



Ganga Publications

SCIENCE

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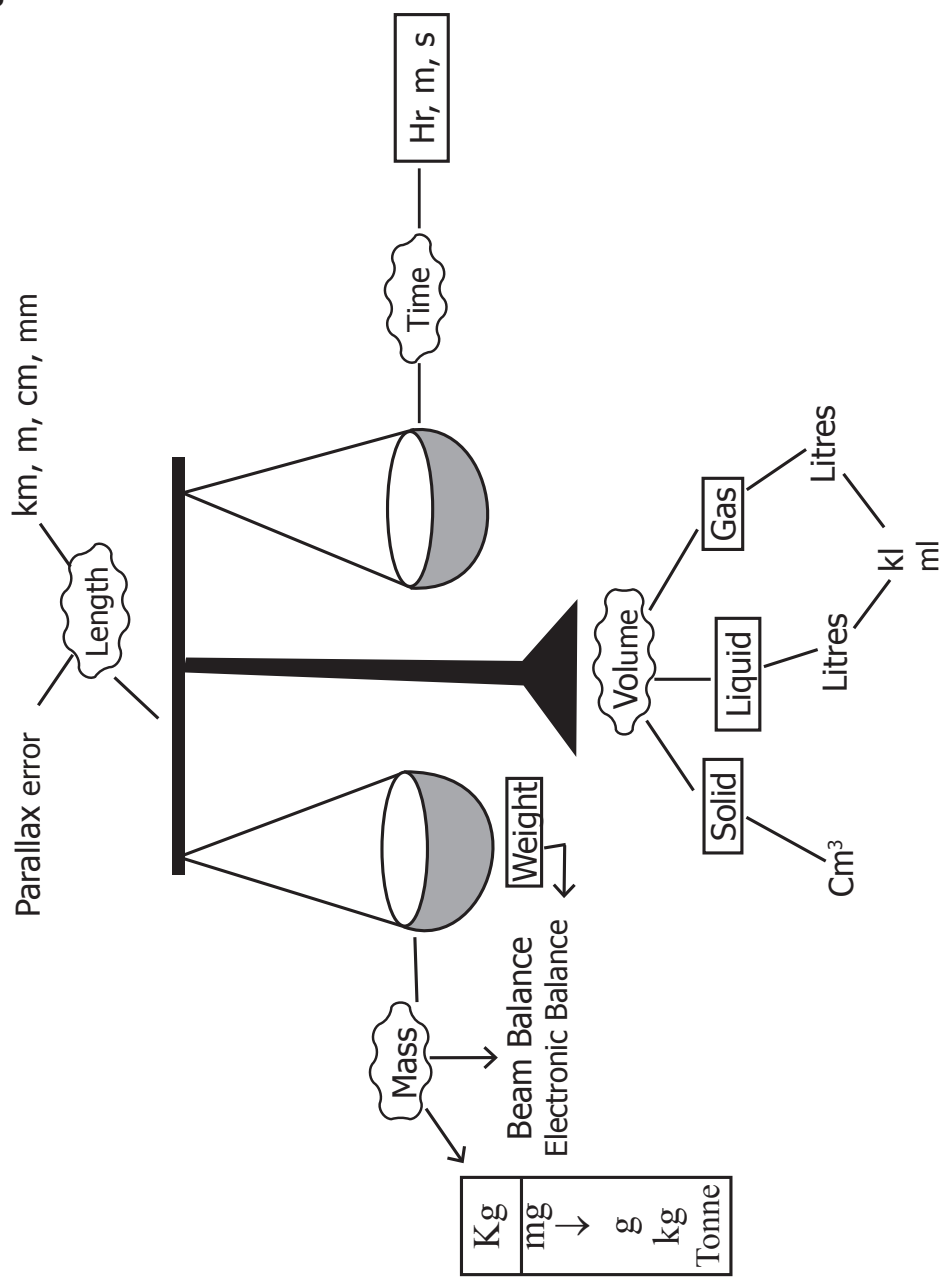
TERM I



UNIT
1

MEASUREMENTS

MIND MAP



EVALUATION**I. Choose the Correct Answer**

(page 15)

1. The girth of a tree can be measured by

- a) Metre scale b) Plastic ruler c) Metre rod d) measuring tape

2. The conversion of 7 m into cm gives

- a) 70 cm b) 7 cm c) 700 cm d) 7000 cm

3. Quantity that can be measured is called

- a) Physical quantity b) Measurement
c) unit d) motion

4. Choose the correct one

- a) $\text{km} > \text{mm} > \text{cm} > \text{m}$ b) $\text{km} > \text{mm} > \text{cm} > \text{km}$
c) $\text{km} > \text{m} > \text{cm} > \text{mm}$ d) $\text{km} > \text{cm} > \text{m} > \text{mm}$

5. While measuring length using a ruler, the position of your eye should be

- a) Left side of the point
b) Vertically above the point where the measurement is to be taken
c) Right side of the point
d) Any where according to one's convenience

Answer	1. d	2. c	3. a	4. c	5. b
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II. True or False

- 126 kg is the correct way of expressing mass.
- Length of one's chest can be measured by using metre scale.
- Ten millimetres makes one centimetre.
- A hand span is a reliable measure of length.
- The SI system of units is accepted everywhere in the world.

Ans: True**Ans: False****Ans: True****Ans: False****Ans: True****III. Fill up the blanks**

- SI Unit of length is symbolically represented as _____.
- 500 gm = _____ kilogram.
- Distance between Delhi and Chennai can be measured in _____.
- 1 m = _____ cm.
- 5 km = _____ m.

Ans: metre (m)**Ans: 0.5 kg****Ans: kilometre (km)****Ans: 100 cm****Ans: 5000 m****IV. Analogy**

- Sugar : Beam balance; Lime juice?
- Height of a person : cm; length of your sharpened pencil lead?
- Milk : volume; vegetables?

Ans: measuring jar**Ans: mm****Ans: mass**

V. Match the following**Column A**

1. Length of the fore arm
2. SI unit of length
3. Nano
4. SI Unit of time
5. Kilo

Column B

- (a) Metre
- (b) Second
- (c) 10^3
- (d) 10^{-9}
- (e) Cubit

Ans:**1. e, 2. a, 3 d, 4. b, 5. c****VI. Complete the given table**

Volume __ (1) __

Kg __ (3) __

Ans: 1. cm^3 ; 2. cm; 3. Mass; 4. LengthLength of your little
finger __ (2) __

Km __ (4) __

VII. Arrange in increasing order of unit

1. Metre, 1 centimetre, 1 kilometre and 1 millimetre.

Ans: 1 Millimetre, 1 centimetre, 1 metre and 1 kilometre**VIII. Find the answer for the following questions within the grid**

A		P		L								R		K
C		O		E								O		S
M		K		N								R		I
P		R		G								R		T
R	H	E	S	T	E	D	L	L	I	T	R	E	D	A
L		T		H						D		H		P
O		E		O					N			K		E
A		M		S				O				R		V
V		I		E			C					T		O
E		L		K		E						S		S
R		L		I	S				T			K		H
A		I		T				I				V		P
G		M		X			M					N		U
E		Z		D		E	S	K	P	G	I	W	M	F
Z	T	D	K	H			O	D	O	M	E	T	E	R

1. 10^{-3} is one _____.
 2. SI Unit of time _____.
 3. Cross view of reading for a measurement leads to _____.
 4. _____ is the one what a clock reads.
 5. _____ is the amount of substance present in an object.
 6. _____ can be taken to get the final reading of the recordings of difference of students for a single measurement.
 7. _____ is a fundamental quantity.
 8. _____ shows the distance covered by an automobile.
 9. A tailor use _____ to take measurements to stitch a cloth.
 10. Liquids are measured with this physical quantity _____.
- Ans: millimetre**
Ans: Second
Ans: Error
Ans: Time
Ans: Mass
Ans: Average
Ans: Length
Ans: Odometer
Ans: Tape
Ans: Litre

IX. Answer in a word or two

1. What is the full form of SI system? **Ans: International System of Units.**
2. Name any one instrument used for measuring mass. **Ans: Beam balance.**
3. Find the Odd one out. (Kilogram, Millimetre, Centimetre, Nanometre) **Ans: Kilogram.**
4. What is the SI Unit of Mass? **Ans: Kilogram.**
5. What are the two parts present in a measurement? **Ans: A number and it's unit.**

X. Answer in a sentence or two

1. **Define measurement.**
The comparison of unknown quantities with some known quantities is known as measurement.
2. **Define mass.**
Mass is the measure of the amount of matter in an object.
3. **The distance between two places is 43.65 km. Convert it into metre and cm.**
The distance between the 2 places = 43.65 km.

$$1 \text{ km} = 1000 \text{ m}$$

$$\therefore 43.65 \text{ km} = 43650 \text{ m}$$

$$1 \text{ m} = 100 \text{ cm}$$

$$43.65 \text{ km} \times 1000 \text{ m} = 43650 \text{ m}$$

$$43650 \text{ m} \times 100 \text{ cm} = 43,65,000 \text{ cm}$$

4. **How will you measure the volume of irregular objects?**
Water displacement method.
5. **What are the rules to be followed to make accurate measurement with scale?**
 - ❖ Place the starting point of the object to coincide with "0" of the scale.
 - ❖ Your eye must be exactly in front of, vertically above the point where the measurement is to be taken.
 - ❖ Count the numbers of centimetre and millimetre.

XI. Solve the following

- 1. The distance between your school and your house is 2250 m. Express this distance in kilometre.**

Ans: The distance between your school and house = 2250 m

$$1000 \text{ m} = 1 \text{ Km}$$

$$2250 \text{ m} = 2250 / 1000$$

$$= 2.250 \text{ Km.}$$

- 2. While measuring the length of a sharpened pencil, reading of the scale at one end is 2.0 cm and at the other end is 12.1 cm. What is the length of the pencil?**

Ans: Length of the Pencil = $12.1 - 2.0 = 10.1 \text{ cm.}$

XII. Write in detail

- 1. Explain two methods those you can use to measure the length of a curved line.**

We can measure the length of a curved line by

(i) using a string (ii) using a divider

(i) Using a string

- ❖ Place a string along the given curved line.
- ❖ The string must cover each and every bit of the given curved line.
- ❖ Mark the points where the curved line begins and ends on the string.
- ❖ Place the string along a metre scale and measure the distance.
- ❖ This is the length of a given curved line.

(ii) Using a divider

- ❖ Take a divider and separate the legs by 0.5 cm.
- ❖ Place it on the curved line starting from one end.
- ❖ Mark the position of the other end.
- ❖ similarly measure it, till the end of the curved line.
- ❖ Count the number of segment and multiply by 0.5 cm.
- ❖ This is the length of a curved line.

- 2. How will you measure the volume of irregular objects?**

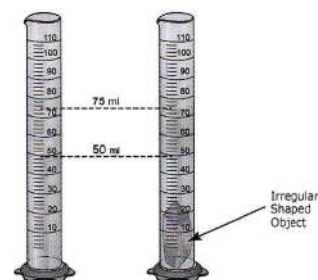
We can measure the volume of the irregular object by water displacement method. Take a graduated measuring cylinder. Fill it with water to certain level, say 50 ml., as shown in the below figure.

Tie the given irregular object with a piece of fine thread and immerse the object completely into the water. Now the water level in the measuring cylinder will increase. Note the reading, say 75 ml.

Hence the volume of the water displaced is

$$75 \text{ ml} - 50 \text{ ml} = 25 \text{ ml.}$$

We know that, $1 \text{ ml} = 1 \text{ cubic cm (or) cm}^3$. So the volume of the irregular object is 25 cm^3 .



3. Fill up the following chart.

Property	Definition	Basic Unit	Instrument used for measuring
Length	The distance between one end to the other desired end is called as Length	Metre (m)	Scale, Measuring Tape
Mass	Mass is the measure of the amount of matter in an object	Kilogram (kg)	Beam balance
Volume	The amount of space that a substance or object occupies	Cm ³ (or) cubic cm	measuring scale (solid) litre (liquid and gas)
Time	The measure of durations of events and the intervals between them	Second (s)	Clock, sand clock, sun dial, electronic clock

ADDITIONAL QUESTIONS**Choose the Correct Answer**

- The distance between one end to the other end is called _____.
a) Area b) Length c) Breadth d) Height
- The SI unit of Length is represented by _____.
a) M b) mtr c) m d) mrt
- The volume of liquid is measured in _____.
a) Litre b) metre c) Meter d) kilolitre
- On Moon, the gravitational force is _____ than earth.
a) Lesser b) Higher c) Equal

Answer	1. b	2. c	3. a	4. a
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Fill up the blanks

- Area = Length × _____.
- 1000 milligram = _____ gram.
- 1 km = _____ m.
- Length is the _____ quantity.
- _____ and its _____ are the 2 parts of measurement.
- The SI unit of volume of solid is _____.

Ans: Breadth**Ans: 1****Ans: 1000****Ans: fundamental****Ans: Number, Unit****Ans: cubic metre****Match the following**

Column A

- Length
- Mass
- Time
- Temperature
- Light
- Electric current
- Amount of substance

Column B

- Candela
- Metre
- Kilogram
- Second
- Kelvin
- Mole
- Ampere

Ans:**1. b, 2. c, 3. d, 4. e, 5. a, 6. g, 7. f**

Answer the following questions**1. Define Parallax.**

Parallax is a displacement or difference in the apparent position of an object viewed along two different lines of sight.

2. State the uses of Electronic balance.

An electronic balance is used to find accurate measurements of weight.

3. Compare Mass and Weight.

Mass	Weight
Mass is the measure of the amount of matter in an object	Weight is the gravitational pull experienced by the Mass.
Beam balance is used to measure mass	Electronic balance is used to measure weight.

ACTIVITIES**Book Activity - 1**

|Page No.5|

Subject	: Physics
Lesson	: Measurement
Nature of Activity	: Learning by doing
Type of Activity	: Group Activity

Aim : To compare the accuracy of the reading with hand span and scale.

Measuring Tool : Hand span.

Solution : Raman, Harini, Krishnan, Aarthi and Sabarish are going to measure Sundar's height with their hand span.

S.No.	Name of the Student	Sundar's Height in hand span
1	Raman	8
2	Harini	9
3	Krishnan	7
4	Aarthi	8
5	Sabarish	10

Using scale, Sundar's height = 152 cm

Learning Outcome :

- ❖ The measurement using hand span differs from person to person.
- ❖ It is not a standard unit and not reliable.

Book Activity - 2

|Page No.7|

Subject	: Physics
Lesson	: Measurement
Nature of Activity	: Learning by doing
Type of Activity	: Individual Activity

Aim : To find the length of a curved banana using a string.

Materials needed : A banana, string, scale.

Procedure : Take a curved banana.

- ❖ Place a string along the curved banana.
- ❖ Mark the points of the curved line on the string.
- ❖ Measure the length of the curved line from starting point to ending point.
- ❖ Now measure the full curved portion.

Learning outcome : Thus, we found the length of a curved banana.

Book Activity - 3

[Page No.8]

Subject	: Physics
Lesson	: Measurement
Nature of Activity	: Learning by doing
Type of Activity	: Individual Activity

Aim : To measure the length of a curved line using a divider.

Materials needed : A divider, scale and paper.

Procedure :

- ❖ Draw a curved line.
- ❖ Separate the legs of the divider by 0.5 cm.
- ❖ Place it in one curved portion and mark the other position.
- ❖ Measure all the segment by this way.
- ❖ Measure the straight line using scale.
- ❖ Length of the curved line = (Number of segment $\times$ 0.5 cm) + Length of the straight line.

Learning outcome :

- ❖ The SI Unit of Length is metre.
- ❖ Students learn to measure the length of a curved line.

Book Activity - 4

[Page No.10]

Subject	: Physics
Lesson	: Measurement
Nature of Activity	: Learning by doing
Type of Activity	: Individual Activity

Aim : To measure the volume of the vessel.

Materials needed : 3 various shapes of vessel and water.

Procedure :

- ❖ Fill all 3 the vessels with water.
- ❖ Take Graduated cylinder for measuring the exact volume of the water.
- ❖ Pour the water of the first vessel into the cylinder and measure the reading.
- ❖ Similarly measure the volume of the other 2 vessels.
- ❖ Compare the readings and identify the vessel with more volume of water.

Learning Outcome :

- ❖ The container vessel has more volume of water than the other vessels.
- ❖ The SI unit of volume for liquid is Litre.

Book Activity - 5

|Page No.11|

Subject	: Physics
Lesson	: Measurement
Nature of Activity	: Learning by doing
Type of Activity	: Group Activity

Aim : To construct a beam balance.**Components required :** Two scrapped coconut shells, twines, thick cardboard and pencil.**Procedure :**

- ❖ Take 2 equal scrapped coconut shells.
- ❖ Take 2 pairs of twines and use of this to make the coconut shells as a weighing platform.
- ❖ Make use of sharpened pencil and thick cardboard as Index needle and frame respectively.
- ❖ Now, the beam balance is ready to measure weight.

Solutions :

S.No.	Object	Weight
1	Leaves	2 grams
2	Piece of paper	3 grams
3	Small rubber	6 grams
4	Cap of the pen	4 grams

Learning Outcome :

- ❖ The SI unit of mass is kg.
Gram (g) is the submultiples of kg.

Book Activity - 6

Subject	: Physics
Lesson	: Measurement
Nature of Activity	: Learning by doing
Type of Activity	: Group Activity

Component required : Stop watch.**Procedure :**

- ❖ Make a group of 5 students.
- ❖ At play ground, mark the starting point and ending point.
- ❖ Start the running race.
- ❖ Measure the time taken by the students one by one, by the way use of stop watch.

**Solution :**

Sl.No.	Name of the Student	Time taken (in seconds)
1	Ganesh	58
2	Ram	65
3	Balu	44
4	Kannan	53
5	Mani	60

Learning Outcome :

- ❖ The SI unit of time is second. ❖ All 5 students reached the end point in different time.

Fill up the table

In the given activity, measure the quantities using suitable measuring units and express them with suitable multiple and submultiples.

Picture	Activity	Measuring Unit m/kg/s	Multiple/ Submultiple
	Length of tip of pencil	metre	millimetre (mm)
	Length of the pen	metre	centimetre (cm)
	Distance between two cities	metre	kilometre (km)
	Mass of dry fruits in tables	kilogram	gram
	Mass of jewellery	kilogram	gram
	Time taken to finish 100 m race	second	minute

Numerical Problems

Look at a meter scale carefully and answer the following: |Page No.12|

1. How many mm are there in a cm?

Ans: 10 mm.

2. How many cm are there in a m?

Ans: 100 cm.

3. Complete the following:

❖ 7875 cm = 78 m 75 cm.

❖ 1195 m = 1 km 195 m.

❖ 15 cm 10 mm = 160 mm.

❖ 45 km 33 m = 45033 m.



Do you know the quantity of blood in a human body?

7 – 8% of blood in human body



UNIT TEST – I

MODEL QUESTION PAPER

Time : 30 mts.

Marks : 20

I. Choose the correct answer. $4 \times 1 = 4$ **1. To measure the mass, we use**

- a) Electronic balance b) Beam balance c) Physical balance

2. SI unit of mass is represented by

- a) KG b) kg c) RG

3. 1 cm is

- a) 100 mm b) 1000 mm c) 10 mm

4. The volume of the liquid is measured by

- a) litre b) gram c) tonne

II. Fill in the blanks. $5 \times 1 = 5$

5. 1 km = _____.
 6. SI unit of time is _____.
 7. 1 hour = _____ seconds.
 8. 5381 cm = _____ m _____ cm.

III. Match the following. $4 \times 1 = 4$

9. Length – Litre
 10. Volume of solid – Kilogram
 11. Mass – Cm^3
 12. Volume of liquid – metre

IV. Answer any THREE. $3 \times 2 = 6$

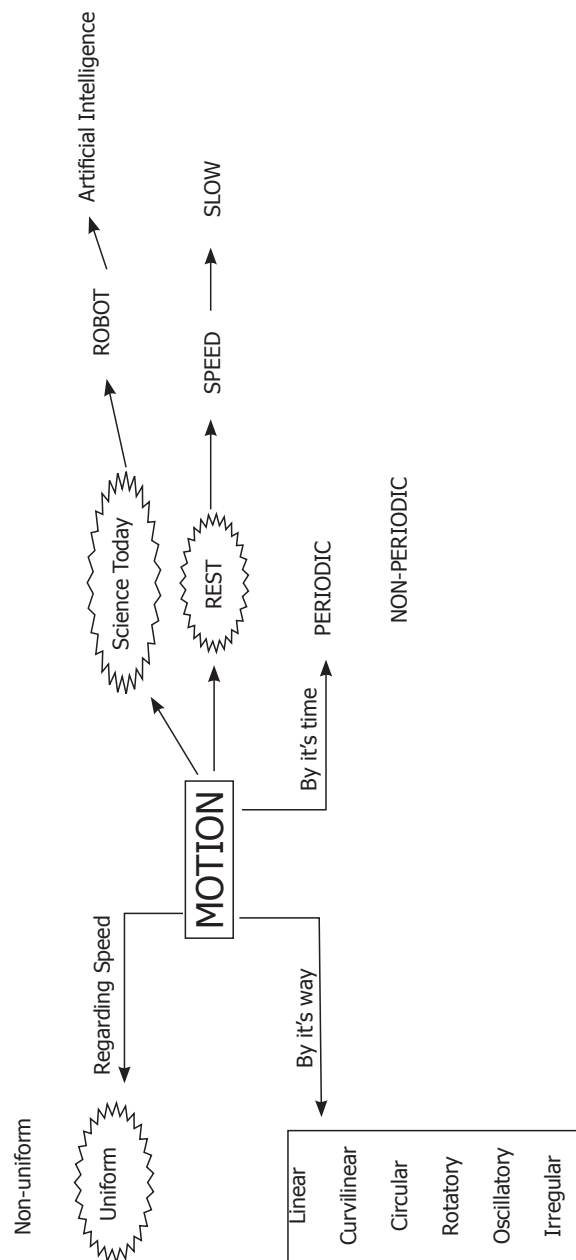
16. What is length?
 17. Define – measurement.
 18. Mention the various types of clock you come to know.
 19. Differentiate mass and weight.



**UNIT
2**

FORCE AND MOTION

MIND MAP



EVALUATION

I. Choose the Correct Answer

(page 36)

1. Unit of speed is

- a) m b) s c) kg d) m/s

2. Oscillatory motion among the following is

- a) Rotation of the earth about its axis
 b) Revolution of the moon about the earth
 c) To and fro movement of a vibrating string
 d) All of these

3. The correct relation among the following is

- a) Speed = distance $\times$ time b) Speed = distance / time
 c) Speed = time / distance d) Speed = 1 / (distance $\times$ time)

4. Gita rides with her father's bike to her uncle's house which is 40 km away from her home. She takes 40 minutes to reach there.

Statement 1 : She travels with a speed of 1 km / minute.

Statement 2 : She travels with a speed of 1 km / hour.

- a) Statement 1 alone is correct
 b) Statement 2 alone is correct
 c) Both statements 1 and 2 are correct
 d) Neither statement 1 nor statement 2 is correct

Answer	1. f	2. c	3. b	4. a
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II. Find whether the following statements are true or false. – if false give the correct answer.

1. To and fro motion is called oscillatory motion. **Ans: True**
 2. Vibratory motion and rotatory motion are periodic motions. **Ans: True**
 3. Vehicles moving with varying speeds are said to be in uniform motion.
Ans : False. (Vehicles moving with varying speeds are said to be in Non-uniform motion).
 4. Robots will replace human in future. **Ans: False. (Robots do not have self thinking)**

III. Fill in the blanks

1. A bike moving on a straight road is an example of motion _____.
Ans: Linear (or) Rectilinear
 2. Gravitational force is a _____ force. **Ans: Fundamental**
 3. Motion of a potter's wheel is an example of _____ motion. **Ans: Rotatory**
 4. When an object covers equal distances in equal interval of time, it is said to be in _____ motion. **Ans: Uniform**

IV. Match the following

Column A	Column B
1. 	(a) Circular motion
2. 	(b) Oscillatory motion
3. 	(c) Linear motion
4. 	(d) Rotatory motion
5. 	(e) Linear and rotatory motion

Answer	1. e	2. d	3. b	4. a	5. c
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V. Analogy

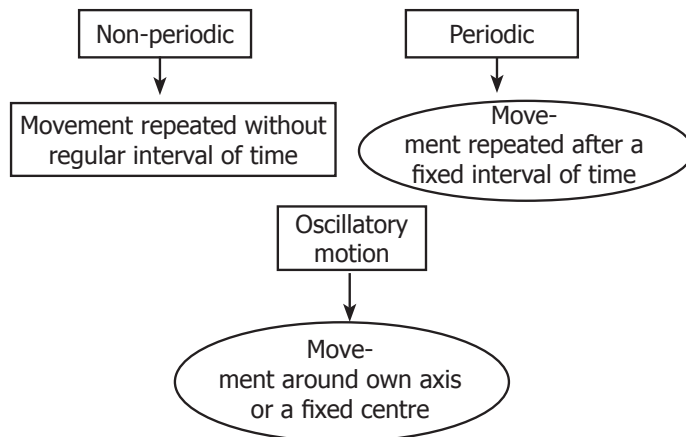
- Kicking a ball : contact force :: falling of leaf : _____? **Ans:** Non-contact force
- Distance : metre :: speed : _____? **Ans:** m/s
- Circulatory motion : a spinning top :: oscillatory motion : _____? **Ans:** Pendulum

VI. Complete the given table

Given below is the distance – travelled by an elephant across a forest with uniform speed. Complete the data of the table given below with the idea of uniform speed.

Distance (m)	0	4	8	12	16	20
Time (s)	0	2	4	6	8	10

Ans : Distance (m) - 8 and 16; Time (s) - 6

VII. Complete the web chart**VIII. Give one word for the following statements**

- The force which acts on an object without physical contact with it. **Ans:** Non-contact forces.
- A change in the position of an object with time. **Ans:** Motion.
- The motion which repeats itself after a fixed interval of time. **Ans:** Periodic motion.
- The motion of an object travels equal distances in equal intervals of time. **Ans:** Uniform motion.
- A machine capable of carrying out a complex series of actions automatically. **Ans:** Robot.

IX. Answer the following in a sentence or two**1. Define force.**

Ans: A push or pull that causes a change in the motion of an object.

2. Name different types of motion based on the path.

Ans: Based on the path, the different types of motion are classified into 6 category.

- | | | |
|--------------------|-----------------------|---------------------|
| ❖ Linear motion. | ❖ Curvilinear motion. | ❖ Circular motion. |
| ❖ Rotatory motion. | ❖ Oscillatory motion. | ❖ Irregular motion. |

3. If you are sitting in a moving car, will you be at rest or motion with respect your friend sitting next to you?

Ans: I will be at rest with respect to my friend.

4. Rotation of the earth is a periodic motion. Justify.

Ans: Earth rotate itself about an axis by the interval of 24 hours. So it is Periodic motion.

5. Differentiate between rotational and curvilinear motion.

Rotational motion	Curvilinear motion
The movement of an object about its own axis. ex.: a spinning top	The object is moving ahead but changing it's direction is called curvilinear motion. eg.: A car moving around a curve

X. Calculate

1. A vehicle covers a distance of 400 km in 5 hour. Calculate its average speed.

Ans: Distance covered by the vehicle = 400 km

The time taken by the vehicle = 5 hours.

$$\text{Average Speed} = \frac{\text{Distance Travelled}}{\text{Time taken}}$$

$$\text{Average Speed} = \frac{400 \text{ km}}{5 \text{ hour}}$$

$$\text{Average Speed} = 80 \text{ km/hour.}$$

XI. Answer in detail

1. What is motion? Classify different types of motion with examples.

Motion : The change of position of an object with respect to time is called motion. The different types of motion are given below.

(i) Periodic motion :

- ❖ The motion is repeated in equal intervals of time is called periodic motion.
- ❖ Example : Revolution of the moon.

(ii) Non-periodic motion :

- ❖ The movement is repeated with a irregular time of interval is called non-periodic motion.
- ❖ Example : A car moving on a Traffic road.

(iii) Uniform motion :

- ❖ If an object covers uniform distance in uniform intervals, then the motion of the object is called uniform motion.
- ❖ Example :

(iv) Non-uniform motion :

- ❖ If an object covers unequal distance in uniform intervals, then the motion of the object is called non-uniform motion.
- ❖ Example : a bus moving

(v) Linear motion :

- ❖ An object moving on a straight line is called linear motion.
- ❖ Example :

(vi) Curvilinear motion :

- ❖ If an object is moving ahead but changing it's direction like a throwing ball is called curvilinear motion.
- ❖ Example :

(vii) Circular motion :

- ❖ If an object is moving in a circulatory path, then it is called circular motion.
- ❖ Example : Swirling stone tied to the rope.

(viii) Rotatory motion :

- ❖ The movement of a body about its own axis, is called rotatory motion.
- ❖ Example : A spinning top.

(ix) Oscillatory motion :

- ❖ The to and fro motion of the object is called oscillatory motion.
- ❖ Example : Pendulum.

(x) Irregular motion :

- ❖ The zig-zag motion of a object is called irregular motion.
- ❖ Example : motion of a bee

ADDITIONAL QUESTIONS**FILL IN THE BLANKS**

1. The force is applied without touching the object is _____. **Ans:** Non-contact force
2. Robot make decisions for themselves by _____. **Ans:** Artificial Intelligence
3. Robots are _____ machines. **Ans:** Automatic
4. An object remains stationary is called _____. **Ans:** rest
5. Robot means _____. **Ans:** forced labour
6. _____ are push or pull by an animate or inanimate agency. **Ans:** Forces
7. Rest and motion are _____. **Ans:** relative

Short questions**1. Define Motion.**

A change of position of an object with respect to time is called motion.

2. What is robotics.

Robotics is the study of robots.

3. Define Nano robot. What is the use of it?

Robots are scaled down to microscopical size in order to put them into very small spaces to perform a function. It is called Nano Robots. It is used to perform surgical procedures.

Fill with examples

Linear motion	<i>Person walking on a straight path</i>
Curvilinear motion	<i>Athlete running around a track</i>
Self rotatory motion	<i>Motion of wheel in a cart</i>
Circular motion	<i>The tip of hands of a clock</i>
Oscillatory motion	<i>Swinging of a pendulum</i>
Irregular motion	Bouncing ball

ACTIVITIES**Book Activity - 1**

|Page No.19|

Subject	: Physics
Lesson	: Forces and Motion
Nature of Activity	: Learning by observation
Type of Activity	: Individual Activity

Aim : To know about push and pull.**Solution** :

1) Pull

2) Push

3) Push

4) Push

5) Pull

6) Push

Learning outcome :

- ❖ Students can differentiate push and pull.
- ❖ Students can identify push or pull.

Book Activity - 2

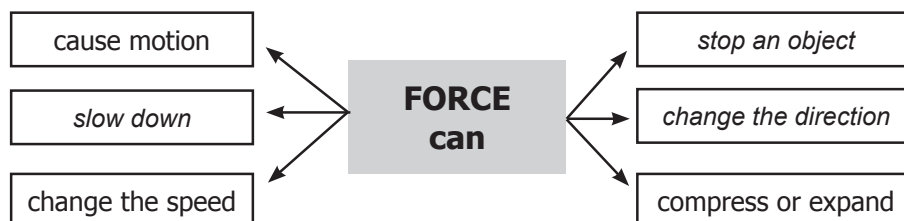
|Page No.22|

Subject	: Physics
Lesson	: Forces and motion
Nature of Activity	: Learning by observation
Type of Activity	: Individual Activity

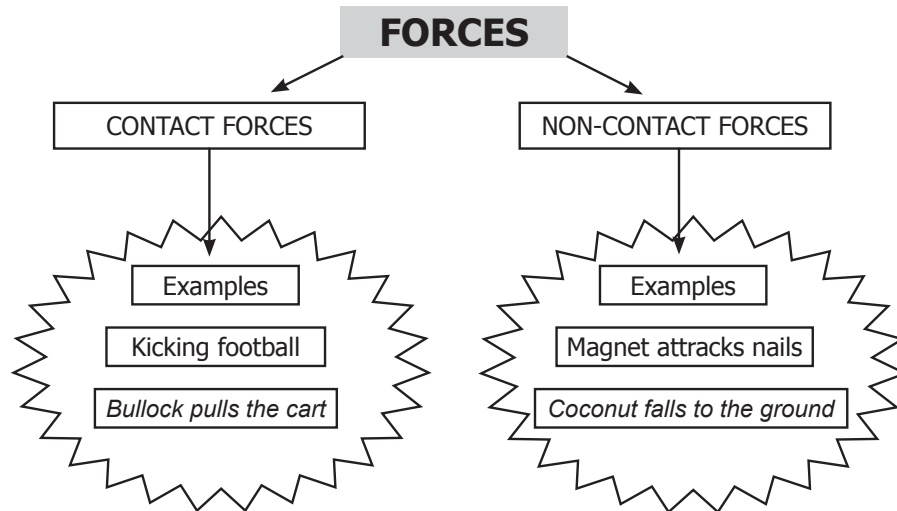
Aim : To know whether the object is moving or at rest.**Solution** : If the cloud passes in front of the moon, the moon is moving with respect to the cloud. If we see the tree, the tree is at rest and the cloud is moving.**Learning outcome** : Student can learn that rest and motion are relative.**Book Activity - 3**

|Page No.24|

Subject	: Physics
Lesson	: Forces and motion.
Nature of Activity	: Learning by reading
Type of Activity	: Individual Activity

Fill in the empty spaces :

Can you give example for contact and non-contact forces?



Learning outcome :

- ❖ Students can learn, what are all the things that happens when a force is applied on an object.
- ❖ Learnt the types of forces.

Book Activity - 4

[Page No.25]

Subject	: Physics
Lesson	: Measurement
Nature of Activity	: Learning by doing
Type of Activity	: Individual Activity

Aim : To know about the types of motion.

Materials needed : a pencil/ a sharpener, compass and scale

Procedure :

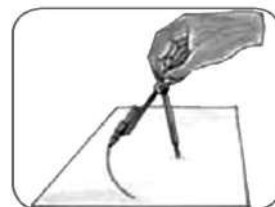
STAGE 1

- ❖ Take a pencil.
- ❖ Sharpened it with a sharpener.



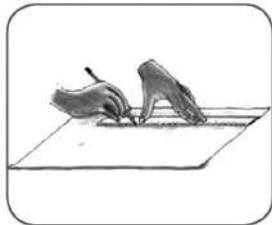
STAGE 2

- ❖ Draw a circle using a compass and pencil.



STAGE 3

- ❖ Draw a straight line using a scale.

**STAGE 4**

- ❖ Keep your pencil in between the finger and move it back and forth.

**Solution :**

- ❖ In first stage, the pencil rotated in its axis. This motion is called **Rotatory** motion.
- ❖ In second, the motion of the pencil is **circulatory**.
- ❖ At third stage, the movement of the pencil is in **straight line** motion.
- ❖ The tip of the pencil is moving back and forth movement. It is oscillating like a pendulum. This motion is called **Oscillatory** motion.

Learning Outcome :

- ❖ Students can learn the concept of various motion.

Book Activity - 5

|Page No.26|

Subject	: Physics
Lesson	: Measurement
Nature of Activity	: Learning by observation.
Type of Activity	: Individual Activity

Aim : To identify the types of motion.**Solution :**

	
Linear Motion	Curvilinear Motion
	
Circular Motion	Irregular Motion
	
Oscillatory Motion	

Learning Outcome :

- ❖ Students can identify the various types of motion.

Book Activity - 6

|Page No.27|

Subject	: Physics
Lesson	: Measurement
Nature of Activity	: Learning by discussion
Type of Activity	: Group Activity

Aim : To know the different types of motion according to the path it takes.

S.No.	Movement	Types of Motion
1	A sprinter running a 100 m race	Linear motion
2	A coconut falling from a tree	Linear motion
3	Striking a coin in a carom board game	Zig-zag motion
4	Motion of flies and mosquitoes	Zig-zag motion
5	Beating of heart	Periodical motion
6	Children playing in a swing	Oscillatory motion
7	The tip of hour hands of a clock	Circular motion
8	Flapping of elephant's ears	Oscillatory motion
9	A stone thrown into the air at an angle	Curvilinear motion
10	Movement of people in a bazaar	Zig-zag motion
11	Athlete running around a track	Curvilinear motion
12	Revolution of the moon around the earth	Rotatory motion
13	The movement of a ball kicked in a football match	Zig-zag motion
	Motion of a spinning top	
14	Revolution of the earth around the sun	Rotatory motion
15	Swinging of a pendulum	Rotatory motion
16	Children skidding on a sliding board	Oscillatory motion
17	Skidding down a playground slide	Linear motion
18	Wagging tail of a dog	Zig-zag motion
19	Flapping of a flag in wind	Zig-zag motion
20	A car driving around a curve	Zig-zag motion
21	Woodcutter cutting with a saw	Curvilinear motion
22	Motion of water wave	Oscillatory motion
23	Motion of piston inside a syringe	Periodic motion
24	Bouncing ball	Linear motion
25		Zig-zag motion
Add 5 motions		
26	Spinning wheel	Circular motion
27	Release of arrow from a bow	Linear motion
28	Motion of a lift	Linear motion
29	Giant wheel	Rotational motion
30	Movement of a fish	Zig-zag motion

Learning Outcome :

- ❖ Students can learn the various types of motion.

Book Activity - 7

|Page No.34|

Subject	: Physics
Lesson	: Measurement
Nature of Activity	: Learning by doing
Type of Activity	: Group Activity

Materials needed : Used ball-pen refill and wire (9 cm). 3 various shapes of vessel and water.

Procedure :

- ❖ Take 2 cm long piece of used ball-pen refill.
- ❖ Make a hole in its centre with a divider.
- ❖ Take a wire and fold it into a 'U' shape.
- ❖ Weave the refill spinner in the 'U' shaped wire.
- ❖ Wrap the 2 ends of the wire on the plastic refill.
- ❖ Leave space for the spinner to rotate freely.
- ❖ Block the refill. Now the spinner rotates.
- ❖ Adjust the wire for getting maximum speed to the spinner.

Solution :

- ❖ Motion of the air in tube is _____ motion.
- ❖ Motion of the refill stick is _____ motion.
- ❖ The toy converts _____ motion into _____ motion.

Ans: Linear motion**Ans:** Rotatory motion**Ans:** Linear, Rotatory**Fill up the answer****EVENT - 2**

|Page No.21|

- The girl on the swing is _____ with respect to the seat of the swing. She is _____ with respect to the garden.

Ans: rest, moving**EVENT - 3**

|Page No.21|

- Nisha is going to her grandmother's house by bicycle. The girl on the bicycle is _____ with respect to the road. She is _____ with respect to the bicycle.

Ans: moving, rest

Fill up the answer

[Page No.29]

1. Distance travelled by the Bus in One Hour = ____ km. **Ans:** $200 / 4 = 50$ km.
2. Distance travelled by the Truck in One Hour = _____ km. **Ans:** $300 / 5 = 60$ km.
3. Fastest _____, Slowest _____. **Ans:** Car, Bus

Let us Calculate

[Page No.29]

1. A cat travelled 150 metres in 10 seconds, what is its average speed? **Ans:** 15 m/s
2. Priya ride her bicycle 40 km in two hours. what is her average speed? **Ans:** 20 km/hour

TABLE

[Page No.30]

S.No.	Name of the Student	Distance	Time taken (in seconds)	Average speed = distance travelled / time taken	Average speed (m/s)
1	Murugesan	100 m	12 sec	100 m / 12 sec	8.3 m/s
2	Sekar	100 m	16 sec	100 m / 16 sec	6.2 m/s
3	Srinivasan	100 m	18 sec	100 m / 18 sec	5.5 m/s
4	Balu	100 m	14 sec	100 m / 14 sec	7.1 m/s
5	Ganesh	100 m	11 sec	100 m / 11 sec	9 m/s

COMPUTE THE FOLLOWING NUMERICAL PROBLEMS

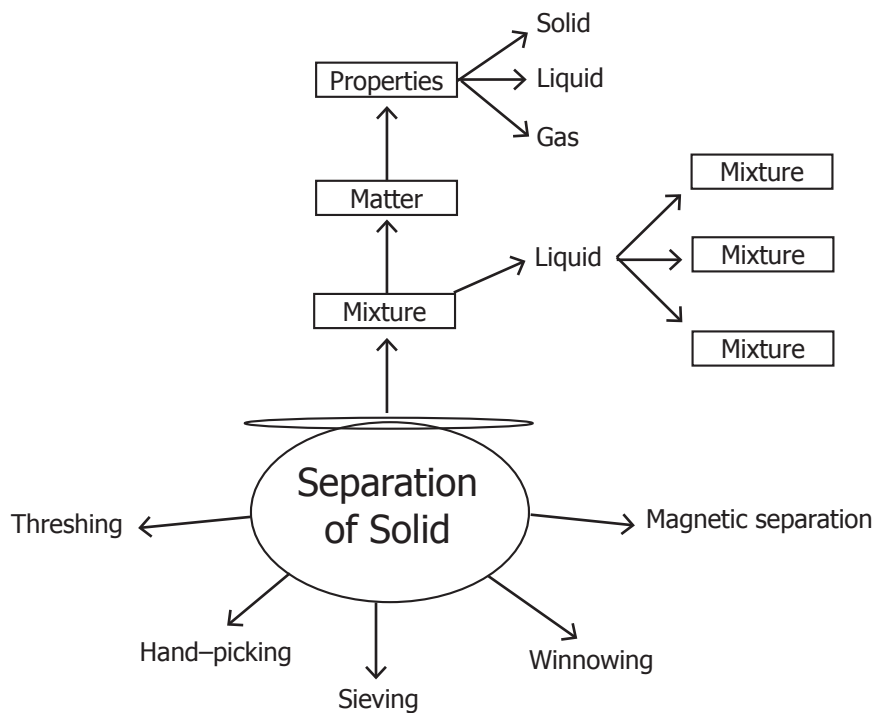
[Page No.30]

1. If you travel 10 kilometres in 2 hours, your speed is _____ km per hour. **Ans:** 5 ($10/2=5$)
2. If you travel 15 kilometres in $\frac{1}{2}$ hour, you would travel _____ km per hour. **Ans:** 30 ($15/0.5=30$)
3. If you run fast at 20 kilometres per hour for 2 hours, you will cover _____ km. **Ans:** 40

MULTIPLE MOTION

[Page No.32]

1. Motion of the needle _____. **Ans:** Linear, Non-uniform
2. Motion of the wheel _____. **Ans:** Circular
3. Motion of footrest _____. **Ans:** Oscillatory

**UNIT
3**
MATTER AROUND US
MIND MAP

EVALUATION
I. Choose the Correct Answer

|(page 60)

1. _____ is not made of matter.

- a) gold ring b) iron nail c) light ray d) oil drop

2. 200 ml of water is poured into a bowl of 400 ml capacity. the volume of water now will be _____.

- a) 400 ml b) 600 ml c) 200 ml d) 800 ml

3. Seeds from water-melon can be removed by _____ method.

- a) hand picking b) filtration
c) magnetic separation d) decantation

4. Lighter impurities like dust when mixed with rice or pulses can be removed by _____.

- a) filtration b) sedimentation c) decantation d) winnowing

5. _____ of is essential to perform winnowing activity.

- a) Rain b) Soil c) Water d) Air

6. Filtration method is effective in separating _____ mixture.

- a) solid – solid b) solid–liquid c) liquid – liquid d) liquid–gas

7. From the following _____ is not a mixture.

- a) coffee with milk b) lemon juice
c) water d) ice cream embedded with nuts

Answer	1. c	2. c	3. a	4. d	5. d
	6. b	7. c			

II. True or False

- a. Air is not compressible.

Ans: False (Air is compressible)

- b. Liquids have not fixed volume but have fixed shape.

Ans: False (Liquids have no fixed shape but have fixed volume)

- c. Particles in solids are free to move.

Ans: False (Particles of solid cannot move freely)

- d. When pulses are washed with water before cooking, the water is separated from them by the process of Decantation.

Ans: False.

- e. Strainer is a kind of sieve which is used to separate a liquid from solid.

Ans: True

- f. Grain and husk can be separated by winnowing.

Ans: True.

- g. Air is a pure substance.

Ans: False (Air is a mixture)

- h. Butter from curd is separated by sedimentation.

Ans: False (Butter from curd is separated by churning)

III. Match the following

A

Property		Example	
1.	Breaks easily (brittle)	(a)	Mud pot
2.	Bends readily	(b)	Plastic wire
3.	Can be stretched easily	(c)	Rubber band
4.	Gets compressed easily	(d)	Cotton wool
5.	Gets heated readily	(e)	Metal pan

B

	A	B	C
i	Separation of visible undesirable components	rice and stone	Hand-picking
ii	Separating of heavier and lighter components	husk and paddy	Winnowing
iii	Separation of insoluble impurities	water mixed with chalk powder	Filtration
iv	Separation of magnetic component from non-magnetic components	iron impurities	Magnetic Separation
v	Separation of solids from liquids	sand and water	Decantation

IV. FILL IN THE BLANKS

- Matter is made up of _____. **Ans: atoms**
- In solids, the space between the particles is less than _____. **Ans: Liquid**
- Grains can be separated from their stalks by _____. **Ans: Threshing**
- Chillies are removed from 'upma' by _____ method. **Ans: Hand-picking**
- The method employed to separate clay particles from water is _____. **Ans: Decantation**
- Among the following items: safety pins, pencil and rubber band, _____ will get attracted to a magnet. **Ans: safety pins**
- Water obtained from tube wells is usually _____ water. **Ans: Impure**

V. Analogy

- Solid : rigidity :: gas : _____. **Ans: Random.**
- Large Inter-particle space : gas :: _____ : solid. **Ans: very Less inter-particle space.**
- Fluidity : Fixed volume :: _____ : _____. **Ans: Gas : No definite volume.**
- Husk-grains : winnowing :: sawdust-chalk piece : _____. **Ans: Hand-picking.**
- Murukku from hot oil :: _____ : coffee powder residue from decoction **Ans: Hot water.**
- Iron-sulphur mixture : _____ : Mustard seeds from Urad-dhal : rolling **Ans: Magnetic separation.**

VI. Very short answer**1. Define the term 'Matter'.**

Anything that occupies space and has mass is called matter. It is made up of extremely small particles.

2. How can husk or fine dust particles be separated from rice before cooking?

Sedimentation.

3. Why do we separate mixtures?

We separate the mixture to get the original components.

4. Give an example for mixture and justify your answer with reason.

Air. Because it contains oxygen, nitrogen, CO_2 and noble gases.

5. Define Sedimentation.

When the mixture components are washed in water, the lighter impurities will float and heavier component sink to the bottom. This is called sedimentation.

6. Give the main difference between a pure substance and an impure substance.

Sl.No.	Pure substance	Impure substance
1.	It is made up of one kind of particles	Two or more particles mixed physically.
2.	It may be a elements or compounds.	It may be a mixture.

VII. short answer**1. A rubber ball changes its shape on pressing. Can it be called a solid?**

Rubber ball is a solid. When pressing it change the shape and back to the original shape when the force is relieved.

2. Why do gases not have fixed shape?

Gas particles are not close to each other. They have very weak force of attraction. It can spread throughout the container.

3. What method will you employ to separate cheese (paneer) from milk? Explain.

Lemon juice or vinegar into the boiled milk. Allow the milk to boil over medium heat. When it comes to boil, reduce the heat to low and stir the milk. Then the milk should separate into Paneer and curds.

4. Look at the picture given below and explain the method of separation illustrated.

Sieving. This is the method to separate solid particles of different sizes. Eg.: bran from flour.

5. How can you separate a mixture of a large quantity of tiny bits of paper mixed with pulses / dal?

Rolling method.

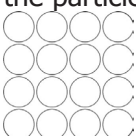
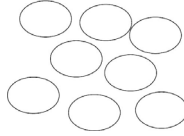
6. What is meant by food adulteration?

The food which is mixed with harmful and unwanted substances is called food adulteration.

7. Mr. Raghu returns home on a hot summer day and wants to have buttermilk. Mrs. Raghu has only curds. What can she do to get buttermilk? Explain.

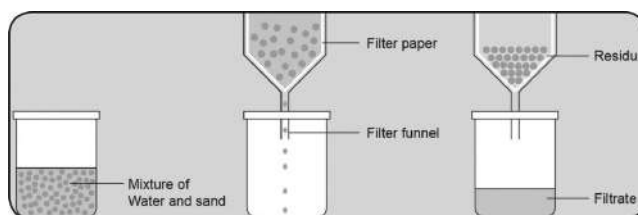
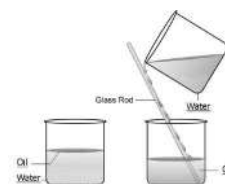
She can do churning to get buttermilk. When the curd is churned vigorously, both butter and buttermilk are obtained.

VIII. Answer in detail**1. Distinguish between properties of solid, liquid, gas. Draw suitable diagram.**

Sl. No.	Parameters	Solids	Liquids	Gases
1.	Shape	Solids have a definite shape	Liquids have no definite shape	Gases have no definite shape
2.	Volume	Solids have a definite volume	Liquids have a definite volume	Gases do not have definite volume
3.	Space	Little space between the particles 	Greater space between the particles 	The space between the gas particles is the greatest 
4.	Forces of attraction	These particles attract each other very strongly	the forces of attraction is less than solid	The forces of attraction is very least between the particles
5.	Flow	Solid particles cannot move freely	Liquids flow	It is in a continuous random motion

2. Using suitable apparatus from your laboratory separate the mixture of chalk powder, mustard oil, water and coins. Draw a flow chart to show the separation process.

- ❖ The mustard oil and water are immiscible liquids.
- ❖ The oil will form the top layer. It is slowly poured out from the container using the glass stick as shown in the below figure.
- ❖ Using the separating funnel we can separate mustard oil. This process is called Decantation.
- ❖ Now we separate the coin by hand-picking method.
- ❖ Using filtration method, we can separate the chalk powder.
- ❖ Required Apparatus: Beaker – 3, a glass rod
- ❖ The chalk powder left behind on the filter as residue.
- ❖ Now the water is separated from chalk powder and stored in container.



IX. Life Skills Debate

Debate on "Food adulteration and detection"

Ideas for debate

	Food Article	Adulterant	Detection
1.	Milk	Water	If a drop of milk is placed on a polished slanting surface, it flows slowly. It leaves white trace behind it. Where as milk with adulterated water will flow immediately without leaving a mark.
2.	Coconut oil	Any other oil	Coconut when kept in a refrigerator get solidify. While the adulterant forms a separate layer.
3.	Wheat, rice, barley etc.	Dust, Pebble, etc.,	Visual examination.

XI. Sequence type

Write the sequence of steps you would use for making tea. Use the words : mixture, dissolve, filtrate and residue.

1. Take a water in vessel.
2. Dissolve the tea powder in water.
3. After boiling, pour the milk and we got the mixture.
4. Allow it to boil and using the filter, filtrate the tea residue.
5. Now the tea is ready to drink.

XII. Topic enrichment – Project

Make a fruit or vegetable salad. Give reasons why you think it is a mixture.

Ans.: Fruit Salad is a mixture. It contains various fruits vegetable, sugar, ice cube and water. So fruit/vegetable salad is a mixture.

Connect with Environment :

- ❖ The paper plates or leaves are eco-friendly.
- ❖ After our use, we should throw this into the dustbin.
- ❖ It is a decomposable one.
- ❖ Plastic is non-decomposable.

Connect with Sports : Hot air balloons float because the air trapped inside the balloon is heated up by a burner, making it less dense than the air outside. This causes the balloon to float upwards. If the air is allowed to cool, the balloon begins to slowly come down.

Principle : Warmer air rises cooler air moves down. (convection)

Hots

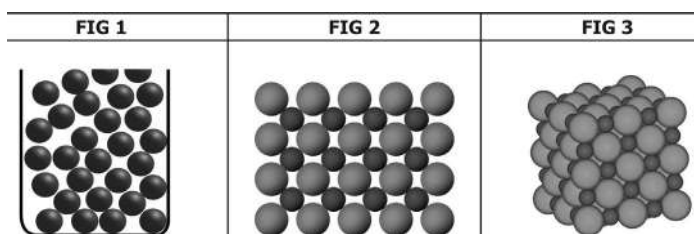
1. Malar's mother was preparing to cook dinner. She accidentally mixed ground nuts with urad-dhal. Suggest a suitable method to separate the two substances so that Malar can have ground nuts to eat.

To separate the ground nuts and urad-dhal, we can use sieving method. A sieve with medium size hole is used to separate the urad-dhal from the ground-nut.

2. In a glass containing some water, tamarind juice and sugar is added and stirred well. Is this a mixture – can you tell why? Will this solution be sweet? or sour? or both sweet and sour?

Yes. This is a mixture. This solution contains 3 components, which is physically mixed in various proportion. The solution is both sweet and sour.

3. Justify your answer. Arrangement of particles in three different phases of matter is shown below.



- a) Which state is represented by fig. 1?
Ans: Gas particles.
- b) In which will be the inter particle attraction maximum?
Ans: Solid particle (fig. 3).
- c) Which one of them cannot be contained in an open vessel?
Ans: Gas particle (fig. 1).
- d) Which one can take the shape of its container?
Ans: Liquid particle (fig. 2).

ADDITIONAL QUESTIONS**I. Choose the Correct Answer**

1. Matter is found in _____ major states.
a) 4 b) 2 c) 3
2. The substance which is converted to liquid state from gaseous is called _____.
a) Diffusion b) Liquefaction of gases c) Oxidisation
3. The process of separating butter from curds _____.
a) winnowing b) sieving c) churning
4. Consumption of adulteration food is _____.
a) harmful b) healthy c) good

5. The component remains on the filter is _____.

- a) filtrate b) residue c) husk

Answer	1. c	2. b	3. c	4. a	5. b
--------	------	------	------	------	------

II. FILL IN THE BLANKS

- Matter occupies _____ and has _____. **Ans:** space, mass
- Gas is not affected by _____. **Ans:** gravity
- The forces of attraction between liquid particles is _____ than solid. **Ans:** less
- A mixture is an _____ substance. **Ans:** impure
- The process of removing impurities from water is called _____. **Ans:** RO

III. Match the following

	Column A		Column B
1.	Separating tea leaves from tea	(a)	Decantation
2.	Separating rice from water	(b)	Filtration
3.	Separating grains from the stalk	(c)	Sedimentation
4.	Separating sand from gravel	(d)	Threshing
5.	Separating the water above the sediment	(e)	Sieving

Answer	1. b	2. c	3. d	4. e	5. a
--------	------	------	------	------	------

IV. True or False

- The tiny particles are called as atoms. **Ans:** True
- Solids are compressible. **Ans:** False
- A pure substance is made up of one kind of particles. **Ans:** True
- Food get adulteration due to carelessness. **Ans:** True
- To remove useful component we need separation. **Ans:** False

V. Reason and Assertion

- Assertion (A)** : The method of separating non-magnetic substance using a magnet is called magnetic separation.

Reason (R) : Separating solids using a magnet is called magnetic separation.

- (A) is wrong (R) is correct
- (A) is correct (R) is wrong
- Both (A) and (R) are correct
- Both (A) and (R) are wrong

Ans.: (iii) Both (A) and (R) are correct

- Assertion (A)** : The process of adding impurity in a pure substance is called adulteration.

Reason (R) : An adulterated substance will indicate the true properties.

- (i) (A) is wrong (R) is correct
- (ii) (A) is correct (R) is wrong
- (iii) Both (A) and (R) are correct
- (iv) Both (A) and (R) are wrong

Ans.: (ii) (A) is correct (R) is wrong

3. **Assertion (A)** : A pure substance is made up of only one kind of particles.

Reason (R) : Pure substance may be elements or compound.

- (i) (A) is correct (R) is wrong
- (ii) Both (A) and (R) are wrong
- (iii) (R) explains (A)

Ans.: (iii) (R) explains (A)

VI. Short answers

1. **What is the abbreviation for the following?**

- (a) SEM (b) TEM (c) STM
- (a) SEM : Scanning Electron Microscope.
- (b) TEM : Tunnelling Electron Microscope.
- (c) STM : Scanning Tunnelling Microscopy.

2. **Briefly explain Bose–Einstein condensation and its uses.**

It is a gas like state of matter which exists at extremely cold temperature. This is used in cryogenics.

3. **Define Diffusion.**

Diffusion is the tendency of particles to spread out in order to occupy the available space.

4. **What is winnowing?**

The process of separating lighter particles from heavier particles with the help of wind is called winnowing.

ACTIVITIES

Book Activity - 3

|Page No.44|

Subject	: Chemistry
Lesson	: Matter Around Us
Nature of Activity	: Learning by observation
Type of Activity	: Individual Activity

Aim : To find out solid, liquid and gas substance based on their physical states.

Solution :

Solid	Liquid	Gas
Chalk powder Air in a balloon Brick Stone Table Lemon Door	Water River Lemon Juice	Wind Air Steam Smoke

Learning outcome : Students are able to identify about solid, liquid and gaseous particle.

Book Activity - 5

|Page No.46|

Subject	: Chemistry
Lesson	: Matter Around Us
Nature of Activity	: Learning by doing
Type of Activity	: Individual Activity

Aim : To know the properties of a liquid regarding shape and volume.

Solution :

- ❖ Yes. The shape is changed.
- ❖ No. The volume is not changed.

Learning outcome :

- ❖ Liquids have definite shape, it attains the shape of the vessel in which they are kept.
- ❖ The liquid particles slide past one another and keep moving.

Book Activity - 7

|Page No.53|

Subject	: Chemistry
Lesson	: Matter Around Us
Nature of Activity	: Learning by observation
Type of Activity	: Individual/Group Activity

Aim : To analyse the merits and demerits of the method of separating of dried grain stalks by farmers.

Merits :

- ❖ Grains easily got separated from the stalks at free of cost to the farmers.
- ❖ They are not spending extra energy for this.

Demerits :

- ❖ An accident can occur for 2-wheelers when they got slipped due to the grains spread out in the road.
- ❖ The stalks can damage the heavy vehicles engine.

Book Activity - 8

|Page No.56|

Subject	: Chemistry
Lesson	: Matter Around Us
Nature of Activity	: Learning by discussion
Type of Activity	: Group Activity

Aim : To know about various separation method used in our day-to-day life.

Solution :

S.No.	Separation Method	Example	Basis for Separation
1	Filtration	Tea from tea dust	To filter tea dust
2	Hand-picking	Stones in grains	To separate rice from stones
3	Sieving	Wheat flour from dust Sand from stones	To separate dust from flour Separate sand for construction
4	Winnowing	Rice from husk	To get rice
5	Evaporation	Salt pans	To separate salt from sea water

Learning outcome : Students learnt the different types of separation methods.

Try to fill in the following table

	Things that float	Things that sink
1.	Wood	Iron
2.	Plastic	Copper
3.	Aluminium	Stone

Mixture	Yes / No
Borewell water	Yes
Copper wire	No
Sugar cube	Yes
Salt Solution	Yes



UNIT TEST – 3
MODEL QUESTION PAPER

Time : 30 mts.**Marks : 20****I. Choose the correct answer.** $5 \times 1 = 5$

1. Filtration Method is effective in Separating _____ mixture.
a) Solid – Solid b) Solid – Liquid c) Liquid–Liquid d) Liquid – Gas
2. 200ml of H_2O is poured into a bowl of 400ml capacity the volume of H_2O now will be
a) 400 ml b) 600 ml c) 200 ml d) 800 ml
3. From the following _____ is not a Mixture
a) Coffee with milk b) Lemon Juice
c) H_2O d) Ice Cream embedded with nuts
4. _____ is not made of matter
a) Gold ring b) Iron nail c) Light ray d) Oil drop
5. Seeds from water - melon can be removed by _____ method.
a) Hand – picking b) Filtration
c) Magnetic Separation d) Decantation

II. Fill in the blanks. $5 \times 1 = 5$

6. The Method employed to separate dust particles from H_2O is _____.
7. In solids, the space between the particles is less than in _____.
8. Matter is made up of _____.
9. H_2O obtained from tube wells is usually _____ H_2O .
10. Grains can be separated from their stalks by _____.

III. Answer in detail any Three. $3 \times 2 = 6$

16. Why do gases not have fixed shape?
17. What is meant by adulteration?
18. A rubber ball changes its shape on pressing. Can it be called a solid?
19. Define i) Sedimentation ii) Matter

IV. Answer in detail any ONE. $1 \times 4 = 4$

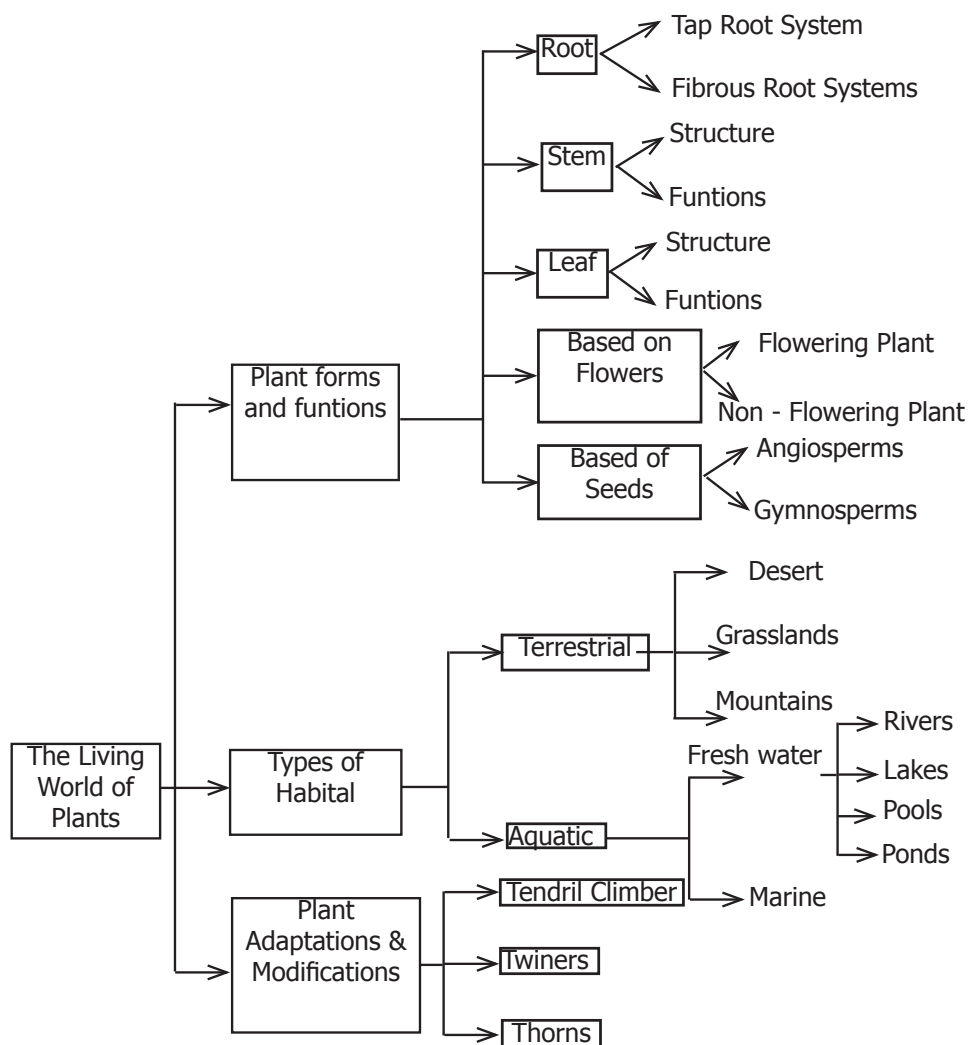
20. Distinguish between properties of solid, liquid, Gas. Draw suitable diagram.
21. How do you separate mud from muddy water? Draw suitable Diagram List out the process.



UNIT 4

THE LIVING WORLD OF PLANTS

Mind map



EVALUATION

I. Multiple Choice Questions

[Page No.77]

1. Pond is an example of _____.
- Marine Habitat
 - Freshwater habitat
 - Deserts
 - Mountain

VI. Very short answer

1. Classify the plants on the basis of their habitat.

Ans: Based on their habitat, plants are classified into Terrestrial habitat and Aquatic habitat.

2. Identify the desert plants from the following – Cactus, Hydrilla, Mango and Rose.

Ans: Cactus.

3. Define the term habitat.

Ans: Each and every organism needs a place to live and reproduce. Such a dwelling place is called habitat.

4. Relate the terms leaves and photosynthesis.

Ans: The green leaves prepare food by the process of photosynthesis.

VII. Short Answer

1. Why do you call jasmine plants, a twiner?

Jasmine plants have weak stems. They cannot stand straight on their own. They must climb on any support to survive. So, we call jasmine plants, a twiner.

2. Compare the tap root and fibrous root system.

S.No.	Tap root system	S.No.	Fibrous root system
i	A primary root that grows vertically downward are called tap root system	i	A cluster of roots arising from the base of the stem is called fibrous root system
ii	It gives of small lateral roots	ii	Cluster of roots are thin and uniform in size
iii	They are seen in dicotyledonous plant	iii	They are seen in monocotyledonous plant

3. Distinguish between terrestrial and aquatic habitats.

S.No.	Terrestrial habitat	S.No.	Aquatic habitat
i	Terrestrial habitats are the ones that are found on land	i	Aquatic habitat includes areas that are permanently covered by water
ii	Forest, Grassland and Desert habitats are the types of Terrestrial habitat	ii	Fresh water and Marine water are the types of Aquatic habitat

4. List out the plants present in your school garden.

Keezhanelli, Kuppaimeni, Neem (Vembu), Mango Tree, Pongamia glabra (Pongamaram), Nerium (Arali) are some plants present in our school garden.

VIII. Answer in detail

1. Make a list of the functions of root and stem.

- (i) Functions of Root :

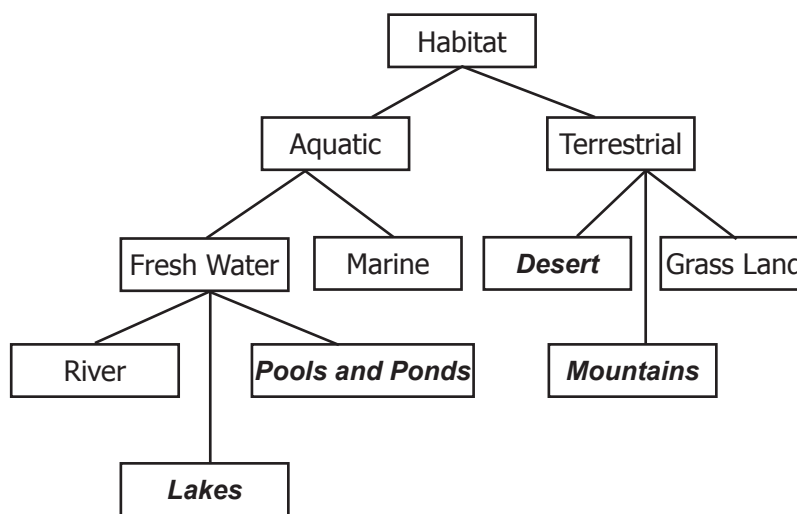
- ❖ Root fixes the plant to the soil.

- ❖ It absorbs water and minerals from the soil.
- ❖ It stores food in some plants like Carrot and Beetroot.

(ii) Functions of Stem :

- ❖ The Stem supports the branches, leaves, flowers and fruits.
- ❖ It transports water and minerals from root to upper and aerial plant parts.
- ❖ It transports the prepared food from leaves to other parts through stem.
- ❖ It stores food as in the case of Sugarcane.

2. Study the given concept map. Connect them correcting by drawing arrow marks. Complete the map by filling in the blanks.

**ADDITIONAL QUESTIONS****I. Choose the Correct Answer**

1. The study of life and living organisms, including their structure and functions is called _____.
 a) Botany b) Biology c) Zoology d) Physics
2. Tap root system is found in _____.
 a) Grass b) Mango c) Maize d) Paddy
3. _____ is an example for Fresh Water habitat.
 a) Lotus b) Sea grasses c) Marine algae d) Marsh grass
4. In Forest habitat, the annual rainfall ranges from _____.
 a) 25 – 250 cm b) 50 – 200 cm c) 25 – 200 cm d) 40 – 400 cm
5. The function of Leaf is _____.
 a) Fixation b) Absorption c) Conduction d) Photosynthesis

Answer	1. b	2. b	3. a	4. c	5. d
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II. Fill in the blanks

1. Ginger is an example for _____. **Ans:** Reduced stem
2. _____ are the parts of stem, where leaf arises. **Ans:** Nodes
3. A pair of lateral outgrowth on the base on either side of auxillary bud are called _____. **Ans:** Stipules
4. Photoplanktons are the example of _____ habitat. **Ans:** Marine water
5. _____ is a twining climbing organ of some weak stemmed plants like Peas and bitter gourd. **Ans:** Tendril

III. Say True or False

1. Various parts of the plants are used as food, medicine, wood and shelter. **Ans: True.**
2. The underground part of the main axis of the plants is known as stem. **Ans: False.**
3. Roots are positively geotrophic in nature. **Ans: True.**
4. There are tiny pores or openings known as stomata. **Ans: True.**
5. The green colour of the leaf is due to the presence of chromoplast. **Ans: False.**
6. The plants which grows in desert habitat have thick leaves to store water and minerals. **Ans: True.**
7. Savanna Grassland is an example for Forest habitat. **Ans: False.**
8. The margin and leaf apex of agave are modified into tendrils. **Ans: False.**
9. In Cactus the stem performs photosynthesis. **Ans: True.**
10. Adaptations are special features in plants to survive in their habitat. **Ans: True.**

IV. Match the following**A**

	Column A	Column B
1.	Root	(a) Absorption
2.	Stem	(b) Fixation of plants
3.	Leaf	(c) Transpiration
4.	Root hairs	(d) Transporation of water & minerals
5.	Stomata	(e) Photosynthesis

Answer	1. b	2. d	3. e	4. a	5. c
---------------	-------------	-------------	-------------	-------------	-------------

B

	Column A	Column B
1.	Water hyacinth	(a) Grassland habitat
2.	Marine algae	(b) Desert habitat
3.	Cactus	(c) Fresh water habitat
4.	Savanna grasslands	(d) Marine water habitat

Ans: 1 – (c); 2 – (d); 3 – (b); 4 – (a)

C

	Column A	Column B	
1.	Modified margins	(a)	Bougainvillea
2.	Modified leaflets	(b)	Bitter ground
3.	Modified leaves	(c)	Agave
4.	Modified axillary buds	(d)	Opuntia
5.	Modified stem	(e)	Sweet peas

Ans: 1 – (c); 2 – (e); 3 – (d); 4 – (d); 5 – (a)

V. Find the odd one out and give reasons

1. Stem, Leaves, Flowers, Root.

Odd one : Root.

Reason : Root lies below the surface of the soil. Stem, leaves and flowers are aerial parts of the plant body.

2. Desert, Grassland, Forest, Marine water.

Odd one : Marine water.

Reason : It is an aquatic habitat. Desert, Grassland and Forest are Terrestrial habitat.

3. Agave, Bougainvillea, Clitoria, Opuntia.

Odd one : Clitoria.

Reason : Clitoria has weak stem, it is a twiner. Agave, Opuntia and Bougainvillea have "thorns or spines" for defensive purposes.

4. Absorption, Photosynthesis, Respiration, Transpiration.

Odd one : Absorption.

Reason : It is a function of root. Photosynthesis, Respiration and Transpiration are functions of leaf.

VI. Reason and Assertion

1. **Assertion (A) :** Plants perform photosynthesis.

Reason (R) : Leaves contain chlorophyll which prepares food.

(i) (A) is correct (R) is wrong (ii) (R) is correct (A) is wrong

(iii) Both (A) and (R) are wrong (iv) (R) explains (A)

Ans: (iv) (R) explains (A)

2. **Assertion (A) :** Roots are positive geotropic in nature.

Reason (R) : Root has nodes and internodes.

(i) (A) is correct (R) is wrong (ii) (R) is correct (A) is wrong

(iii) Both (A) and (R) are correct (iv) (R) explains (A)

Ans: (i) (A) is correct (R) is wrong

VII. Answer the question**1. Define Photosynthesis.**

Photosynthesis means synthesis of food with the help of sunlight, water, chlorophyll and carbondioxide in plants.

2. What are the functions of Leaf?

- (i) Prepare food by the process of photosynthesis.
- (ii) Helps in respiration.
- (iii) Carry out transpiration.

3. Define Adaptation.

Adaptation means changes in the structure or behaviour of an organism that helps the plants to survive in a particular habitat.

4. What are the types of deserts?

- (i) Hot dry deserts.
- (ii) Semi arid deserts.
- (iii) Coastal deserts.
- (iv) Cold deserts.

Let us know

- ❖ Victoria amazonica, the leaves of this plant grow upto 3 metres across. A mature Victoria leaf can support an evenly distributed load of 45 kg or apparently young person.
- ❖ Nile is the longest river in the world. It is 6,650 km long.
- ❖ The longest river in India is Ganges river. It is 2,525 km long.
- ❖ World habitat day is observed on 1st Monday of October.
- ❖ Bamboo is one of the fast growing plants, during active growth phase.
- ❖ Air spaces in stems and petioles of Lotus are useful for floating in water.

Fact file

- ❖ Thar Desert, also called Great Indian Desert, is an arid region of rolling sand hills on the Indian sub-continent.
- ❖ Thar Desert is located partly in Rajasthan state, North-Western India and partly in Punjab and **Sindh** provinces, **Eastern Pakistan**.

Book Activity - 1

|Page No.66|

1. Water Absorption by Root

Subject	: Botany
Lesson	: The Living World of Plants
Nature of Activity	: Learning by doing
Type of Activity	: Individual / Group Activity

Aim : To observe the absorption of water by root.

Material required : A carrot, a glass of water and blue ink.

Procedure :

- ❖ Take a glass of water.
- ❖ Then, add few drops of blue ink into it.
- ❖ Now, place a carrot in a glass of water with blue ink.

- ❖ Leave the carrot in water for two to three days.
- ❖ Then cut the carrot into half length wise and observe.

Result : As blue colour appears in carrot which indicates water moves upwards in the carrot showing that root conducts water.

Learning Outcome : Students learnt that the water absorption takes place by Root.

Book Activity - 2

|Page No.67|

2. Conduction of water by stem

Subject	: Botany
Lesson	: The Living World of Plants
Nature of Activity	: Learning by doing
Type of Activity	: Individual / Group Activity

Aim : To observe the conduction of water by stem.

Materials required : A small twig of balsam plant, a glass of water and a few drops of red ink.

Procedure :

- ❖ Take a glass of water.
- ❖ Add a few drops of red ink into it.
- ❖ Place the small twig of balsam plant in water with red ink.

Result : The stem of balsam plant becomes reddish.

Learning outcome : The students learnt that, this is because red coloured water is being taken by the stem upwards.

Book Activity - 3

|Page No.68|

Subject	: Botany
Lesson	: The Living World of Plants
Nature of Activity	: Learning by doing
Type of Activity	: Group Activity

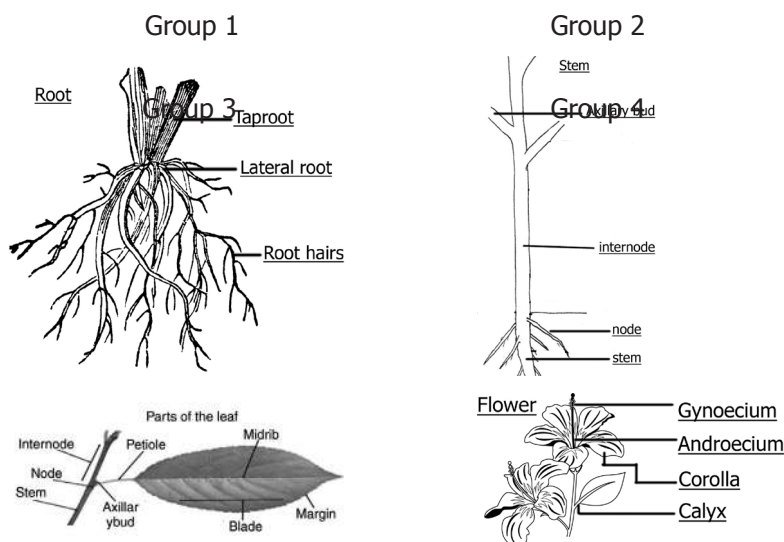
Aim : To identify the different parts of the plant.

Materials required : Plain white sheets.

Procedure :

- ❖ Divide the students into four groups.
- ❖ Inform group leader to pull a plant part from a "hat" (roots, stems, leaves and flowers).
- ❖ Ask the students to search their assigned plant parts from the campus.
- ❖ Inform them to locate different parts of plants discussed in the classroom.
- ❖ Give a plain white sheet to each group and inform them to prepare a poster by identifying correct part of the plant parts such as root, stem, leaf and flowers.

Solution : Parts of a root.



Learning outcome : The students learnt to identify the different parts of the plant

Book Activity - 4

|Page No. 68|

Subject	: Botany
Lesson	: The Living World of Plants
Nature of Activity	: Learning by doing
Type of Activity	: Group / Individual Activity

Read the following story along with your friend

Aim : To read the story and get solutions for the asked questions.

Solutions :

- ❖ **Why did the Monkey feel sad?**
Ans: The Monkey felt sad because, a beautiful thick forest had been destroyed.
- ❖ **Who chopped the trees?**
Ans: Humans had chopped down all the trees.
- ❖ **Which is the safest place for Monkey to live?**
Ans: The forest is the safest place for Monkey to live.
- ❖ **What is habitat?**
Ans: Living or dwelling place of an organism is known as habitat.

Book Activity - 5

|Page No.73|

Subject	: Botany
Lesson	: The Living World of Plants
Nature of Activity	: Learning by doing
Type of Activity	: Group / Individual Activity

Visit a nearby nursery. Choose any ten varieties of plants.

Solution :

❖ Hydrilla plant	–	Aquatic habitat
❖ Water lily	–	Aquatic habitat
❖ Agave	–	Desert habitat
❖ Aloe vera	–	Desert habitat
❖ Bryophyllum	–	Desert habitat
❖ Cactus	–	Desert habitat
❖ Grasses	–	Grassland habitat
❖ Teak plant	–	Forest habitat
❖ Sandalwood plant	–	Forest habitat
❖ Nerium	–	Desert habitat

Learning Outcome : The students learn the different types of habitats with nursery plants.

Book Activity - 6

[Page No.74]

Subject	: Botany
Lesson	: The Living World of Plants
Nature of Activity	: Learning by doing
Type of Activity	: Individual Activity

Field Investigation

Aim : To investigate different types of modification in plants.

Materials required : Plain white sheets.

Solution :

Name of the Student	:	K. Ramya
Date	:	28.03.2018
Location	:	Trichy

Modification in Plants :

S.No.	Modifications	Modified parts	Example
1	A tendril climber	Leaflets are modified into tendrils	Sweet peas
2	A twiner	Weak stem, climb on any support	Clitoria
3	A plant with thorn	Leaf apex and margins are modified into thorns	Agave

Learning Outcome : The students learn that, the different modifications in plants to survive over a long period.

HOTS :

Cactus plant is green in colour and performs photosynthesis. Which part of the plant does photosynthesis?

The Stem Performs Photosynthesis.

UNIT TEST – 4
MODEL QUESTION PAPER

Time : 30 mts.**Marks : 20****I. Choose the correct answer.** $5 \times 1 = 5$

1. The tiny particles present in all matter is
a) component b) atom c) Little Partick d) Substance
2. Solid particles are packed
a) loosely b) Far apart c) tightly d) Randomly
3. Plasma state is presence in
a) Earth b) Mars c) Universe d) None of the above
4. The grains are separated from their stalks by
a) Threshing b) Hand picking c) Sieving d) Winnowing
5. Separating solids using a magnet is
a) Sedimentation b) Decantation c) Filtration d) Magnetic separation

II. Fill in the blanks. $5 \times 1 = 5$

6. Purity of gold is expressed in _____.
7. Gas particles are highly _____.
8. Salt is separated from sea water by _____.
9. Air is a mixture of _____.
10. Separation of husk from grain is _____.

III. Answer any FIVE. $3 \times 2 = 6$

11. What is Hand-picking separation method?
12. What is meant by Separation?
13. Define Pure Substance.
14. Make a note on Diffusion.

IV. Answer in detail any ONE. $1 \times 4 = 4$

15. Distinguish between properties of solid, liquid and gas.
16. How do you separate mud from muddy water? Explain with neat diagram.



UNIT 5

LIVING WORLD OF ANIMALS

MIND MAP



EVALUATION**I. Choose the correct answer**

[Page No.89]

1. The study of living things or organisms is called _____.

- a) Psychology b) Biology c) Zoology d) Botany

2. Which of the following are characteristics of living beings?

- i) Respiration ii) Reproduction iii) Adaptation iv) Excretion

Choose the correct sequence

- a) (i), (ii) and (iv) only b) (i) and (ii) only
c) (ii) and (iv) only d) (i), (ii), (iii) and (iv)

3. Lizards breathe through their _____.

- a) Skin b) Gills c) Lungs d) Trachea

4. All animals need _____.

- a) Food and water only b) Water only
c) Air, food and water d) Food only

5. Which animal has the special organs of breathing called gills?

- a) Earthworm b) Fox c) Fish d) Frog

6. Choose the set that represents only biotic components of a habitat.

- a) Tiger, Deer, Grass, Soil b) Rocks, Soil, Plants, Air
c) Sand, Turtle, Crab, Rocks d) Aquatic plant, Fish, Frog, Insects

7. Which of the following cannot be called as a habitat?

- a) A desert with camels
b) A pond with fish and snails
c) Cultivated land with grazing cattle
d) A jungle with wild animals

8. Birds fly in the air with the help of _____.

- a) Heavy and strong bones b) Soft and thick bones
c) Hollow and light bones d) Flat and thick bones

9. Paramecium moves from one place to other with the help of ____.

- a) Pseudopodia b) Flagella c) Foot d) Cilia

10. Kangaroo rat lives in _____.

- a) Aquatic habitat b) Desert habitat
c) Grassland habitat d) Mountain habitat

Answer	1. b	2. a	3. c	4. c	5. c	6. d
	7. c	8. a	9. d	10. c		

II. Multiple choice questions**Complete the following with appropriate word(s).**1. Aquatic deserts, mountains are called _____. **Ans:** Ecosystem2. Based on the number of cells present animals are classified into _____ and _____.
Ans: Unicellular and Multicellular organisms

3. Tail of a bird acts as a rudder which helps to _____.

Ans: Control the direction of the movement

4. Amoeba moves with the help of _____.

Ans: Pseudopodia.

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

1. Habitat is a living or dwelling place of organism.

Ans: True.

2. The geographical features and environmental conditions on earth remain same from one place to other.

Ans: False. (The geographical features and environmental conditions on earth differ from one place to another)

3. Amoeba is a unicellular organism and moves with pseudopodia.

Ans: True.

4. Birds can see only one object at a time.

Ans: False. (Birds can see one object with one eye and another object with the other eye)

5. Paramecium is a multicellular organism.

Ans: False. (Paramecium is a Unicellular organism)

IV. Complete the following

1. Tropical rain forests, grasslands and deserts are known as _____.

Ans: Terrestrial habitat or ecosystem

2. Some living things are made of a single cell, they are called _____ organism.

Ans: Unicellular organism

3. The breathing organ of a fish is known as _____.

Ans: Gills

4. The lizard _____ on the ground with its claw on its feet.

Ans: walk

5. Camels store _____ in its hump.

Ans: Water

V. Very short answer questions

1. How do the birds catch their prey?

Ans: The birds catch their prey by beaks.

2. Where can we see Camels in India?

Ans: Thar deserts in Rajasthan.

3. Name the locomotory organ of an Amoeba.

Ans: Pseudopodia is the locomotory organ of an Amoeba.

4. What are the body parts of a snake?

Ans: Head, trunk and tail.

5. Which structure helps the bird to change its direction while flying in air?

Ans: Tail is the structure that helps the bird to change its direction while flying in air.

VI. Short answer type questions**1. Differentiate between Unicellular and Multicellular organisms.**

S.No.	Unicellular organisms	S.No.	Multicellular organisms
i	They are made up of single cell	i	They are organisms are made up of many cells
ii	These organisms are generally very small (microscopic) in size	ii	They are mostly large in size
iii	They lack tissues, organs and organ systems	iii	They are composed of tissues, organs and organ systems
iv	Eg., Amoeba, Paramecium and Euglena	iv	Eg., Earthworms, Fish, Frogs, Lizards and Human beings

2. Write the adaptive features of Polar bear and Penguin.

Adaptive features of Polar bear and Penguin.

- ❖ Polar bear has thick skin for protection and contains white fur.
- ❖ Penguins has paddle to swim and walk with two legs.

3. Mention the feature that help a bird to fly in the air.

Tail is the feature that help a bird to fly in the air.

4. What are the different types of invertebrates?

The different types of Invertebrates are;

- ❖ Porifera
- ❖ Coelenterata
- ❖ Platyhelminthes
- ❖ Aschelmenthes
- ❖ Annelida
- ❖ Arthropoda
- ❖ Mollusca
- ❖ Echinodermata

VII. Answer in detail**1. Describe the various features which help Camel dwell well in the desert.**

Various features that help Camel dwell well in the desert.

- ❖ The Camel has long legs which help it to keep its body away from the hot sand in the desert.
- ❖ A Camel can drink large amount of water and store it in the body.
- ❖ A Camel's hump has fat stored in it. In case of emergency a Camel can break down stored fat for nourishment.
- ❖ A Camel has large and flat padded feet which help it to walk easily on soft sand. Thus it is called "The ship of the desert".
- ❖ Camel has long eye lashes and hairs to protect its eyes and ears from the blowing dust.
- ❖ It can keep its nostrils closed to avoid dust.

ADDITIONAL QUESTIONS

I. Choose the Correct Answer

- _____ are aquatic, simplest and most primitive of all animals.
a) Multicellular organism b) Unicellular organism
c) A cellular organism
- In Amoeba, contractile vacuoles help in _____.
a) excretion b) secretion c) digestion d) ingestion
- _____ is an unicellular animal which moves with a flagellum.
a) Paramecium b) Euglena c) Amoeba d) Chlorella
- Most Lizards are _____.
a) Quadripedal b) Bipedal c) Tripedal d) Pentapedal
- Spending winters in a dormant condition is called _____.
a) Migration b) Aestivation c) Adaptation d) Hibernation

Answer	1. b	2. a	3. b	4. a	5. d
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II. Fill in the blanks

- The fish has _____ which acts as rudder to change direction and keep its body balance in water. **Ans:** strong tail
- In Birds the forelimbs are modified into _____. **Ans:** a pair of wings
- During summer and drought conditions birds from our country migrate to foreign countries are called _____. **Ans:** Migratory birds
- The Birds perch well on the branches of tree with the help of a _____. **Ans:** a pair of clawed feet
- _____ is called as "The ship of the desert". **Ans:** Camel

III. Say True or False

- The single cell of the Unicellular organism can perform all the functions of life. **Ans:** True
- Paramecium is a Unicellular organism which moves with the help of flagellum. **Ans:** False
- The fish has special organs called Lungs. **Ans:** True
- Lion has sharp claws to catch prey. **Ans:** True
- Kangaroo rat does not drink water at all. **Ans:** True

IV. Match the following

A			
	Column A		Column B
1.	Fish	(a)	Hollow and light bones
2.	Lizard	(b)	Strong and fast runner
3.	Birds	(c)	Large and flat padded feet
4.	Camel	(d)	Scaly-skinned reptiles
5.	Lion	(e)	Slippery scales all over the body

Ans: 1) e, 2) d, 3) a, 4) c, 5) b

B

	Column A	Column B
1.	Amoeba	(a) Flagella
2.	Paramecium	(b) A pair of wings
3.	Euglena	(c) Fins
4.	Fish	(d) Cilia
5.	Birds	(e) Pseudopodia

Ans: 1) e, 2) d, 3) e, 4) c, 5) b

V. Find the odd one out and give reasons

1. Amoeba, Paramecium, Euglena, Frog.

Odd one : Frog.

Reason : Frog is a multicellular organism, others are unicellular organism.

2. Cilia, Pseudopodia, Lungs, Flagella.

Odd one : Lungs.

Reason : Lungs is a respiratory organ, others are Locomotary organ.

3. Gills, Wings, Scales, Fins.

Odd one : Wings.

Reason : Wings are present in Birds, others are present in the body of Fish.

VI. Choose the correct answer from the given pair :

1. Respiration is by simple diffusion through the body surface in _____.
(Amoeba / Frog)

Ans: Amoeba

2. Paramecium moves with the help of _____. (Cilia / Flagella)

Ans: Cilia

3. Birds have _____ vision. (Unicular / Binocular)

Ans: Binocular

4. When an animal moves its location as the season changes it is said to be _____.
(Excretion / Migration)

Ans: Migration

5. Spending the hot and dry period in an inactive state is known as _____.
(Aestivation / Hibernation)

Ans: Aestivation

VII. Reason and Assertion

1. **Assertion (A)** : Earthworm is a multicellular organism.

Reason (R) : Earthworm grows by an increase in the numbers of cells by cell division.

(i) (A) is correct (R) is wrong (ii) (A) is wrong (R) is correct

(iii) (R) explains (A) (iv) Both (A) and (R) are wrong

Ans: (iii) (R) explains (A)

2. **Assertion (A)** : Camel can live many days without drinking water.

Reason (R) : A Camel passes small amount of urine; its dung is dry and it does not sweat.

(i) (A) is correct (ii) (R) does not explain (A)

(iii) Both (A) and (R) are correct (iv) (A) is wrong (R) is correct

Ans: (iii) Both (A) and (R) are correct

3. **Assertion (A)** : Forest is the habitat of Lion.
Reason (R) : Lion has adaptive features like paddle to swim and thick skin for protection.
 (i) Both (A) and (R) are correct (ii) (A) is correct (R) is wrong
 (iii) Both (A) and (R) are wrong (iv) (R) is correct (A) is wrong
Ans: (ii) (A) is correct (R) is wrong

VIII. Answer the question

1. Define the term 'Biodiversity'.

The term biodiversity refers to the totality of species, populations, communities and ecosystems both wild and domestic.

2. Name some animals which dwell in cold regions.

Polar bear, Penguins and Mountain Goat.

3. Define Habitat.

Living or dwelling place of an organism is known as Habitat.

4. Name some multicellular organisms.

Jelly Fish, Earthworm, Snails, Fish, Frog, Snakes, Pigeon, Tiger, Monkey and Man.

5. Why do the Camel is called as "The ship of the desert"?

The Camel has large and flat padded feet which help it to walk easily on soft sand. So, it is called as "The ship of the desert".

Let us know :

- ❖ In Jurong Birds Park, Singapore Penguins are kept in a big glass case with icebergs and temperature is maintained at 0° C and below.
- ❖ In Tamil Nadu, Bird Sanctuaries are located at Vedanthangal, Kodiyakkarai and Koondhankulam. There are many birds from foreign countries like Siberia and Russia migrate to our Vedanthangal.
- ❖ Spending winters in a dormant condition is called Hibernation. eg. Turtle.
- ❖ Spending the hot and dry period in an inactive state is known as Aestivation. eg. Snail.
- ❖ Kangaroo rat does not drink water at all. Whatever food it eats it gets water from oxygen and air combine together inside the body.

ACTIVITIES

Book Activity - 1

[Page No.81]

Subject	: Biology
Lesson	: Living World of Animals
Nature of Activity	: Learning by doing
Type of Activity	: Individual Activity

Aim : To prepare a chart of animals in various ecosystems like Lake, Pond, Forest, Desert, Mountains and Polar regions.

Solution : Ask the students to collect the pictures of various ecosystems like Lake, Pond, Forest, Desert, Mountains and Polar regions. Guide them to prepare a chart of animals in these places.

Inference: The students learnt the various ecosystems and the animals present in a particular ecosystem. For example, in Pond ecosystem, the animals like Fish, Frog, Snake, Snail, Crab, Duck are present.

Learning Outcome : Learnt about the animals in various ecosystem.

UNIT TEST – 5

MODEL QUESTION PAPER

Time : 30 mts.

Marks : 20

I. Choose the correct answer.

3 × 1 = 3

- All Animals need _____.
a) Food and water only b) Water only
c) Air, food and water d) Food only
- Birds fly in the air with the help of _____.
a) heavy and strong bones b) soft and thick bones
c) Hollow and Light Bones d) Flat and thick Bones
- Which animal has the special organs of breathing called gills.
a) Earthworm b) Fox c) Fish d) Frog

II. Fill in the blanks.

3 × 1 = 3

- Paramecium moves from one place to other with the help of _____.
- _____ is called as "the ship of the desert".
- When an Animal moves its location as the season changes it is said to be _____.

III. Match the following :

4 × 1 = 4

- Euglena – Thick skin for protection
- Amoeba – Binocular Vision
- Birds – Pseudopodia
- Polar Bear – Unicellular Organism

IV. Answer in Short : (any five):

3 × 2 = 6

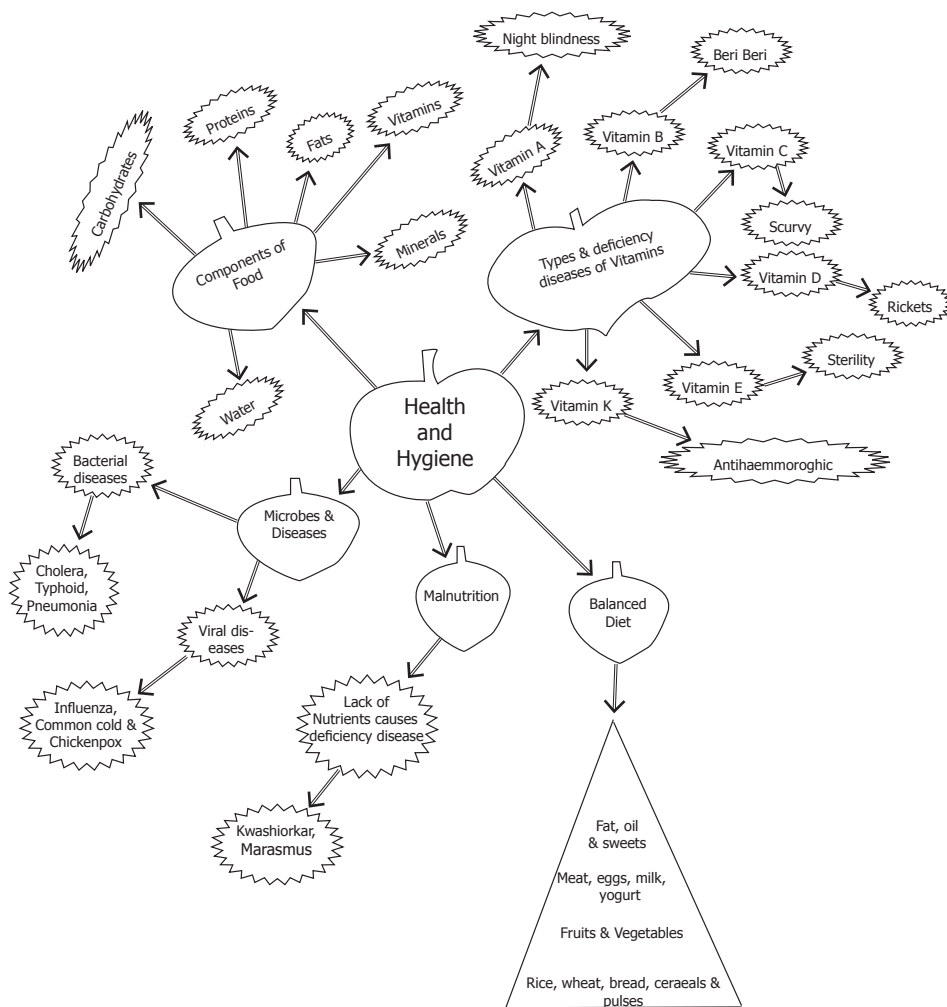
- Name the locomotary organs of Amoeba, Euglena and Paramecium.
- Differentiate between Unicellular organism and multicellular organisms.
- What are the features that help a bird to fly in the air?
- Name some bird sandtuaries located in Tamil Nadu.

V. Answer in detail (any one):

1 × 4 = 4

- Describe the various features which help fish dwell well in aquatic places.
- Explain the differences between unicellular and Multicellular organisms.



**UNIT
6**
HEALTH AND HYGIENE
MIND MAP


Evaluation

I. Choose the correct answer

|Page No.106|

- Our body needs _____ for muscle building.**
a) Carbohydrate b) Fat c) Protein d) Water
- Scurvy is caused due to the deficiency of _____.**
a) Vitamin A b) Vitamin B c) Vitamin C d) Vitamin D
- Calcium is an example of a _____.**
a) Carbohydrate b) Fat c) Protein d) Minerals
- We should include fruits and vegetables in our diet, because ____.**
a) They are the best source of Carbohydrates
b) They are the best source of Proteins
c) They are rich in Minerals and Vitamins
d) They have high water content
- Bacteria are very small _____ micro organism.**
a) Prokaryotic b) Eukaryotic c) Protozoa d) Acellular

Answer	1. c	2. c	3. d	4. c	5. a
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II. True or False

- There are three main nutrients present in food. **Ans: False.**
- Fats are used as an energy store by our body. **Ans: True.**
- All bacteria have flagella. **Ans: False.**
- Iron helps in the formation of haemoglobin. **Ans: True.**
- Virus can grow and multiply outside host. **Ans: False.**

III. Fill in the Blanks

- Malnutrition leads to _____. **Ans: deficiency disease**
- Iodine deficiency leads to _____ in adults. **Ans: Goitre**
- Vitamin D deficiency causes _____. **Ans: Rickets**
- Typhoid is transmitted due to contamination of _____ and water. **Ans: food**
- Influenza is a _____ disease. **Ans: viral**

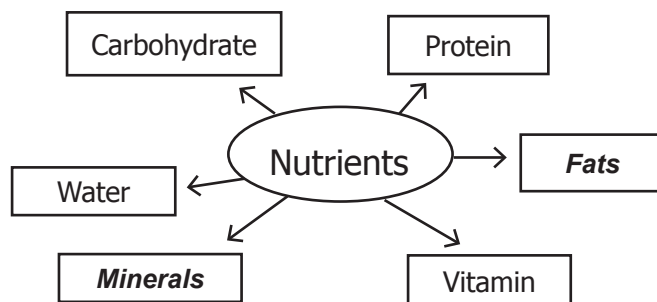
IV. Complete the Analogy

- Rice : Carbohydrate :: Pulses : _____. **Ans: Proteins**
- Vitamin D : Rickets :: Vitamin C : _____. **Ans: Scurvy**
- Iodine : Goitre :: Iron : _____. **Ans: Anaemia**
- Cholera : Bacteria :: Smallpox : _____. **Ans: Virus**

V. Match the following

Column A		Column B	
1.	Vitamin A	(a)	Rickets
2.	Vitamin B	(b)	Night blindness
3.	Vitamin C	(c)	Sterility
4.	Vitamin D	(d)	Beri beri
5.	Vitamin E	(e)	Scurvy

Ans: 1 – (b), 2 – (d), 3 – (e), 4 – (a), 5 – (c)

VI. Complete the diagram**VII. Write short Answer****1. Write two examples for each of the following.****a) Food items rich in fat.****b) Vitamin deficiency diseases.**

a) Food items rich in Fat (any two) – Butter, Ghee, Milk, Cheese, Nuts, Paneer, Meat, Fish, Egg yolk.

b) Vitamin deficiency diseases (any two) – Night blindness, Beri beri, Scurvy, Rickets.

2. Differentiate between carbohydrate and protein.

S.No.	Carbohydrate	Protein
1	Carbohydrates are energy giving component of the food	Proteins are necessary for our growth and regulating various body functions
2	The sources of carbohydrates are rice, wheat, fruits, maize, potato, etc.	The sources of proteins are pulses, eggs, fish, soyabean, nut, grams, etc.

3. Define the term "Balanced diet".

A diet should contain adequate amount of all the necessary nutrients required for healthy growth and activity is called "Balanced diet".

4. Why should the fruits and vegetables not to be washed after cutting?

The minerals and vitamins present in the fruits and vegetables to be washed out in the water, so we should not wash the fruits and vegetables after cutting.

5. Write any two viral diseases.

Common cold, Influenza are some viral diseases.

6. What is the main feature of a microorganism?

Bacteria are very small prokaryotic microorganisms. Bacteria cells do not have nucleus and do not usually have membrane bound organelles.

VIII. Long Answer

1. Tabulate the vitamins and their corresponding deficiency diseases.

S.No.	Vitamins	Deficiency Diseases
1	Vitamin A	Night blindness
2	Vitamin B	Beri beri
3	Vitamin C	Scurvy
4	Vitamin D	Rickets
5	Vitamin E	Nervous weakness, dimming of eye sight
6	Vitamin K	Weakness of the bones, teeth, etc.

ADDITIONAL QUESTIONS

I. Choose the correct answer

- _____ are energy giving component of the food.
a) Protein b) Fat c) vitamins d) Carbohydrates
- _____ is the highly rich source of Protein.
a) Fruits b) Vegetables c) Soyabean d) Meat
- _____ is responsible for clotting of blood.
a) Vitamin K b) Vitamin C c) Vitamin D d) Vitamin A
- Any human being should take minimum _____ litres of water every day.
a) 2 litres b) 8 litres c) 5 litres d) 10 litres
- _____ are very small prokaryotic micro organisms.
a) Virus b) Fungi c) Protozoa d) Bacteria

Answer	1. d	2. c	3. a	4. a	5. d
--------	------	------	------	------	------

II. Fill in the blanks

- _____ is the practice of keeping ourself and our surroundings clean
Ans: Hygiene
- Whole grains, nuts are the sources of _____ in the form of Carbohydrates.
Ans: Dietary fibre
- Apart from giving energy, _____ insulate our body and protect the cells.
Ans: Fats
- Oranges, Gooseberry, Green Chilly, Tomato, these fruits are rich in _____.
Ans: Vitamin C
- _____ are also contains powerful antioxidants.
Ans: Moringa leaves

III. Say True or False

- Physical exercise is performed for strengthening muscles and the cardiovascular system
Ans: True
- The word 'malnutrition' refers to a person take a balanced diet.
Ans: False
- Bacterial cells do not have nucleus and membrane bound organelles.
Ans: True
- Cholera, Typhoid, Pneumonia are Viral disease.
Ans: False
- Vitamins A, D, E and K are Fat soluble.
Ans: True

IV. Match the following**A**

	Nutrients		Deficiency Diseases
1.	Calcium	(a)	Cretinism
2.	Iodine	(b)	Anaemia
3.	Phosphorous	(c)	Rickets
4.	Iron	(d)	Marasmus
5.	Protein	(e)	Osteomatatia

Ans: 1 – (c), 2 – (a), 3 – (e), 4 – (b), 5 – (a)

B

	Bacterial Diseases		Mode of Transmission
1.	Cholera	(a)	Contaminated food or water
2.	Anthrax	(b)	Contamination of wounds
3.	Tetanus	(c)	Contaminated water
4.	Tuberculosis, Pneumonia	(d)	Air borne disease
5.	Typhoid	(e)	Inhalation of airborne droplets from sneeze or cough

Ans: 1 – (c), 2 – (d), 3 – (b), 4 – (e), 5 – (a)

V. Find the odd one out

1. Fruits, Honey, Cane sugar, Rice

Odd one : Rice. Rice is a starch form of Carbohydrate and others are sugar form of Carbohydrate.

2. Vitamin B, Vitamin D, Vitamin A, Vitamin K.

Odd one : Vitamin B. Vitamin B is the water soluble vitamin and others are fat soluble vitamins.

3. Proteins, Vitamins, Calcium, Fats.

Odd one : Calcium. Calcium is a type of mineral and others are Nutrients.

4. Cholera, Common cold, Typhoid, Tetanus.

Odd one : Common cold. Common cold is a viral disease and others are bacterial disease.

5. Marasmus, Night blindness, Scurvy, Rickets.

Odd one : Marasmus. Marasmus is a protein deficiency disease and others are vitamin deficiency diseases.

VI. Complete the following table

[Page No.100]

S.No.	Nutrients	Sources	Functions
1	Carbohydrates	Rice, wheat, potato	Give us energy
2	Fats	Milk, ghee, butter, meat	Give us energy
3	Proteins	Pulses, fish, egg, soya bean, nut, gram	regulating various body functions
4	Vitamins	Fruits, vegetables, grains, meat and dairy products	Carrying out various biochemical reactions
5	Minerals	Spinach, pulses, eggs, fish, fruits, milk	Regulation of growth and normal body functions

VII. Answer in short**1. What are Nutrients?**

The chemical constituents of food which give us energy, help to build our body and protect us from diseases are called Nutrients.

2. What are the types of Vitamins.

There are six major Vitamins A, B, C, D, E and K. Vitamins B and Vitamins C are water soluble and Vitamins A, D, E and K are fat solubles.

3. What are the food items to be avoided and why?

Food items like Chocolate, French fries, Burger, Fast food items, Deep fried items are harmful to our health. Therefore, we should avoid these food items.

4. What are called deficiency diseases?

The diseases that are caused due to lack of nutrients in the diet are called deficiency diseases. Eg., Rickets, anaemia, goitre, etc.

5. What are the importance of physical exercise?

Physical exercise is performed for various reasons, including

- ❖ Increase in growth and development.
- ❖ Strengthening muscles and the Cardiovascular system.
- ❖ Developing athletic skills, weight loss or maintenance.

6. Define the term 'Hygiene'.

Hygiene refers to conditions and practices that help to maintain health and prevent the spread of diseases.

7. What are the four major groups of Microbes?

- ❖ Bacteria
- ❖ Virus.
- ❖ Protozoa.
- ❖ Fungi.

VIII. Let us know

- ❖ Soyabean is the highly rich source of Protein.
- ❖ 80% of the world production of Moringa leaves in India.
- ❖ Moringa leaves are rich in Vitamin A, Vitamin C, Potassium, Calcium, Iron and Protein.

- ❖ It also contains powerful antioxidants.
- ❖ India has the second highest number of obese children in the world after China.
- ❖ Deep sleep seems to be one of the most critical time for body repair.

ACTIVITIES

Book Activity - 1

|Page No.93|

Subject	: Biology
Lesson	: Health and Hygiene
Nature of Activity	: Learning by observation
Type of Activity	: Individual Activity

Aim : To classify the food items.

Solution :

Food which I like to eat	Food which I don't like to eat	Food which I have never seen before
Moringa leaves Brinjal Orange Guava Gooseberry	Chocolate French fries	Grains Pearl millet
Lady's finger Spinach		

1. Do your favorite foods make you healthy?
Ans: Yes. My favorite foods make me healthy.
2. Do you choose your food by taste or by its nutritive value?
Ans: I choose my food by its nutritive value.

Inference : The students learnt to classify the food items according to its nutritive value.

Learning Outcome : The students learnt about the food items which is nutritive.

Book Activity - 2

|Page No.93|

Subject	: Biology
Lesson	: Health and Hygiene
Nature of Activity	: Learning by observation
Type of Activity	: Individual / Group Activity

Aim : To classify the food items according to the major nutrient content.

Solution :

S.No.	Food Items	Nutrients
1	Idly, Dosai, Chappathi, Poori	Carbohydrate – (Starch)
2	Fruits, Honey, Sugar beet	Carbohydrate – (Sugar)

3	Sambar	Protein – (Pulses)
4	Vegetable Soup, Grains	Vitamins
5	Spinach, Fruits	Minerals
6	Chicken fry, egg, meat	Fat
7	Juices	Water

Learning Outcome : The students learnt to classify the food items based on its nutritive value.

Book Activity - 3

[Page No.95]

Subject	: Biology
Lesson	: Health and Hygiene
Nature of Activity	: Learning by doing
Type of Activity	: Individual Activity

Aim : To test the presence of Carbohydrate as starch in the given food item.

Materials required : Boiled potato, dropper and dilute iodine solution.

Procedure : Take a piece of boiled potato in a bowl. Smash the boiled potato and add two or three drops of dilute iodine solution on the sample.

Observation : The potato turns blue-black in colour.

Inference : The Iodine reacts with starch to form starch-iodine complex, which is blue-black in colour.

Result : Thus, the appearance of blue-black colour confirms the presence of starch in the food sample.

Book Activity - 4

[Page No.95]

Subject	: Biology
Lesson	: Health and Hygiene
Nature of Activity	: Learning by doing
Type of Activity	: Individual Activity

Aim : To test the presence of fat in the given food item.

Materials required : Coconut oil, groundnut oil and any paper.

Procedure :

- ❖ Pour few drops of coconut oil on to the paper and rub it gently with your finger.
- ❖ In case of groundnut, crush the groundnut and place it on the paper. Now rub the groundnut on the paper.

Observation : The paper turns translucent and becomes greasy.

Result : The given food sample contains fat.

Book Activity - 5

|Page No.96|

Subject	: Biology
Lesson	: Health and Hygiene
Nature of Activity	: Learning by doing
Type of Activity	: Individual Activity

Aim : To test the presence of protein in the given food item.

Materials required : Egg white, copper sulphate solution, sodium hydroxide, test tube and bunsen burner.

Procedure :

- ❖ Take a small amount of the food sample (egg white) and put in the test tube.
- ❖ Add some water to the test tube and shake it.
- ❖ Next, heat the test tube for about one minute.
- ❖ Then the test tube has to cooled down and then add two drops each of copper sulphate and sodium hydroxide into it.

Observation : The food sample turns purple or violet.

Result : Change in colour of the given food sample turns purple or violet confirms the presence of protein.

Book Activity - 6

|Page No.98|

Subject	: Biology
Lesson	: Health and Hygiene
Nature of Activity	: Learning by doing
Type of Activity	: Individual Activity

Aim : To make our food little healthier.

Materials required : A small cup of green gram seeds, water and thin cloth.

Procedure :

- ❖ Soak the green gram seeds in water over.
- ❖ Take out the seeds and strain the water.
- ❖ Wrap the seeds in wet thin cloth.
- ❖ Keep it for a day or two.
- ❖ Sprinkle some water whenever it is dry.

Observation : We can see white sprouts coming out of the seeds.

Inference : Green gram sprouts are low in calories, have Fibre and Vitamin B. But it has comparatively high amount of Vitamin C and Vitamin K.

Result : We can make our food little healthier by this green gram sprouts.

Book Activity - 7

|Page No.100|

Subject	: Biology
Lesson	: Health and Hygiene
Nature of Activity	: Information gathering
Type of Activity	: Individual Activity

Aim : To prepare a diet chart to provide balanced diet.

Solution : Diet Chart to provide balanced diet for 12 years old child.

S.No.	Food Timings	Food Items
1	Breakfast	Idly + Sambar / Poori + Dhal / Chappati + Dhal and 1 glass of Milk
2	Mid morning	Vegetable Soup / Fruit salad
3	Lunch	Sambar & Rice, Vegetable curry, green leaf like spinach + Butter
4	Evening Snacks	Nuts / Apricots / Bengal gram sundal
5	Dinner	Idli + Sambar / Dosai + Sambar / Chappathi + Kuruma and a cup of Milk

Inference : A 12 year old child required 1950 – 2100 calories. So, food items which contain Proteins and Energy i.e., Butter, Cheese, Pulses, Cereals, Fish, Meat and giving Sea food is beneficial. For Iron and Calcium 2 glass of Milk is very much necessary to be included in their diet for their growth.

Learning outcome : The students learnt to prepare a diet chart to provide food for 12 year old child.

Book Activity - 8

[Page No.101]

Subject	: Biology
Lesson	: Health and Hygiene
Nature of Activity	: Doing by observation
Type of Activity	: Individual Activity

Aim : To know about the steps are taken by the Government to overcome malnutrition and ensure health in the age group 0–5 years.

Solution : In Anganvadi centre, the Government

- ❖ Provides three eggs in a week for the children.
- ❖ Health mix (chathamavu) powder is providing to children.
- ❖ Types of Sundal like greengram, bengal gram is also providing to the children.

Learning outcome : The students learnt that the steps taken by the Government to overcome malnutrition in the age group of 0–5 years.

Book Activity - 9

[Page No.102]

Subject	: Biology
Lesson	: Health and Hygiene
Nature of Activity	: Learning by doing
Type of Activity	: Individual Activity

Aim : To make ORS (Oral Rehydration Solution) at home to prevent loss of water.

Materials required : A litre of boiled water, half a teaspoon of salt and six teaspoons of sugar and lemon juice.

Procedure :

- ❖ Take a litre of boiled water and cool it.
- ❖ Add half a teaspoon of salt and six teaspoons of sugar to it.
- ❖ We can also add a few drops of lemon juice to it. Stir it and give it to the person suffering from vomiting, loose motions or dehydration.

Inference : Vomiting or Loose motions result in loss of water and cause salt imbalance in the body. It can lead to serious problems. This can be prevented by consuming ORS at short intervals.

Learning outcome : The students learnt to prepare the ORS (Oral Rehydration Solution) to prevent the loss of water in our body due to loose motion and vomiting.

Just Think

A medical camp was conducted in School. Most of the children were healthy. Some of the students had some health issues Priya had bleeding gums. Raja could not see clearly in dim light. Arun had bent legs. Can you guess what could be the reasons?

Sl.No.	Name of the Student	Symptoms	Deficiency Disease	Vitamins which is deficient
1.	Priya	Bleeding gums	Scurvy	Vitamin – C
2.	Raja	Difficulty in seeing in dim light	Night Blindness	Vitamin – A
3.	Arun	Bent legs	Rickets	Vitamin – D

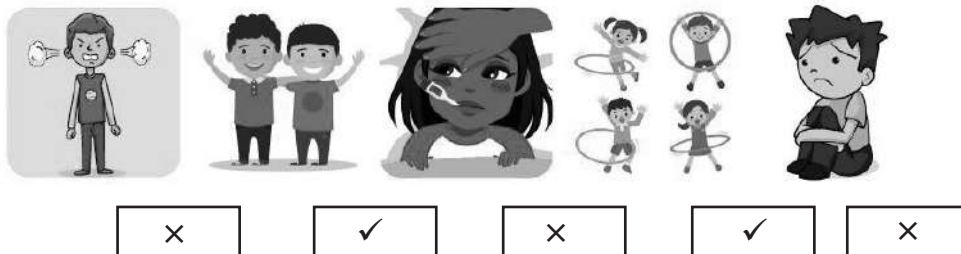
These health issues are due to vitamin deficiency. Priya is affected by vitamin C deficiency called Scurvy. Raja had vitamin A deficiency called Night blindness and Arun is affected by vitamin D deficiency called Rickets. So, the doctor advised these children to take vitamin rich food items like milk, vegetables, fruits etc. to overcome. This vitamin deficiency diseases.

Complete the following Table

S.No.	Nutrients	Sources	Functions
1.	Carbohydrates	Rice, Wheat, Potato	Gives us energy
2.	Fats	Milk, ghee, Butter	Give us energy
3.	Proteins	Pulses, Fish, egg, Soya Bean, nuts.	regulating various body functions.
4.	Vitamins	Fruits, Vegetables, Grains, Meat and dairy products	Carrying out various biochemical reactions.
5.	Minerals	Spinach, Pulses, eggs, milk, fruits.	Regulation of growth and normal body function.

Look at the pictures Given below

Mark ☒ for healthy persons and mark ☐ for unhealthy persons.



SUGGESTED PROJECT

Get a Vaccination schedule from a nearby doctor or a hospital. From the list, identify the bacterial diseases and the viral diseases for which vaccination is given

S.No.	Age	Vaccines	
1.	New Born	BCG	1 st dose
2.	15 days	Oral Polio	1 st dose
3.	6 th Week	DPT & Polio	1 st dose
4.	10 th Week	DPT & Polio	2 nd dose
5.	14 th Week	DPT & Polio	3 rd dose
6.	9 – 12 months	Measles	1 st dose
7.	18 – 24 months	DPT & Polio	1 st dose
8.	15 months – 2yrs	MMR Vaccines	1 st dose
9.	2 – 3 yrs	Typhoid	2 doses at 1 month gap
10.	4 – 6 yrs	DT & Polio	2 nd booster
11.	10 th year	TT & Typhoid	1 st dose
12.	16 th year	TT & Typhoid	2 nd booster

BCG – Tuberculosis Vaccine

DPT – Diptheria, Pertusis, Tetanus Vaccine (Triple antigen)

MMR – Mumps, Measles, Rubella

DT – Diptheria, Tetanus

TT – Tetanus Toxoid

From the list,

The Bacterial diseases :

Tuberculosis, Diptheria, Pertusis, Tetanus.

The Viral diseases:

Polio, Mumps, Measles & Rubella.

UNIT TEST – 6

MODEL QUESTION PAPER

Time : 30 mts.

Marks : 20

I. Choose the correct answer. $3 \times 1 = 3$

1. Calcium is an example of a _____.
a) Carbohydrate b) Fat c) Protein d) Minerals
2. Bacteria are very small _____ micro organism
a) Prokaryotic b) Eukaryotic c) Protozoa d) Acellular
3. Night blindness is caused due to the deficiency of
a) Vitamin A b) Vitamin B c) Vitamin C d) Vitamin D

II. Fill in the blanks. $3 \times 1 = 3$

4. Influenza is a _____ disease.
5. Vitamin D deficiency causes _____.
6. Kwashiorkor and Marasmus are _____ deficiency diseases.

III. Match the following . $4 \times 1 = 4$

7. Bleeding gums – Marasmus
8. Cholera, Typhoid – Iodine
9. Skinny appearance – Bacterial diseases.
10. Cretinism – Vitamin C

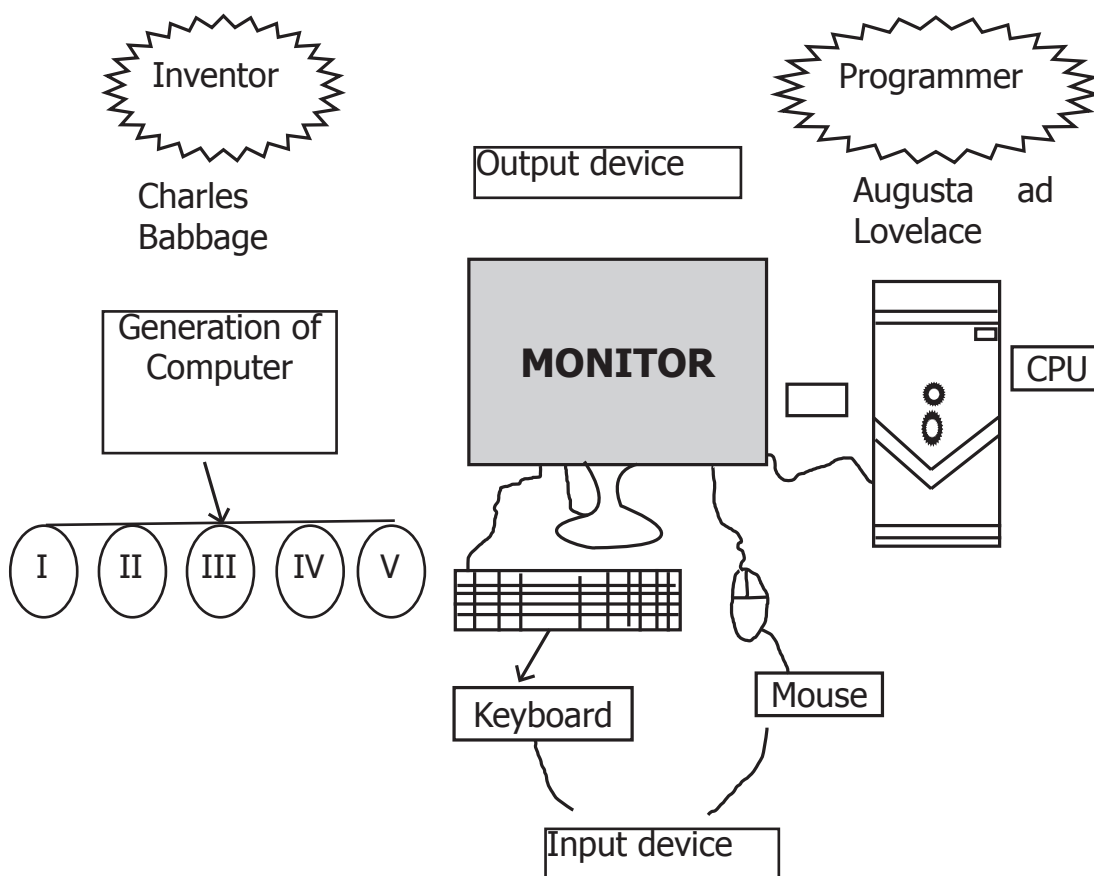
IV. Answer in Short : (any five). $3 \times 2 = 6$

11. What are called Deficiency diseases.
12. Write any three viral diseases.
13. Define the term 'Balanced diet'.
14. What are the water soluble vitamins?

V. Answer in detail (any one). $1 \times 4 = 4$

19. Tabulate the vitamins and their corresponding deficiency diseases.
20. Explain the Characteristics of virus with the help of diagram.



**UNIT
7****COMPUTER – AN INTRODUCTION****MIND MAP**

EVALUATION**I. Choose the correct answer**

1. **Who is the father of computer?**
 a) Martin Luther King b) Graham Bell
 c) Charlie Chaplin d) Charles Babbage
2. **Which of the following is another form of computer?**
 a) Blackboard b) Mobile c) Radio d) Book
3. **When was the first computer introduced?**
 a) 1980 b) 1947 c) 1946 d) 1985
4. **Who is the computer's first programmer?**
 a) Lady Wellington b) Augusta ado Lovelace
 c) Mary Curie d) Mary Comb
5. **Pick out the odd one.**
 a) Calculator b) Abacus c) Flash card d) Laptop

Answer	1. d	2. b	3. c	4. b	5. c
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II. Fill in the Blanks

1. Data is _____ information. **Ans: a collection of**
2. World's first general purpose computer is _____. **Ans: ENIAC**
3. Information is _____ data. **Ans: a form of processed data**
4. Fifth generation computer has _____ intelligence. **Ans: Artificial**
5. _____ is the device that uses Index number. **Ans: Bar Code Reader**

III. State True or False

1. Computer is an Electronic device **Ans: True**
2. Sir Isaac Newton invented Computer. **Ans: False**
3. Computer can do calculations fast. **Ans: True**

IV. Match the following

1.	First generation Computer	(a)	Artificial Intelligence
2.	Second generation Computer	(b)	Integrated Circuit
3.	Third generation Computer	(c)	Vacuum tubes
4.	Fourth generation Computer	(d)	Transistor
5.	Fifty generation Computer	(e)	Micro processor

Ans: 1 – (c), 2 – (d), 3 – (b), 4 – (e), 5 – (a)

V. Answer the following**1. What is a Computer?**

Computer is an electronic device that process the data and information according to our needs.

2. Who are the pioneers/forerunners of Computer?

Inventor : Charles Babbage, First Programmer : Augusta Ada Lovelace.

3. Write a short note on Data.

Data is the information that has to be processed.

4. Name any four input devices.

Key board, Mouse, Scanner and Light pen.

5. Differentiate Hardware and Software.

Hardware	Software
The Parts that are available in the Computer that helps the software to works is called Hardware	The commands or programs that are used in Computer are called Software
Ex : CPU	Ex : Ms-word, Excel, Windows

VI. Answer in detail**1. Explain in detail the application of computer.**

The various field of applications of computer are;

- | | |
|--------------|-------------------|
| 1) Business | 2) Education |
| 3) Marketing | 4) Banking |
| 5) Insurance | 6) Communication |
| 7) Medical | 8) Military |
| 9) Research | 10) Entertainment |

Computers have their application everywhere.

ADDITIONAL QUESTIONS**I. Fill in the blanks**

1. CPU stands for _____.

Ans: Central Processing Unit

2. ENIAC stands for _____.

Numeric Integrator And Calculator

Ans: Electronic



II. Answer the following**1. Compare Input and Output device.**

Input Device	Output Device
If you send data to a computer through a device called Input Device. Eg.: Keyboard, Mouse.	The data has been sent to the Computer are displayed out through some devices are called Output Device. Eg: Monitor

2. How the Software is classified? Explain.

The Software is classified into two types.

1. Operating Software : A Software is used to operate the Computer is called Operating Software. Eg.: Windows, Linux.

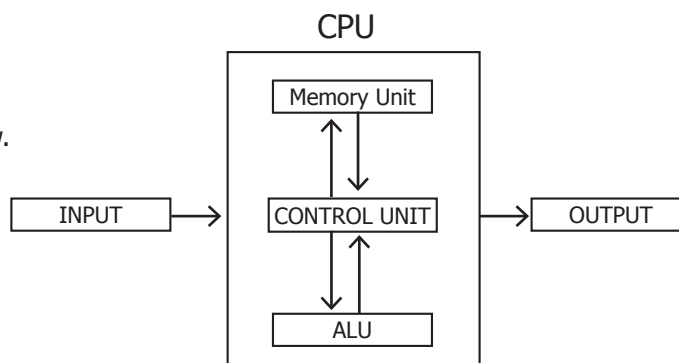
2. Application Software : Application Software is a software that is used to run a particular program. Eg. Ms-word, Excel, Power Point.

3. Draw the block diagram of CPU.

CPU, the Central Processing Unit consists of 3 units. They are;

1. Control Unit
2. Memory Unit
3. Arithmetic Logic Unit (ALU).

The block diagram is given below.



UNIT TEST – 7

MODEL QUESTION PAPER

Time : 30 mts.

Marks : 20

I. Choose the correct answer.

6 × 1 = 6

1. The first programmer
 - a) Charles Babbage
 - b) Java
 - c) Bill Gates
 - d) Augusta Ada Lovelace
2. Which generation of computer implies artificial intelligence
 - a) 1st
 - b) 2nd
 - c) 4th
 - d) 5th
3. Which software is used to run a particular program
 - a) System software
 - b) Operating software
 - c) Application software
 - d) Domain

4. Charles Babbage is a
a) Professor b) Teacher c) Engineer d) Doctor
5. Which one is the input device
a) Monitor b) Mouse c) Printer d) Speaker
6. Pick out the odd one.
a) Calculator b) Abacus c) Flash card d) Laptop

II. Answer any FIVE. $5 \times 2 = 10$

6. What is computer?
7. Name some output devices?
8. State the types of Computer.
9. What is the expansion of CPU?
10. In early stage, how people are made calculations?
11. What are the 2 important elements in Computers?

V. Answer in detail any TWO. $1 \times 4 = 4$

12. By how the software can be classified? Differentiate.
13. Explain the Generation of computer.

**First Term****Summative Assessment (SA)****SCIENCE****Time: 2:30 hrs****Total Marks: 60****I. Choose the correct answer.****10 × 1 = 10**

1. The girth of a tree can be measured by
a) Metre Scale b) Ruler c) Measuring tape d) Measuring jar
2. The distance covered by an automobile can be measured by
a) Speedometer b) Odometer
c) Lactometer d) Spectrometer
3. A bicycle travel 10km in 2hours, what is it's speed per hour (In km)
a) 1 b) 2 c) 5 d) 10
4. Motion repeated in equal intervals of time
a) Circular b) Rotational
c) Periodic d) Non-periodic
5. Which one is essential to perform winnowing
a) Air b) Sand c) Water d) Sieving
6. The girth of a tree can be measured by
a) 2 b) 3 c) 4 d) 5
7. Organs of phtosynthesis is _____
a) Root b) Stem c) Leaf d) Flowers
8. Which animal has the special organs of breathing called gills
a) Earthworm b) Fox c) Fish d) Frog

