the yellow part of candle flame. Aakash kept the beaker in the outer most part to the flame. Whose water will get heated in a shorter time?

Ans :

Beaker with water heated by Akash will be heated in a shorter time.

Reason :

i). The outer zone – complete combustion of the fuel takes place and the colour of the flame is blue and is the hottest part of the flame.

ii). The middle zone -partial combustions of the fuel takes place and the colour of the flame is yellow and is moderately hot part of the flame.

Additional Questions and Answers

I. Choose the correct answer.

1. .... leads to acid rain

a) LPG   b) CO

c) CO_2 d)SO_2 **Ans : d) SO_2**

2. Blue colour flame is produced by ....

a) Epsom salt   b) Bleaching powder

c) Table salt   d) Potassium chloride   **Ans : b) Bleaching powder**

3. Borax powder produces .... colour flame.

a) Violet   b) White   c) Red   d) Green   **Ans : d) Green**

II. Fill in the blanks.

1. ....is an example of slow combustion.   **Ans : Respiration**

2. .... acid is produced by the gastric glands of stomach.   **Ans : Hydrochloric**

III. Match the following :   Ans :

1) Sodium Bicarbonate	Antipyretics	1) Sodium Bicarbonate	Antacid
2) Ibuprofen	Antihistamine	**2) Ibuprofen**	**Antipyretics**
3) Codeine	Antacid	**3) Codeine**	**Narcotic drugs**
4) Diphenhydramine	Yellow flame	**4) Diphenhydramine**	**Antihistamine**
5) Calcium chloride	Narcotic drugs	**5) Calcium chloride**	**Yellow flame**

IV. Very Short Answer.

1. Expand : a) LPG b) CNG?

   Ans :

★ a) LPG - Liquified Petroleum Gas

★ b) CNG - Compressed Natural Gas

---

2. What is a flame? Give examples.

   Ans :

★ Flame is a zone of combustion of a combustible substance.

★ Substances which vapourise during burning produce flames.

★ Eg : Wax, Kerosene.

V. Short Answer .
1. What is ORS?
Ans :
★ ORS is Oral Rehydration Solution.
★ It is a special combination of dry salts that is mixed with water.
★ It can help replace the fluids lost due to diarrhoea.
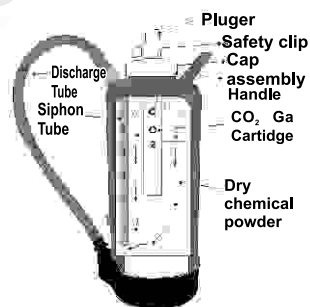
2. Give examples of antacids.
Ans :
★ Sodium Bicarbonate ($NaHCO_3$)   ★ Calcium Carbonate ($CaCO_3$)
★ Magnesium Hydroxide ($Mg(OH)_2$)   ★ Magnesium Carbonate ($MgCO_3$)
★ Aluminium Hydroxide ($Al(OH)_3$)

3. List out the characteristics of good fuel.
Ans: Characteristics of good fuel :
★ Readily available
★ Cheap
★ Easy transport and store
★ Burns at moderate rate
★ Produce large amount of heat
★ Do not leave behind any undesirable substances.
★ Does not cause pollution.

VII. Draw the picture and label the parts.
Fire Extinguisher.
:
Ans

Pluger
Safety clip
Cap
assembly
Handle
CO_2 Gas Cartidge
Discharge Tube
Siphon Tube
Dry chemical powder

Fire Extinguisher

Activity : 1
What happens when you add with these chemicals?
Sugar + Potassium permanganate + Glycerin.
Ans :
1. After adding sugar, potassium permanganate and glycerin to the dish, immediately step back because spark and solid potassium permanganate will be expelled from the dish.
2. When potassium permanganate mixes with glycerin, a redox reaction starts. This reaction starts out really slow, but produces a lot of heat, so it will start to speed up bit by bit. As the potassium permanganate oxidises the sugar, it will speed up more and more until it finally starts to smoke and after that it will ignite.

Unit - 5. Animals in Daily Life

EVALUATION

I. Choose the correct answers :

1. _____ is the daily essential product which is obtained from cattle.

a) Egg   b) Milk   c) Both of them   d) None of them   **Ans : b) Milk**

2. Eggs are rich in _____.

a) Protein   b) Carbo hydrate   c) Fat   d) Acid   **Ans : a) Protein**

3. Which parts of the goat and sheep is used for manufacturing clothes.

a) Leg   b) Hand   c) Hair   d) Head   **Ans : c) Hair**

4. The cultivation and production of silk is known as _____ .

a) Horticulture   b) Floriculture

c) Agriculture   d) Sericulture   **Ans : d) Sericulture**

5. Sorter's Disease is otherwise known as_____

a) Asthma   b) Anthrax   c) Typhoid   d) Cholera   **Ans : b) Anthrax**

II. Fill in the blanks :

1. Proteins and _____is rich in milk.   **Ans : Calcium**
2. _____ is extracted from bee hives.   **Ans : Honey**
3. Anthrax is caused by _____.   **Ans : Bacillus anthracis**
4. _____ is the strongest natural fibre.   **Ans : Silk**
5. Peace silk was produced in the year _____   **Ans : 1992**

III. True or False. If false give the correct answer.

1. Animals are the greatest gift of nature.   **Ans : True**
2. Horse hair is used as bristles in small painting brushes.   **Ans : True**
3. Wool is the fibre derived from the silk worm.   **Ans : False**
   Correct statement : Silk is the fibre derived from the silk worm.
4. Ahimsa silk is otherwise known as Mulberry silk.   **Ans : False**
   Correct statement : Ahimsa silk is otherwise known as **Peace silk**.
5. Pencillin is the best medicine for curing Anthrax.   **Ans : True**

IV. Match the following

1. Cocoons	-	Meat		1. Cocoons	-	Silk worm
2. Peace silk	-	Poultry		2. Peace silk	-	Andhra pradesh
3. Broilers	-	Silk worm		3. Broilers	-	Poultry
4. Sweet Liquid	-	Andhra pradesh		4. Sweet Liquid	-	Honey
5. Goat	-	Honey		5. Goat	-	Meat

V. Analogy

1. Water : pipe : : Electric current : _____   **Ans : wire**
2. Copper : conductor : : wood :_____   **Ans : non-conductor**
3. Length : metre scale : : current : _____   **Ans : Ammeter**
4. Milli ampere: micro ampere : : $10^{-3}A$: _____   **Ans : $10^{-6}A$**

VI. Very Short Answer.

1. Write about any two dairy products.

Ans :   ★ Butter   ★ Ghee

---

2. What are the two types of fibres that are obtained from animals?

Ans : Wool and Silk

---

3. What is shearing?

Ans : Removal of the flesh of the sheep from its body during the processing of wool is called as shearing.

---

4. Write the symptoms of Anthrax

Ans : Symptoms of Anthrax :

★ Fever   ★ Cough   ★ Shortness of breath (like pneumonia)

★ Nausea   ★ Vomiting and Diarrhoea.

---

5. Define – Sericulture

Ans : Sericulture is the cultivation of silkworm to produce silk. It is the rearing of silkworms to obtain silk.

---

6. How should we treat animals?

Ans : We have to love and protect the animals and treat them as our family members.

---

7. Who invented the Ahimsa silk?

Ans : Kusuma Rajaiah.

VII. Short Answer Questions.

1. What are the characteristics of wool? Give any three.

Ans : Characteristics of wool :

1. Wool is resistant to heat, water, wear and tear.

2. It absorbs moisture.

3. Wool insulates against cold. So wool is a good insulator.

---

2. Write about any three uses of silk.

Ans : Uses of silk :

★ Silk gives comfort in warm weather and warmth during colder months.

★ It is also used in household for making wall hangings, curtains, rugs and carpets.

★ It is used in the manufacture of surgical threads for sutures.

---

3. What are the common diseases that are found in Poultry?

Ans : Common diseases that are found in Poultry :

S.No.	Diseases of Poultry	Causative agents
1.	Salmonellosis (Diarrhoea)	Bacteria
2.	Ranikat disease (Fowl Pox)	Virus
3.	Apergilleses	Fungus

IX. HOTS

1. Silk fibre is used to manufacture parachute. Why?

Ans :

★ Silk is the strongest natural fibre.

★ It has a poor resistance to sunlight exposure.

★ Very soft, light weight.

★ So it is used to manufacture parachute.

2. Honey is recommended for all. Why? What is its significance.

Ans : ★ Honey is more medicinal values and highly nutritious food.

★ It fight against infection.

★ So, it is recommended for all.

X. Assertion and Reasoning

1. Assertion : Wool is the fibre derived from the fur of animals.

Reason : Animals like goat, Yak, Alpaca and rabbit yields wool.

a) Both Assertion and reasoning is correct

b) Assertion is correct but reason in wrong

c) Assertion is wrong but reason is correct

d) Assertion and Reason are incorrect   **Ans : a) Both Assertion and reasoning is correct**

2. Assertion : Pencillin or ciprofloxacin

Reason : These medicines cures cow pox.

a) Assertion is correct Reason is wrong

b) Assertion is wrong reason is correct

c) Assertion is wrong reason is also wrong

d) Assertion is correct and reason is correct. **Ans : a) Assertion is correct Reason is wrong**

Additional Questions and Answers

I. Choose the correct answer.

1. .... is obtained from the cocoon of silkworm

a) Cotton   b) Jute   c) Wool   d)Silk fibre   **Ans : d) Silk fibre**

2. Shawls and blankets are manufactured from ....

a) Wool   b) Cotton   c) Silk   d) Jute   **Ans : a) Wool**

3. An adult female silk moth lays about .... eggs.

a) 50   b) 100   c) 500   d) 1000   **Ans : c) 500**

4. .... is the world's second largest silk producing country.

a) China   b) Malaysia   c) Canada   d) India   **Ans : d) India**

5. .... is highly nutritious and rich in protein

a) Egg   b) Milk   c) Honey   d) Meat   **Ans : a) Egg**

II. Fill in the blanks

1. Wool is derived from the fur of animals of ....family.   **Ans : Caprinae**

2. Larva of silkworm eats .... leaves.   **Ans : Mulberry**

3. The silkworm spin a ....around itself.   **Ans : Cocoons**

III. Very Short Answer.

1. Give examples for egg laying birds.

Ans :   ★ Hen   ★ Duck   ★Turkey   ★   Ostrich

Unit - 6. Visual Communication

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**

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 :
★ 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 :
★ 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.
★ Once the text is selected, change can be made to that text.
★ The text can be moved, copied and made as bold.
★ The font and colour of the text can also be changed.
★ For selecting text, the mouse or the keyboard can be used.

3. How to close a document?
  Ans : 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 :
★ We can align paragraphs in word, so the right sides or symmetrical.
★ This is called right alignment.

SELECTION

OUR BOOKS

3rd TO 10th STD

TAMIL
ENGLISH
MATHS
SCIENCE
SOCIAL SCIENCE

3rd TO 6th STD 5 in 1

TAMIL MEDIUM & ENGLISH MEDIUM

ANBU NILAYAM
129, NORTH AVANI MOOLA STREET
MADURAI - 625001
94430 43338
94430 46662