



Narsee Monjee Educational Trust's
JAMNABAI NARSEE SCHOOL
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SCIENCE WORKBOOK

Name: POURRAHAN SEJPAL

Std.: 7 Div.: D Academic Year: 2026-2027



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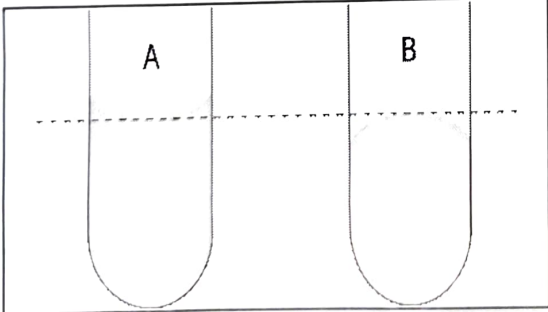
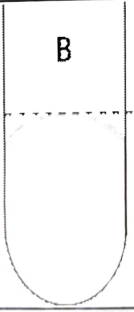
CHAPTER 1 – PHYSICAL QUANTITIES AND MEASUREMENT

I Fill in the blanks:

- (i) The SI unit of volume is _____.
- (ii) 1000 litre = _____ m^3
- (iii) The maximum volume of a liquid that can be stored in a container is called its _____.
- (iv) The curve formed on the surface of liquid when poured into a measuring cylinder is called its _____.
- (v) The SI unit of area is _____.
- (vi) The SI unit of density is _____.
- (vii) The SI unit of speed is _____.
- (viii) The area of a book of length 20 cm and breadth 10 cm is _____

II Identify the type of meniscus formed in the liquids shown below:

(i)

		A _____ B _____
---	---	---

- (ii) Give one example each for the liquid making these types of meniscus.

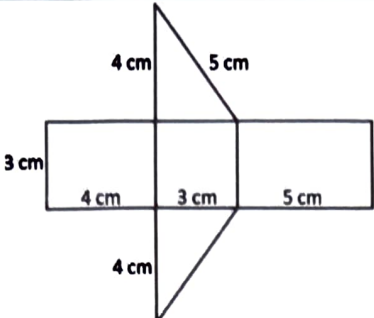
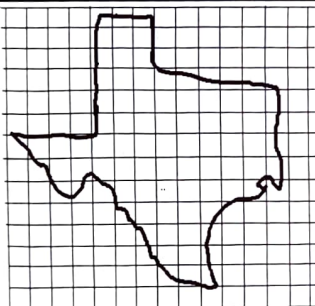


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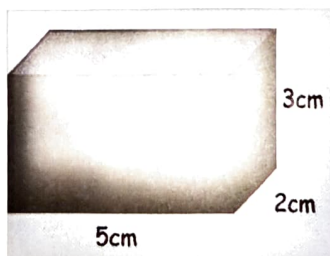
Name: _____ Div. _____ Roll No. _____

CHAPTER 1 – PHYSICAL QUANTITIES AND MEASUREMENT

III Calculate the area of given figures:

(i)		
(ii)		
(iii)		

IV Observe the figure given below and answer the following questions:



(i) Find the area of the base of the given box?

(ii) Calculate the volume of the box.



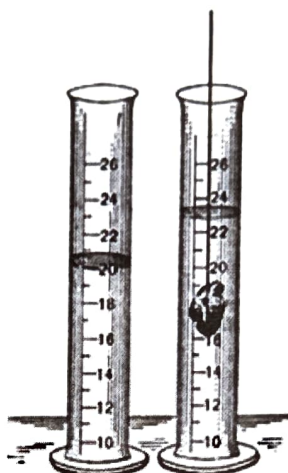
Name: _____ Div. _____ Roll No. _____

CHAPTER 1 – PHYSICAL QUANTITIES AND MEASUREMENT

(iii) If the box has a mass of 800 g, what is its density?

(iv) If the box is made of lead with a density of 11.3 g/cc, then what will be its mass?

V From the diagram given below, Calculate the volume and density of the stone if the mass of stone is 30 g.



VI Solve the following:

(i) A car is moving on a straight path covers a distance of 1 km to east in 100 s. What is the speed of the car?

(ii) If the athlete keeps going at a speed of 10m/s, how far could he run in a minute?

(iii) A bullet is shot from a rifle with a speed of 650 m/s. How much time is required for the bullet to strike a target 1950 m away?



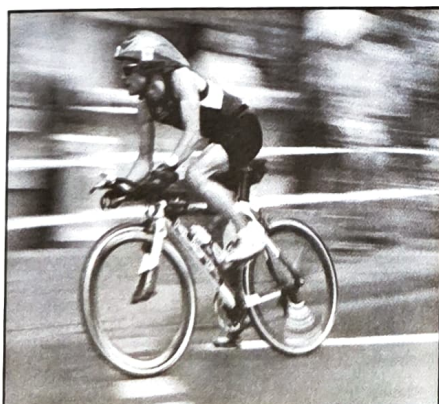
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CHAPTER 2 – FORCE AND PRESSURE - MOTION

[I] Fill in the blanks:

- (i) Motion is caused by the _____ force acting on an object at rest.
- (ii) If an object in translatory motion moves along a straight line, then it is said to have _____ motion.
- (iii) A ball thrown at an angle has _____ motion.
- (iv) The rest position of the object before it was made to oscillate is called the _____ position.
- (v) A flying bird is an example of _____ motion.
- (vi) The weight of an object is measured with the help of a _____.

[II] Classify the types of motion given below into Rotatory, Oscillatory, Repetitive, Random and Multiple motion:



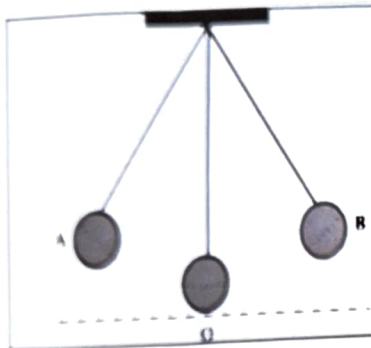


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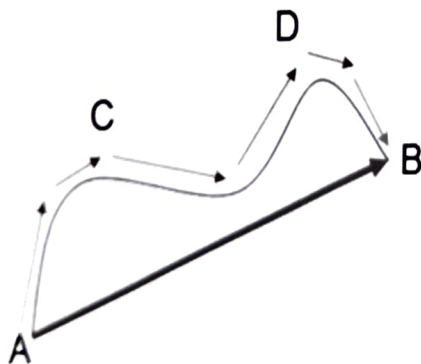
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CHAPTER 2 – FORCE AND PRESSURE - MOTION



- [III] Raju walks from A to C which is 400m, then from C to D which is 450m, and finally reaches B which is 150m from D. Calculate the distance covered if the distance from A to B is 600m.

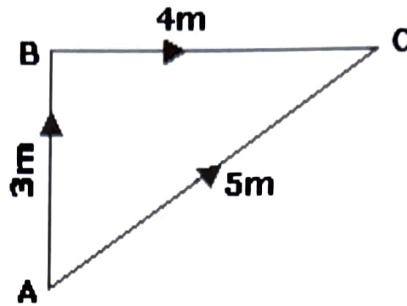




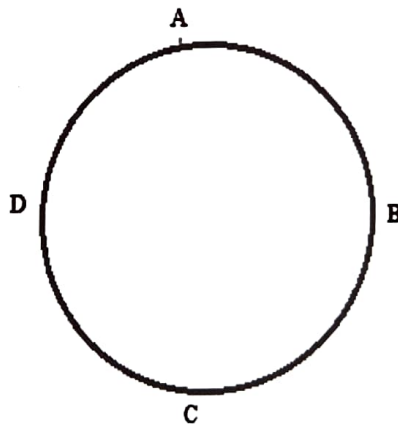
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CHAPTER 2 – FORCE AND PRESSURE - MOTION

- [IV] Shreya covered 3m from A to B, then 4m from B to C. Calculate the distance covered.



- [V] Rahul runs a full circle whose circumference is 100m starting from point A and comes back to the same point A passing through B, C and D. What is the distance covered?





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CHAPTER 2 – FORCE AND PRESSURE - MOTION

(i) Oscillatory motion

(ii) Rotatory motion

(iii) Average speed

(iv) Uniform motion



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CHAPTER 2 – FORCE AND PRESSURE - MOTION

[VI] Distinguish between the following.

Mass	Weight
1)	1)
2)	2)
3)	3)

[VII] Write T for True and F for false. Also correct the false statements.

- (i) A boy running on a straight path has curvilinear motion.

- (ii) The motion of a pendulum shows oscillatory motion.

- (iii) The SI unit of weight is joule.



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CHAPTER 2 – FORCE AND PRESSURE - MOTION

[VIII] Answer the following questions based on the diagram given below:



- (i) Name the instrument given in the diagram?

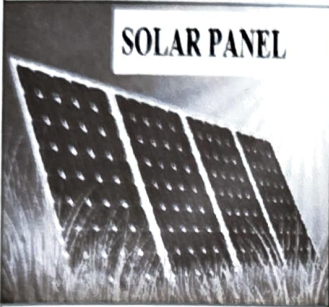
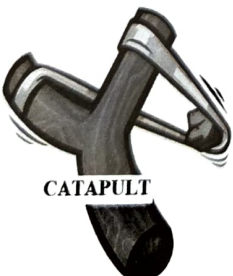
- (ii) What is it used for?



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CHAPTER 3 – ENERGY

Q.1. Write the energy transformation taking place in the following cases:

DEVICE	ENERGY IN	ENERGY OUT
 SOLAR PANEL		
 HYDROELECTRIC POWER STATION		
 SPEAKER		
 CATAPULT		
 TOASTER		



CHAPTER 3 – ENERGY

Q2. Match the following:

Column A		Column B	
1	Energy of position or height	a	Nuclear energy
2	The vibration of waves through material	b	Magnetic energy
3	Stored in the nucleus of an atom	c	Mechanical energy
4	Energy due to body's movement	d	Sound energy
5	Kinetic energy and potential energy together	e	Kinetic energy
6	An iron gets attracted to a magnet	f	Potential energy

Q.3. Identify the kind of energy each example contains:

- (i) Release of energy from the Sun _____
- (ii) Falling rocks from the top of a mountain _____
- (iii) The energy that runs a refrigerator _____
- (iv) Nuclear power plants _____
- (v) The rumble of thunder _____
- (vi) A battery _____
- (vii) Lightening _____
- (viii) A cup of hot water _____
- (ix) A green plant _____
- (x) A compressed spring _____
- (xi) Fossil fuels _____



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CHAPTER 3 – ENERGY

Q.4. Choose the correct alternative:

- (i) Hydroelectric energy comes from _____.
A. Flowing water
B. Coal plants
C. Geothermal drilling
D. Windmills
- (ii) How do we get energy from food?
A. The food we eat is converted into chemical energy and keeps our organs working
B. We inhale the energy
C. We store food in our homes and let them emit energy
D. None of the choices are correct
- (iii) What do we use to collect the sunlight from the sun?
A. Solar panels
B. Mirrors
C. Wet plywood
D. Electrical panels
- (iv) What type of energy does the sun provide?
A. Solar energy
B. Geothermal energy
C. Nuclear energy
D. Atomic energy
- (v) Which is an example of energy transformation?
A. The sun makes the vegetables grow. We eat vegetables and they give us energy.
B. Coal can be burned but it doesn't give out energy
C. Natural gas stays in the ground
D. The moon gives us energy
- (vi) The S.I. unit of energy is:
A. joule
B. newton
C. calorie
D. kilogram
- (vii) The kinetic energy of a body can be increased
A. by increasing the speed of the body
B. by decreasing the speed of the body
C. by increasing the height of the body
D. None of these



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CHAPTER 4 – LIGHT ENERGY

Q.1. For each of the surface given below, draw normal lines.



(i)

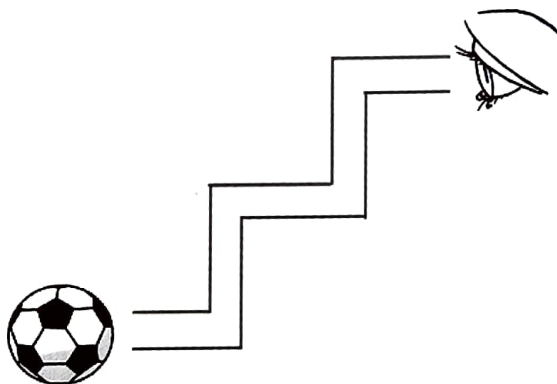


(ii)



(iii)

Q.2. Study the figure given and determine how many plane mirrors are needed to see the football at the end of the tube.



Q.3. Choose the correct answer.

1. When light strikes on a plane mirror

- A. it reflects
- B. it scatters in all directions
- C. it is absorbed by the surface
- D. none of these

2. The image formed by a plane mirror is always _____.

- A. real and erect
- B. virtual and erect
- C. real and inverted
- D. virtual and inverted



CHAPTER 4 – LIGHT ENERGY

3. According to the laws of reflection,

- A. $\angle i = \angle r$ B. $\angle i \neq \angle r$
C. $\angle i > \angle r$ D. $\angle i < \angle r$

4. An object is placed 1.5 m from a plane mirror. How far is the image from the person?

- A. 3 m B. 1.5 m C. 2 m D. 1 m

5. Kanchi is observing her image in a plane mirror. The distance between the mirror and her image is 5 m. If she moves 2 m towards the mirror, then the distance between Kanchi and her image will be

- A. 3 m B. 5 m C. 6 m D. 7 m

6. What is the angle between the incident and reflected rays when a ray of light is incident normally on a plane mirror?

- A. 90° B. 45° C. 180° D. 0°

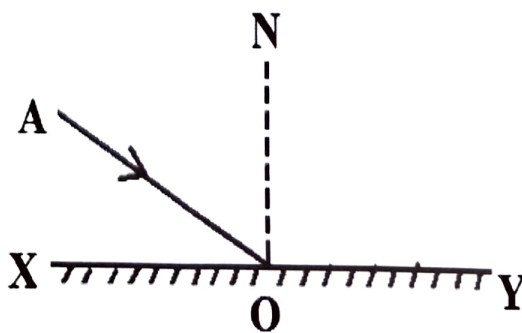
7. A ray of light is incident on a plane mirror and the angle of incidence is 25° . What is the angle of reflection?

- A. 0° B. 50° C. 90° D. 25°

Q.4. State whether the following statements are true or false and correct the false statement.

- (i) Your right hand appears on the left in a mirror.
- (ii) The size of the image formed by a plane mirror is slightly larger than the size of the object.
- (iii) In a plane mirror, the image appears closer to the mirror than the object.

Q.5. The given diagram represents reflection of light on a plane mirror. The angle which the incident ray makes with the mirror is 30° . Mark the following:



- (i) Normal
- (ii) Incident ray
- (iii) Draw the reflected ray and find the angle between the incident ray and the reflected ray.



CHAPTER 4 – LIGHT ENERGY

Q.6. Give reasons for the following:

- (i) The image formed by a plane mirror is called virtual whereas the image formed by a pin - hole camera is called a real image.

- (ii) The word " AMBULANCE " is always written in the inverted form on the van.

Q.7. In each of the following questions you are given a combination of alphabets or patterns followed by four alternatives (A), (B), (C) and (D). Choose the alternative which closely resembles the mirror image of the given combination.

Problem 1:

Question Image	Answer Image Options			
	A	B	C	D



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CHAPTER 4 – LIGHT ENERGY

Problem 2:

Question Image	Answer Image Options			
	A	B	C	D

Problem 3:

Question Image	Answer Image Options			
	A	B	C	D

Problem 4:

Question Image	Answer Image Options			
	A	B	C	D

Problem 5:

On seeing in the mirror the clock is showing the time as 8:35. What is the actual time?

Question Image	

A) 8:35

B) 3:25

C) 8:25

D) 4:25

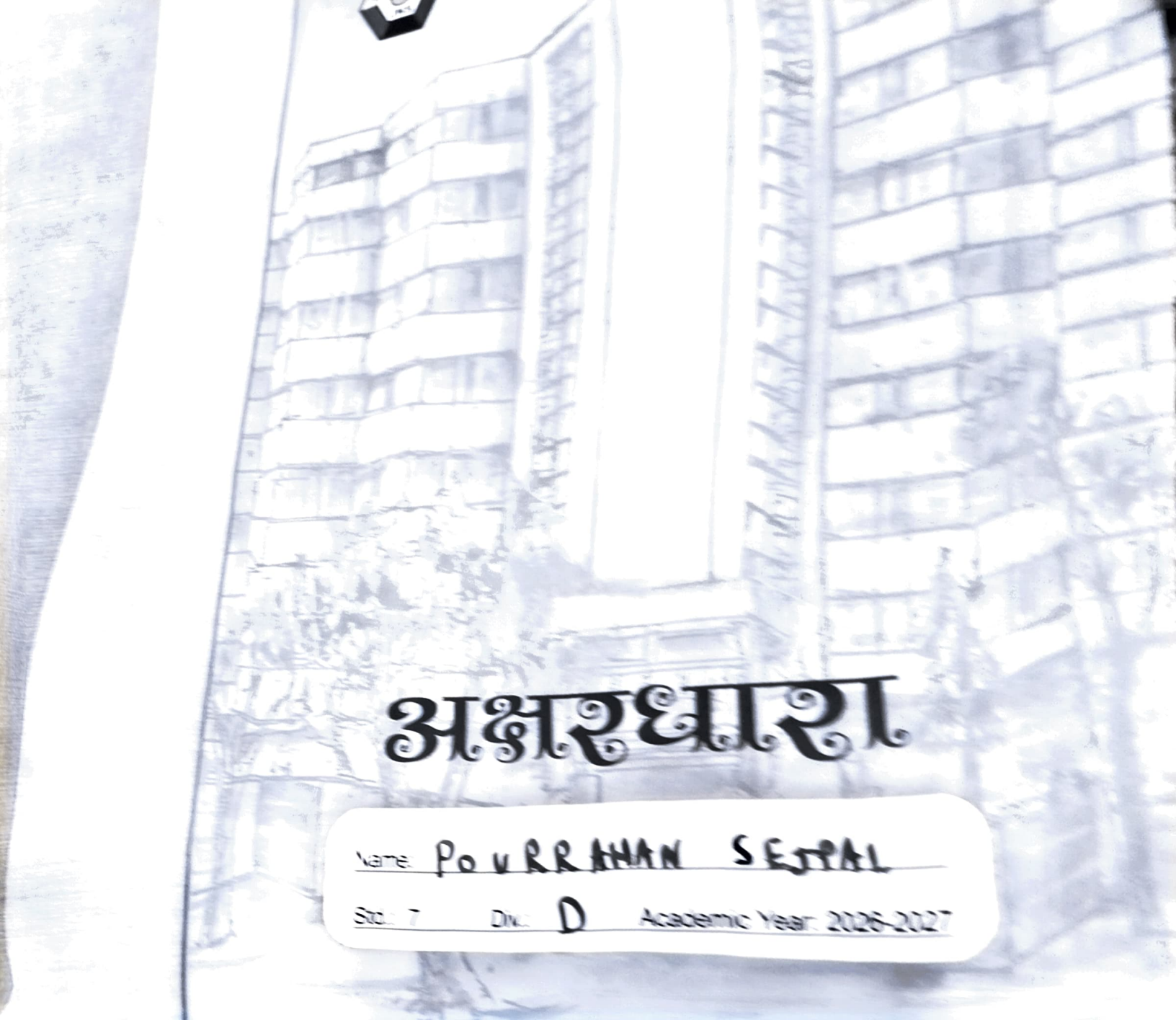


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CHAPTER 5 – HEAT

1) Select the correct alternative:

- 1) Heat causes expansion because _____.
 - A. heat occupies the space
 - B. of increase in the movement of molecules
 - C. matter tries to escape from the heat
 - D. None of the above
- 2) Stainless steel pans are usually provided with copper bottoms because _____.
 - A. it makes the pan more durable
 - B. it makes the pan colourful
 - C. copper is a better conductor of heat than stainless steel
 - D. copper is easier to clean than stainless steel
- 3) SI unit of temperature is _____ and that of heat energy is _____.
 - A. kelvin, fahrenheit
 - B. joule, kelvin
 - C. kelvin, joule
 - D. None of these
- 4) Which of these will expand the most on heating?
 - A. gold
 - B. water
 - C. mercury
 - D. air
- 5) A litre of water at 30°C is mixed with a litre of water at 50°C . The temperature of the mixture will be _____.
 - A. 80°C
 - B. more than 50°C , but less than 80°C
 - C. 20°C
 - D. between 30°C and 50°C
- 6) Bodies transmitting heat via radiation _____.
 - A. are liquids only
 - B. are solids only
 - C. do not require any medium
 - D. ensure that heat travels in one direction only
- 7) A thermos flask prevents loss of heat by _____.
 - A. convection only
 - B. conduction only
 - C. radiation only
 - D. All the above options



अक्षरधारा

Name: POURRAN SEJAL

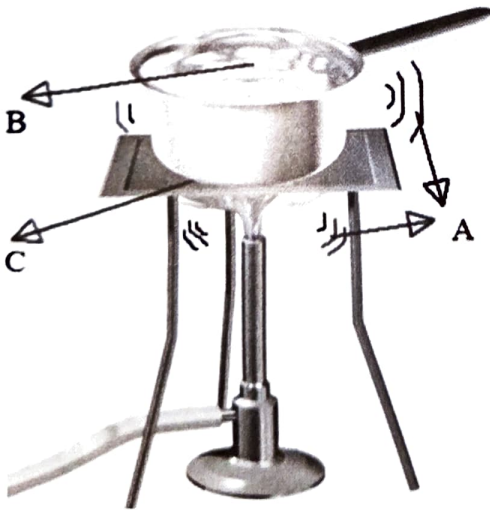
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CHAPTER 5 – HEAT

- 8) A wooden spoon is dipped in a cup of ice-cream. Its other end:
- A. becomes cold by the process of conduction
 - B. becomes cold by the process of convection
 - C. becomes cold by the process of radiation
 - D. does not become cold
- 9) 0°C is the same temperature as
- A. 0°F
 - B. 212°F
 - C. 32°F
 - D. 100°F
- 10) Evaporation occurs at
- A. high temperature
 - B. low temperature
 - C. any temperature
 - D. solid surface

II]



Identify the modes of heat transfer.

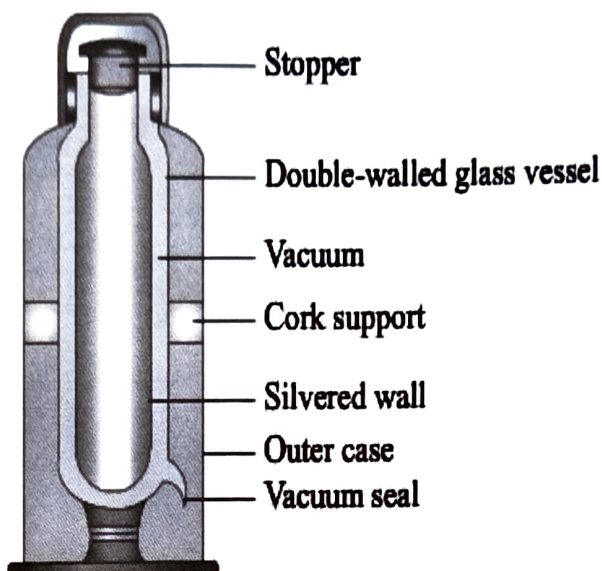
- A: _____
- B: _____
- C: _____



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CHAPTER 5 – HEAT

III] With respect to the given diagram, state how each part minimizes heat loss.



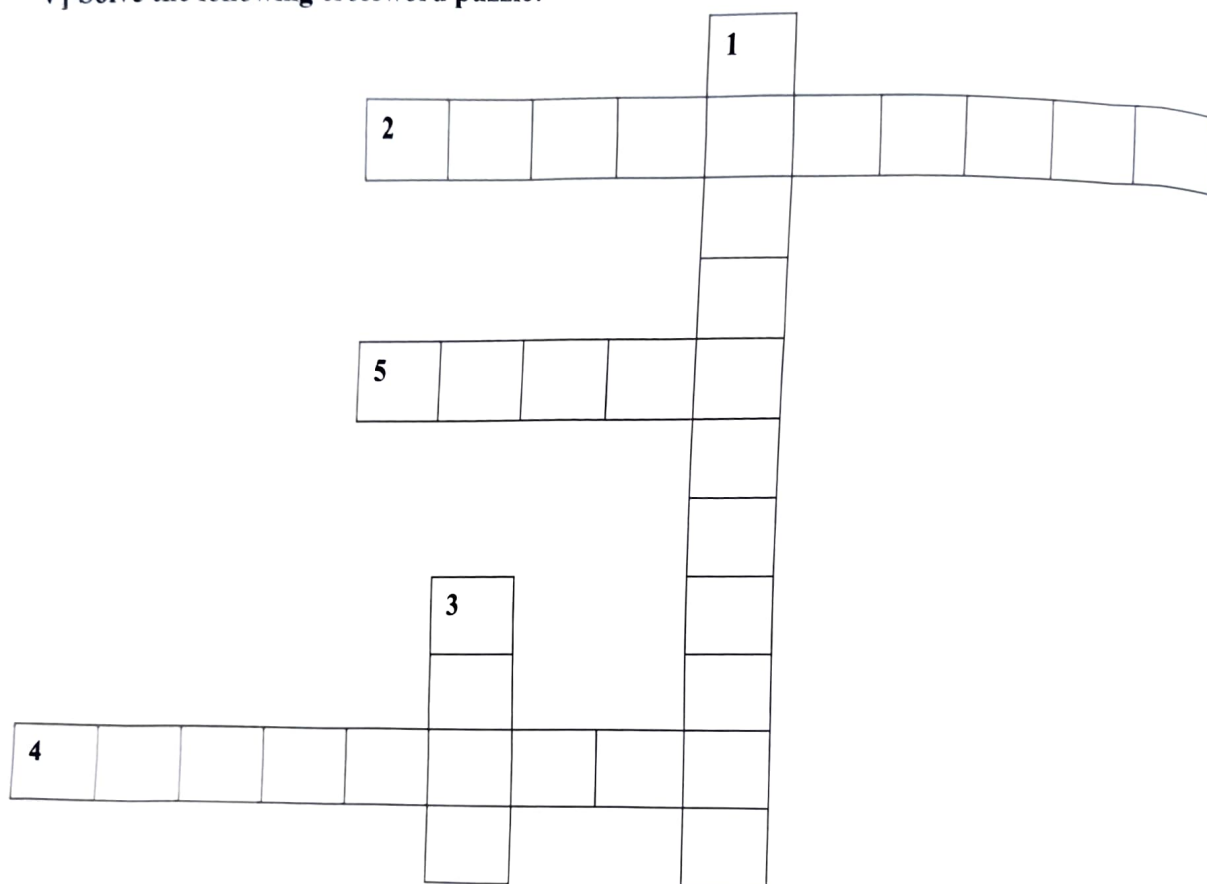
A: Cork stopper

B: Silver coating

C: Vacuum

**CHAPTER 5 – HEAT**

D: Double walled glass vessel

V] Solve the following crossword puzzle:**Across**

2. Liquids and gases are heated by this process
4. It does not allow heat to pass
5. Heat is measured in this unit

Down

1. It is the effect of heat
3. It is a form of energy

**CHAPTER 6 – SOUND****I Choose the correct alternative:**

1. Sound can travel through
 - A. gases only
 - B. solids only
 - C. liquids only
 - D. all of the above

2. _____ means to move back and forth quickly
 - A. Pitch
 - B. Amplitude
 - C. Vibration
 - D. Echo

3. When the amplitude of a wave increases, its
 - A. frequency increases
 - B. time period decreases
 - C. intensity decreases
 - D. intensity increases

4. Sound travels as
 - A. air waves
 - B. transverse waves
 - C. longitudinal waves
 - D. seismic waves

II Fill in the blanks:

1. Sound is produced by _____ of the object.
2. Sound waves are _____ in nature.
3. The region of a sound wave in which air particles are crowded together, creating a region of high pressure is called _____.
4. Loudness depends on _____ which in turn depends on _____.



CHAPTER 6 – SOUND

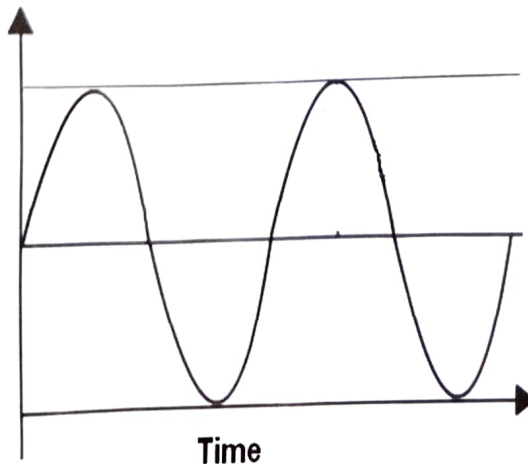
III. Define the following in terms of Sound waves.

1. Frequency

2. Amplitude

IV. What is Sound? How is Sound produced?

V. In the graph given below, mark the amplitude and count the number of waves.





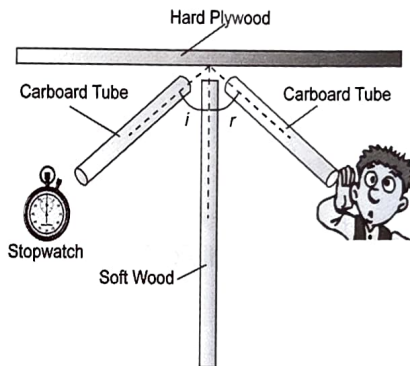
CHAPTER 6 – SOUND

VII. Classify the following as good and bad reflectors of sound and tabulate them in the table given below:

[concrete, clothes, grass, steel, paper, cotton, mirrors]

Concrete	
Clothes	
Steel	
Paper	
Cotton	
Mirrors	
Gold	

VIII.



1. What property of sound is depicted in the above diagram?

2. Define the above property of sound.



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CHAPTER 6 – SOUND

3. What inference do you draw from the experiment given above?



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CHAPTER 7 – ELECTRICITY AND MAGNETISM

[I] Fill in the blank:

1. The branch of physics that deals with the magnetic effect of electric current is called _____.
2. Similar poles of magnet _____ and dissimilar poles _____.
3. _____ is a sure test for magnetism.
4. The presence and the direction of flow of electric current are detected by a device called _____.
5. In _____ circuit, if one component does not work it breaks the circuit and no current flows.

[II] Name the following:

1. These are not magnetic all the time. Only if you pass electricity through them they turn into magnets
2. This is a sure test for magnetism
3. Electric current is measured using a device called
4. The electrons that are free to move throughout the material are called
5. Even if you cut them in half, magnets will always have two of these

[III] State True/False and if False correct the given statement appropriately:

1. The strength of the magnetic field can be changed in electromagnets.

2. North poles seek North poles and south poles seek south poles.

3. Aluminium is the best metal to use as a magnet as it is naturally magnetic.



CHAPTER 7 – ELECTRICITY AND MAGNETISM

4. Permanent magnets are usually made of soft iron.

5. In series circuit there is single pathway for electric current to flow between the two terminals of the battery.

[IV] Write symbols for the followings:

1. A Cell	
2. A battery	
3. Closed Switch	
4. Resistor	
5. Bulb	

[V] Tell me why:

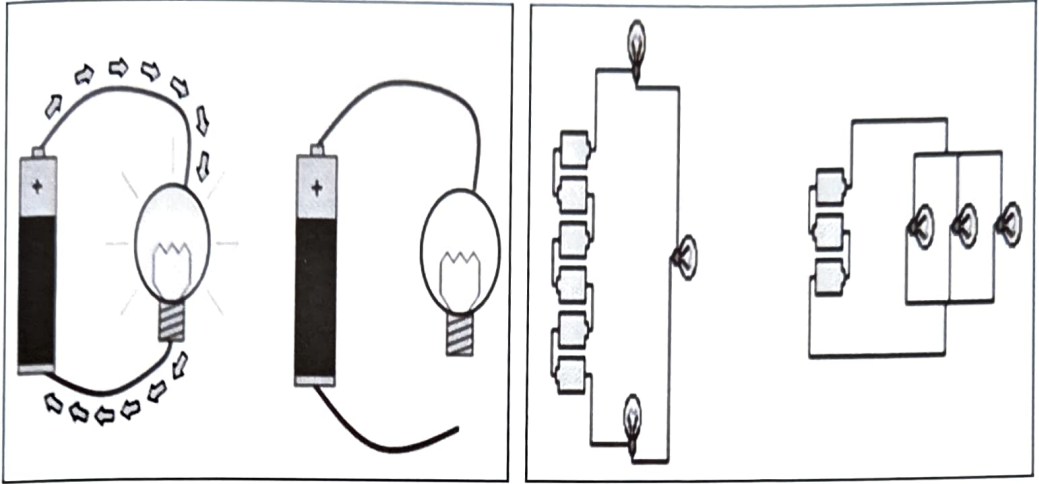
1. The human body is a good Conductor of Electricity.

2. It is beneficial if decorative lights are wired in parallel, rather than in series.

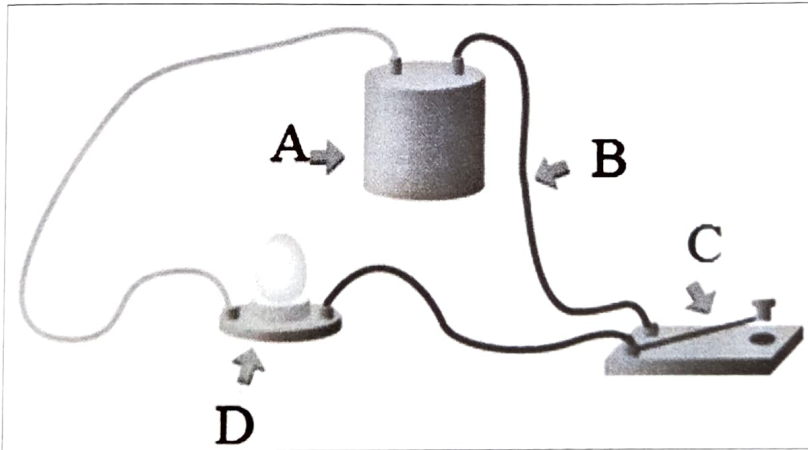


CHAPTER 7 – ELECTRICITY AND MAGNETISM

[VI] Label the given circuits appropriately:



[VII] Identify the components of an electrical circuit:



A: _____

B: _____

C: _____

D: _____



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CHAPTER 1 – MATTER AND ITS COMPOSITION

I. Fill in the banks:

- (i) An element is made of very small particles called _____
- (ii) Atoms of certain elements join to form larger particles called _____.
- (iii) Every molecules of water consists of _____ atoms of hydrogen and one atom of _____

- (iv) The elements present in a compound can only be separated by _____ methods.
- (v) In solids, inter-particle force of attraction is _____

II. Define:

- (i) Matter

- (ii) Element

- (iii) Compound



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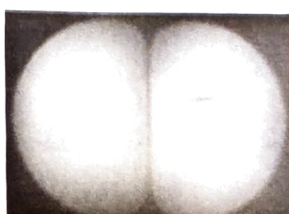
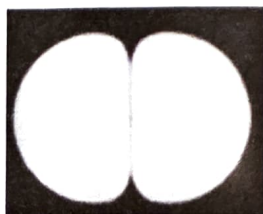
CHAPTER 1 – MATTER AND ITS COMPOSITION

III Distinguish between Solids, Liquids and gases in terms of its compressibility, flow and inter-particle space.

	Solids	liquids	Gases
Compressibility			
Flow			
Inter-particle space			

IV The properties of a compound differ from its constituent elements. Justify the statement with the help of an example.

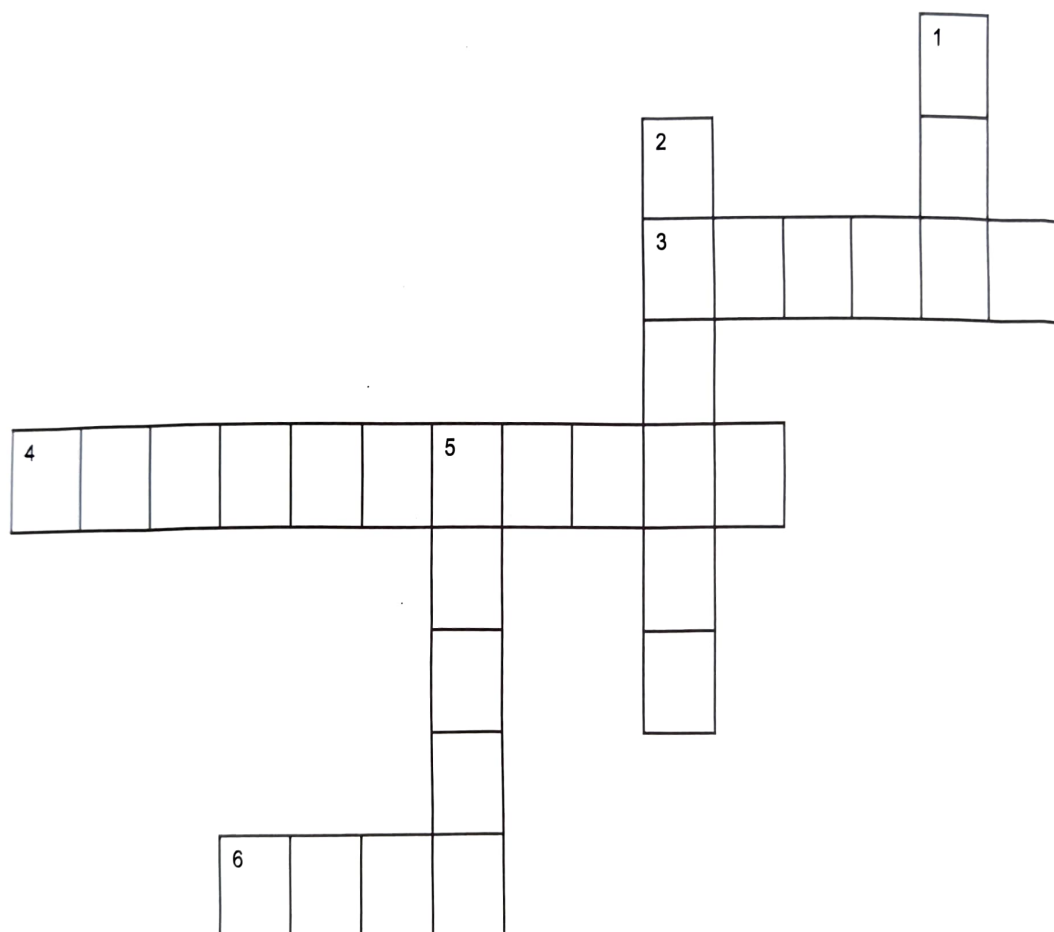
V Observe the following figures and identify whether they are elements or compounds:





CHAPTER 1 – MATTER AND ITS COMPOSITION

VI. Complete the crossword.



ACROSS

- 3 the type of gas that animals/humans need is
- 4 water in the form of gas is called
- 6 the amount of matter that an object contains is

DOWN

- 1 water in solid form is
- 2 the amount of space that the matter takes up is
- 5 the tiny particles that matter is made up of are called



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CHAPTER 2 – PHYSICAL AND CHEMICAL CHANGES

Q1. Classify the changes involved in the following processes as physical or chemical changes:

1. Photosynthesis - _____
2. Dissolving sugar in water - _____
3. Burning of coal - _____
4. Melting of wax - _____
5. Beating of aluminium to make aluminium foil - _____
6. Digestion of food - _____
7. A tire is inflated - _____
8. Paper towel absorbs water - _____
9. Silver tarnishes - _____
10. Passing carbon dioxide through lime water - _____

Q2. State whether the following statements is true or false. In case a statement is false, write the corrected statement:

1. Formation of manure from leaves is a physical change.

2. The process by which a liquid changes into a soft, semi-solid mass is called as fermentation.

3. Sublimation of naphthalene balls is an exothermic change.

4. Rotting of fruits is irreversible change.

5. The bursting of fire crackers is an endothermic change.



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CHAPTER 2 – PHYSICAL AND CHEMICAL CHANGES

Q3. Choose the correct alternative from the choices given below:

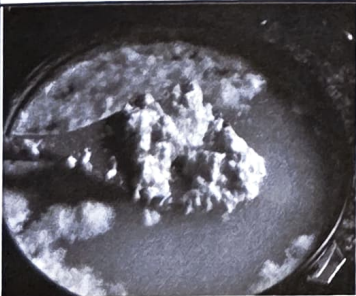
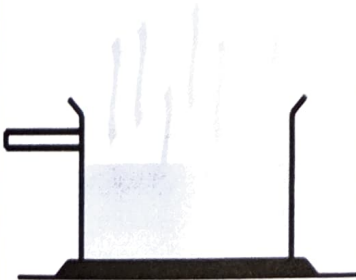
- A change in which the chemical composition of a substance changes is called a
A. Chemical change
B. Physical change
C. Biological change
D. None of these
- The gas we use in the kitchen is called liquefied petroleum gas (LPG). In the cylinder it exists as a liquid. When it comes out from the cylinder it becomes a gas (Change ? A) then it burns (Change ? B).
A. Process A is chemical change and process B is physical change
B. Process A and process B are physical change
C. Process A is physical change and process B is chemical change
D. Process A and process B are chemical change
- Anna's mother made concentrated sugar syrup by dissolving sugar in hot water. On cooling, crystals of sugar got separated. This indicate a
A. Physical change that can be reversed
B. Chemical change that can be reversed
C. Physical change that cannot be reversed
D. Chemical change that cannot be reversed
- Anaerobic bacteria digest animal waste and produce biogas (Change – A). The biogas is then burnt as fuel (Change – B).
A. Process – A is a chemical change.
B. Process – B is a chemical change.
C. Both processes A and B are chemical changes.
D. None of these processes is a chemical change.
- Chewing food to break it down into smaller particles represents a _____ change, but the changing of starch into sugars by enzymes in the digestive system represents a _____ change.
A. Physical, chemical
B. Chemical, physical
C. Chemical, chemical
D. Physical, physical



Name: _____ Div. _____ Roll No. _____

CHAPTER 2 – PHYSICAL AND CHEMICAL CHANGES

Q4. Study the pictures given below and classify the changes shown in the pictures by putting a tick (✓) in appropriate column:

Pictures	Desirable	Undesirable	Reversible	Irreversible
				
				
				
				
				



CHAPTER 3 – ELEMENTS, COMPOUNDS AND MIXTURES

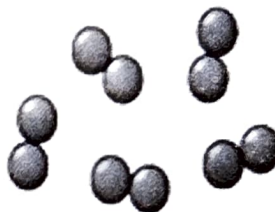
1) Shade the correct option from the options given:

1) How many different atoms are there in a compound?

- ☐ One
- ☐ Always two
- ☐ Two or more

2) Does this show an element, a mixture, or a compound?

- ☐ Compound
- ☐ Mixture
- ☐ Element



3) Is pure water an element, compound, or a mixture?

- ☐ Compound
- ☐ Mixture
- ☐ Element

4) Which is the best way to get Salt from salty water?

- ☐ Evaporation
- ☐ Filtration
- ☐ Distillation

5) What is the correct order for obtaining salt from a mixture of sand and salt?

- ☐ Dissolving in water - filtration - evaporation
- ☐ Evaporation - filtration - Dissolving in water
- ☐ Filtration - Dissolving in water - evaporation

6) What type of mixture is sugar in water?

- ☐ A solid-solid mixture
- ☐ A solid-liquid mixture
- ☐ A liquid- liquid mixture

7) What type of mixture is an alloy?

- ☐ Homogenous
- ☐ Heterogeneous
- ☐ Emulsion



Name: _____ Div. _____ Roll No. _____

CHAPTER 3 – ELEMENTS, COMPOUNDS AND MIXTURES

II] Match the partners in column A and B and write the answers in the given format.

A	B
1) Alloy	a) Compound
2) The chemical symbol for Carbon	b) A mixture
3) Two or more elements that are chemically combined	c) Solute
4) Sugar in sugar solution	d) Sulphur
5) The chemical symbol for Calcium	e) NaCl
6) You may put this on your French fries	f) C
7) A way to speed up dissolving	g) Ca
8) Polyatomic	h) Stirring

A	1	2	3	4	5	6	7	8
B								

III] Define the following:

1) Molecule:

2) Atomicity:

3) Ions:

4) Compounds:

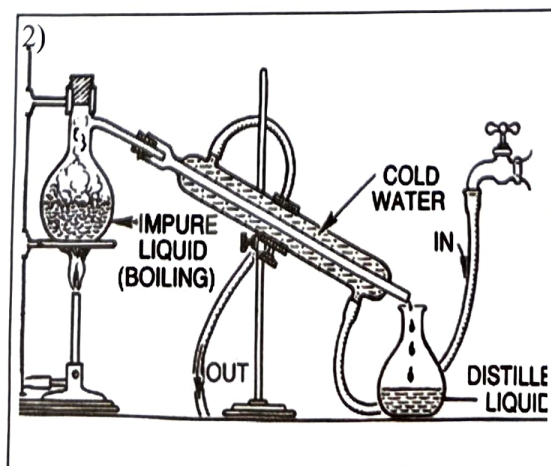
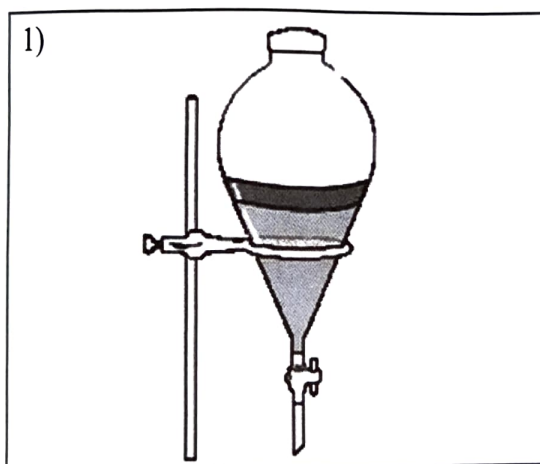


CHAPTER 3 – ELEMENTS, COMPOUNDS AND MIXTURES

5) Polyatomic ions:

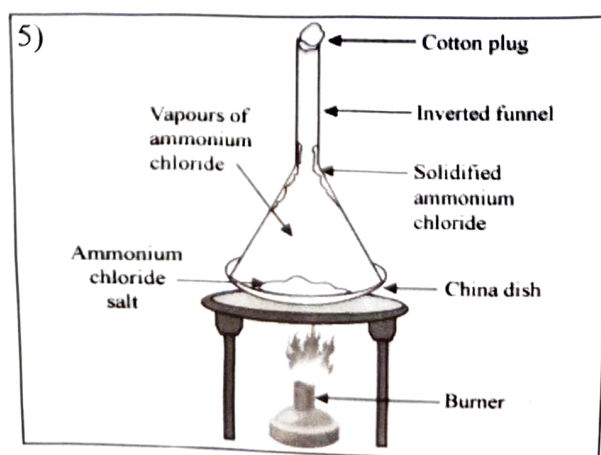
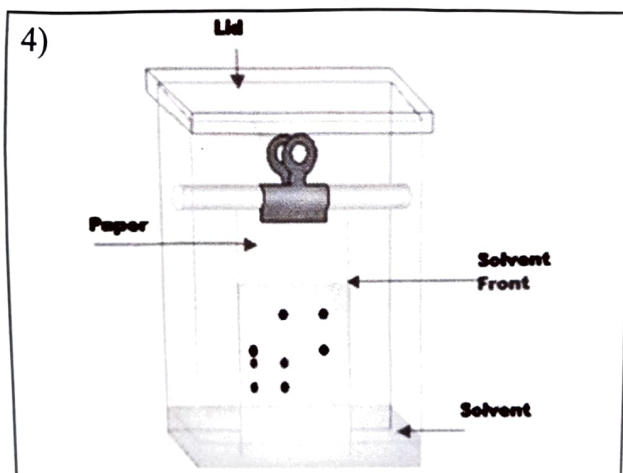
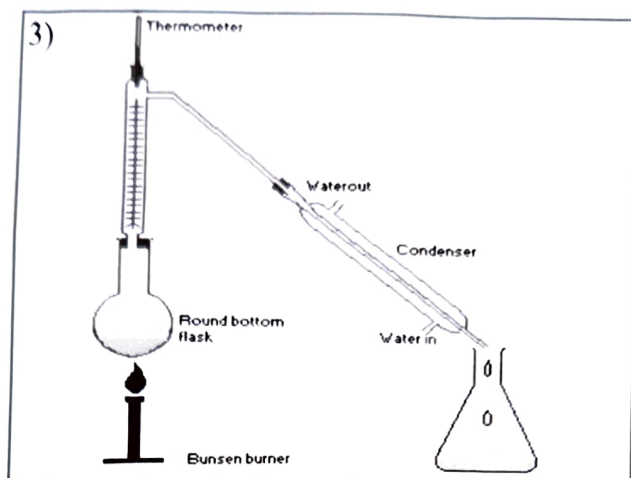
6) Alloy:

IV] Identify the following separation techniques:





CHAPTER 3 – ELEMENTS, COMPOUNDS AND MIXTURES





CHAPTER 4 – ATOMIC STRUCTURE

I. Define the following:

a) Atom:

b) Molecule:

c) Radicals / Polyatomic ions:

II. Fill in the blanks:

i) The outermost shell of the atom is known as the _____ shell and the electrons present in it are known as _____ electrons.

ii) The number of protons in an atom of an element is called the _____ of that element.

iii) The total number of protons and neutrons present in the nucleus of an atom of an element is called the _____.

iv) Atomic number is denoted by _____ and the mass number by _____.

III. The figure shown alongside depicts the gas Methane:

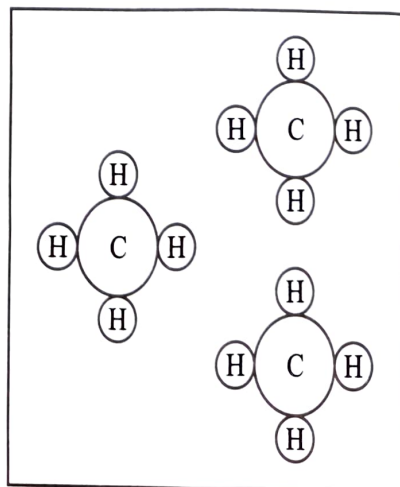
i) Name the two elements present in one molecule.

Write them against the symbols which indicate them.

a) C = _____

b) H = _____

ii) What is the atomicity of Methane?





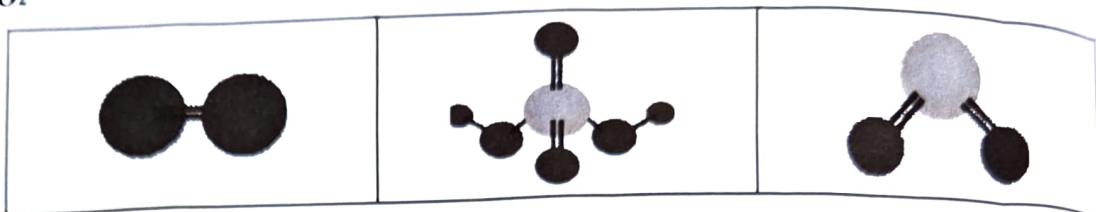
Date: _____

Name: _____ Div. _____ Roll No. _____

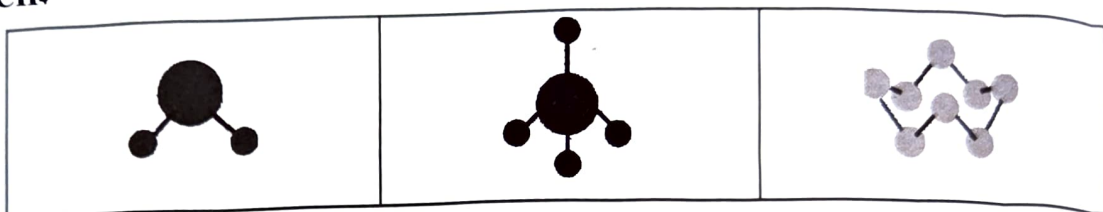
CHAPTER 4 – ATOMIC STRUCTURE

IV. Identify the correct molecule from the molecular formula provided (✓ the correct molecule)

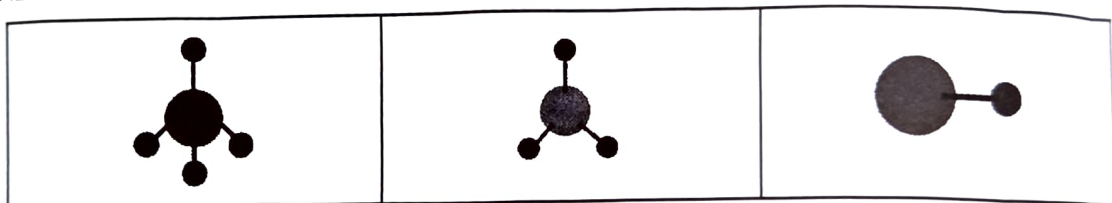
1. O_2



2. CH_4



3. NH_3



V. Differentiate between : (first one is done for you)

Point of difference	Atom	Molecule	Radical
Existence	Cannot exist independently		
Reaction capacity			
Electrical Charge			
Represented as			



Date: _____

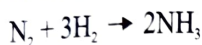
Name: _____ Div. _____ Roll No. _____

CHAPTER 5 – LANGUAGE OF CHEMISTRY**I. Choose the correct alternative.**

1. Balancing of a chemical equation is based on:

- A. Law of conservation of mass
- B. Mass of reactants
- C. Symbols and formula
- D. Mass of product

2. In the following chemical reaction, what is the product?



- A. N_2
- B. H_2
- C. NH_3

3. When zinc metal reacts with hydrochloric acid the gas evolved is _____.

- A. chlorine
- B. oxygen
- C. hydrogen
- D. carbon dioxide

4. The names of reactants and products are separated by

- A. plus
- B. arrows
- C. equal to
- D. colon

5. When hydrogen reacts with sulphur, it produces hydrogen sulphide, which has _____ smell.

- A. vinegar
- B. sweet
- C. irritating
- D. rotten egg

II. Name the following

i. The new substance formed as a result of the reaction.

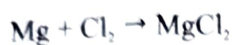
ii. It is formed when hydrogen reacts with oxygen.



CHAPTER 5 – LANGUAGE OF CHEMISTRY

III. Answer the following questions.

- i. Magnesium reacts with chlorine to form magnesium chloride



- a. Name the reactants in the above reaction and explain what a reactant is.

- b. Name the product in the above reaction and explain what a product is.

- c. Give any two changes that characterize a chemical reaction. Give examples

- ii. Define chemical reaction.



Name: _____ Div. _____ Roll No. _____

CHAPTER 5 – LANGUAGE OF CHEMISTRY

V. Write the word equation and chemical equation for the following reactions.

- i. Reaction between hydrogen and chlorine

- ii. Reaction between carbon and oxygen



CHAPTER 5 – LANGUAGE OF CHEMISTRY

POSITIVE RADICALS		NEGATIVE RADICALS	
<i>VALENCY 1 – Monovalent elements</i>		<i>VALENCY 1 – Monovalent elements</i>	
Potassium	K^{+1}	Fluoride	F^{-1}
Sodium	Na^{+1}	Chloride	Cl^{-1}
Copper (I) / Cuprous	Cu^{+1}	Bromide	Br^{-1}
Mercury (I) / Mercurous	Hg^{+1}	Iodide	I^{-1}
Silver	Ag^{+1}	Bisulphite	HSO_3^{-1}
Hydrogen	H^{+1}	Bisulphate	HSO_4^{-1}
Ammonium	NH_4^{+1}	Bicarbonate	HCO_3^{-1}
<i>VALENCY 2 – Divalent elements</i>		Hydroxide	OH^{-1}
Barium	Ba^{2+}	Nitrate	NO_3^{-1}
Calcium	Ca^{2+}	Nitrite	NO_2^{-1}
Iron (II) / Ferrous	Fe^{2+}	Permanganate	MnO_4^{-1}
Copper (II) / Cupric	Cu^{2+}	<i>VALENCY 2 – Divalent elements</i>	
Mercury (II) / Mercuric	Hg^{2+}	Carbonate	CO_3^{2-}
Lead (II) / Plumbous	Pb^{2+}	Sulphate	SO_4^{2-}
Zinc	Zn^{2+}	Sulphite	SO_3^{2-}
Nickel	Ni^{2+}	Sulphide	S^{2-}
Magnesium	Mg^{2+}	Oxide	O^{2-}
Manganese	Mn^{2+}		
<i>VALENCY 3 – Trivalent elements</i>		<i>VALENCY 3 – Trivalent elements</i>	
Aluminium	Al^{3+}	Nitride	N^{3-}
Chromium	Cr^{3+}	Phosphate	PO_4^{3-}
Iron (III) / Ferric	Fe^{3+}		
Auric	Au^{3+}		
<i>VALENCY 4 – Tetravalent elements</i>			
Platinum	Pt^{4+}		

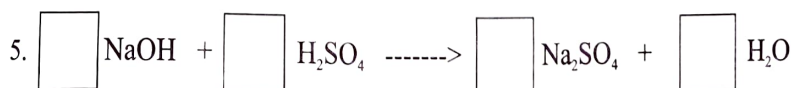
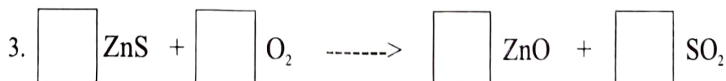
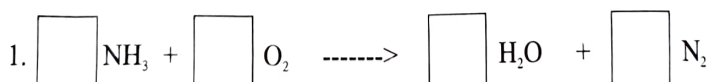


CHAPTER 5 – LANGUAGE OF CHEMISTRY

QI. Write the chemical formula for the compound given:

Sr. No.	Compound	Chemical Formula
1	Mercurous Bromide	
2	Mercurous Iodide	
3	Mercurous Fluoride	
4	Mercurous Hydroxide	
5	Mercurous Nitrate	
6	Silver Chloride	
7	Silver Bromide	
8	Silver Iodide	
9	Silver Fluoride	
10	Silver Hydroxide	
11	Silver Nitrate	

Q II. Balance the following equations:

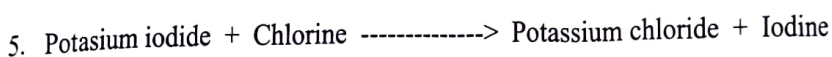
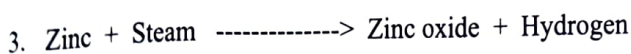




Name: _____ Div. _____ Roll No. _____

CHAPTER 5 – LANGUAGE OF CHEMISTRY

Q III. Convert the following word equations into molecular equations and balance them





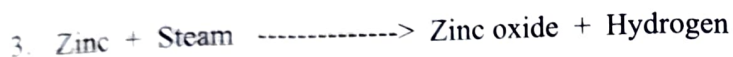
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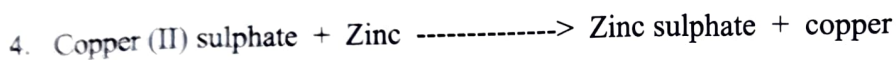
CHAPTER 5 – LANGUAGE OF CHEMISTRY

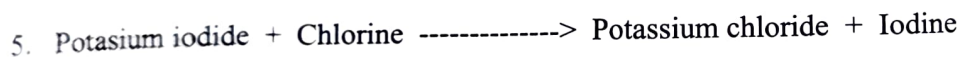
Q III. Convert the following word equations into molecular equations and balance them











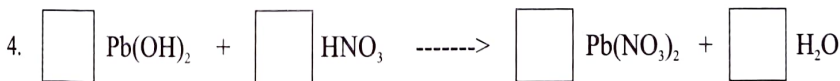
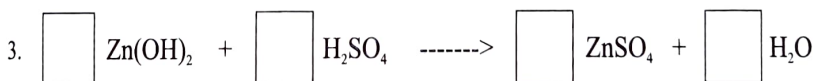
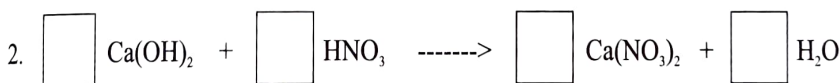
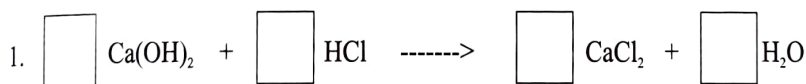


CHAPTER 5 – LANGUAGE OF CHEMISTRY

QI. Write the chemical formula for the compound given:

Sr. No.	Compound	Chemical Formula
1	Hydrogen Chloride	
2	Hydrogen Bromide	
3	Hydrogen Iodide	
4	Hydrogen Fluoride	
5	Hydrogen Nitrate	
6	Hydrogen Nitrite	
7	Ammonium Chloride	
8	Ammonium Bromide	
9	Ammonium Iodide	
10	Ammonium Fluoride	

Q II. Balance the following equations:





Date: _____

Name: _____ Div. _____ Roll No. _____

CHAPTER 5 – LANGUAGE OF CHEMISTRY**Q III. Convert the following word equations into molecular equations and balance them**

1. Sodium nitrate -----> Sodium nitrite + Oxygen

2. Potassium + Water -----> Potassium hydroxide + Hydrogen

3. Iron + Chlorine -----> Ferric chloride

4. Nitrogen + Hydrogen -----> Ammonia

5. Sodium + Chlorine -----> Sodium Chloride

6. Magnesium + Hydrochloric acid -----> Magnesium chloride + Hydrogen

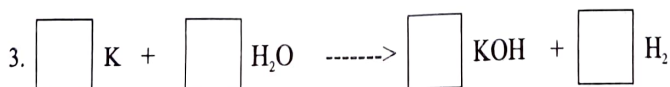
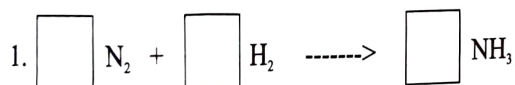


CHAPTER 5 – LANGUAGE OF CHEMISTRY

QI. Write the chemical formula for the given compounds.

Sr. No.	Compound	Chemical Formula
1	Ammonium Hydroxide	
2	Potassium Nitrate	
3	Sodium Nitrite	
4	Ammonium Carbonate	
5	Ammonium Sulphide	
6	Ammonium Sulphite	
7	Ammonium Sulphate	
8	Ammonium Phosphate	
9	Barium Chloride	

Q II. Balance the following equations:





Name: _____ Div. _____ Roll No. _____

CHAPTER 5 – LANGUAGE OF CHEMISTRY

Q III. Convert the following word equations into molecular equations and balance them

1. Iron + Hydrogen Chloride (acid) -----> Iron (II) Chloride + Hydrogen

2. Iron (III) Oxide + Hydrogen -----> Iron + Water

3. Calcium Oxide + Water -----> Calcium hydroxide

4. Hydrogen + Chlorine -----> Hydrochloric acid

5. Sodium oxide + Water -----> Sodium hydroxide

6. Sulphur trioxide + Water -----> Sulphuric acid

7. Magnesium + Nitric acid -----> Magnesium nitrate + Hydrogen

8. Carbon + Sodium carbonate -----> Sodium oxide + Carbon monoxide



CHAPTER 6 – METALS AND NON-METALS

I. Name the following

- A soft metal.
- A lustrous non-metal
- A non-metal used as a thermometric fluid.
- An inert gas used in meteorological balloons
- Elements having properties of both metals and non-metals
- A metalloid used in making semiconductors of transistors

II.



In the above figure, you found that the bulb glows when an iron nail is placed between the two ends of the wire. Complete the following sentences on the basis of this fact.

- _____ is a metal.
- Metals are good _____ of electricity.

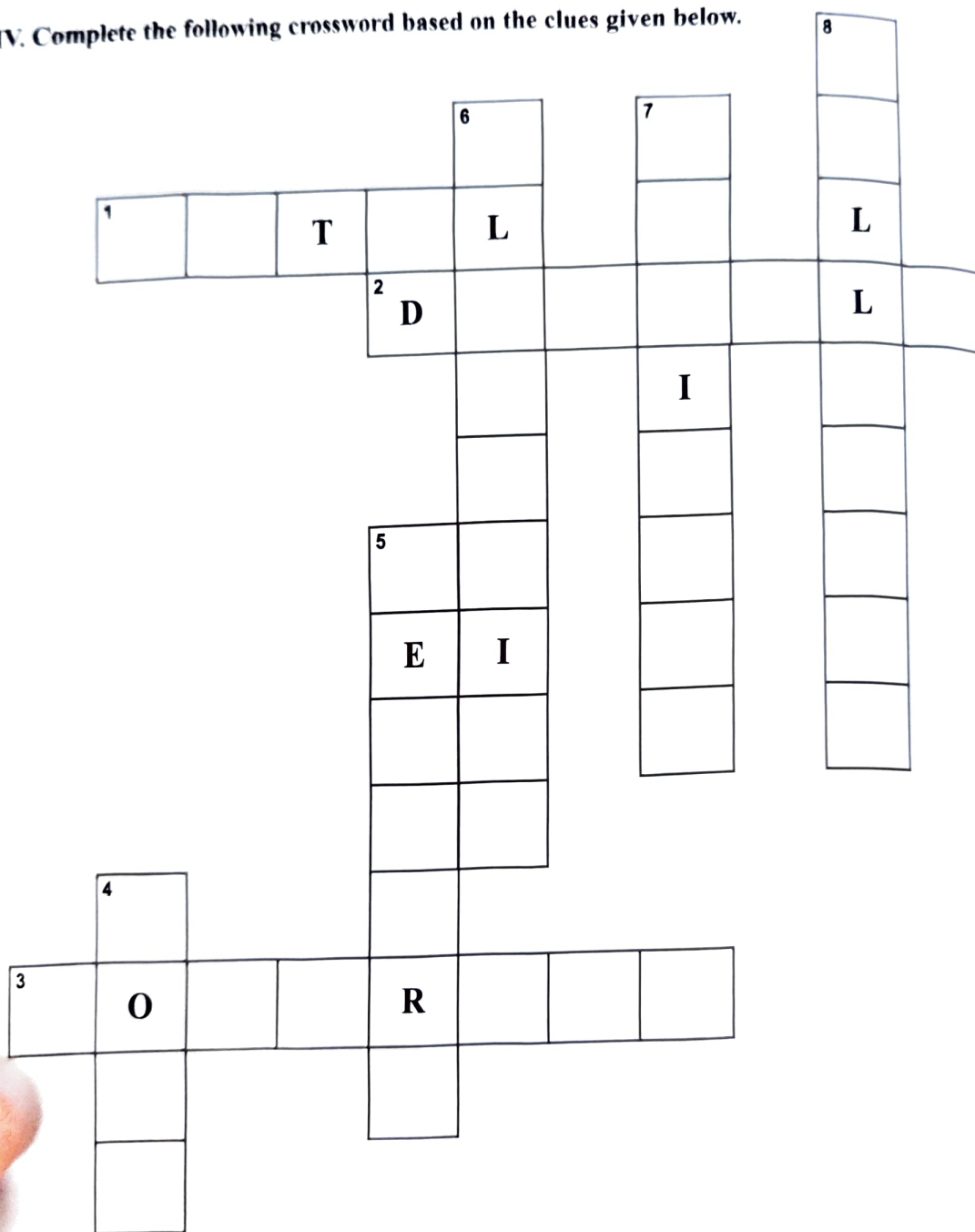
III. A non-metal X exists in two different forms Y and Z. Y is the hardest natural substance whereas Z is a good conductor of electricity. Identify X, Y and Z.



Name: _____ Div. _____ Roll No. _____

CHAPTER 6 – METALS AND NON-METALS

IV. Complete the following crossword based on the clues given below.



ACROSS

1. Which is generally hard, ductile, malleable and sonorous.
2. A metal is called so as it can be drawn into wires.
3. Metal bells are used because of this property.

DOWN

4. A metal generally used for making jewellery.
5. A metal which is liquid at room temperature.
6. A metal used for making electric wires.
7. A metalloid used in making bullets.
8. Property by virtue of which metals can be beaten into thin sheets.



Date: _____

Name: _____ Div. _____ Roll No. _____

CHAPTER 6 – METALS AND NON-METALS

IV. Complete the following crossword based on the clues given below.

IV. Complete the following crossword based on the clues given below.

The crossword puzzle grid is shown with the following letters already filled in:

- 1 Across: T
- 2 Down: D
- 5 Down: E
- 6 Across: L
- 7 Down: I
- 8 Down: L
- 3 Across: O
- 4 Down: O
- 5 Across: R

ACROSS

1. Which is generally hard, ductile, malleable and sonorous.
2. A metal is called so as it can be drawn into wires.
3. Metal bells are used because of this property.

DOWN

4. A metal generally used for making jewellery.
5. A metal which is liquid at room temperature.
6. A metal used for making electric wires.
7. A metalloid used in making bullets.
8. Property by virtue of which metals can be beaten into thin sheets.



CHAPTER 6 – METALS AND NON-METALS

V. Fill in the blanks to complete the following paragraph.

Rusting is a slow process where iron in the presence of _____ and _____ forms a reddish brown layer of _____ on its surface. When this rust is tested using a litmus paper, it turns the _____ litmus paper _____. This shows the _____ nature of rust. Rust can also be seen as a green deposit on the surface of articles made of _____. Rusting can be prevented by treating iron with zinc by a process called _____. Tinning is a process in which sheets of wrought iron are coated are coated with _____.

VI. Word Search:

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

1. A yellow crystalline non-metal used to make fungicides.
2. A form of carbon prepared by heating wood in a restricted supply of air.
3. A colourless and odourless gas used for the combustion of fuels.
4. A metal used in making doors and windows.
5. An inert gas used in glow sign boards.



Date: _____

Name: _____ Div. _____ Roll No. _____

CHAPTER 1 – TISSUES

I. Complete the following table on the basis of the points given:

Characteristics	Skeletal	Cardiac	Smooth
Striations			
Location			
Voluntary			
Involuntary			
Function			

II. Draw a neat labelled diagram of a neuron.



Name: _____ Div. _____ Roll No. _____

CHAPTER 1 – TISSUES

III. Name the kind of tissue found:

1. At the tip of plant roots.

2. At the joint between two long bones

IV. Name one place each in living organisms where the following tissues are located.

1. Meristematic tissue

2. Cartilage

3. Ligament

4. Epithelial tissues

5. Adipose tissue

6. Tendons

V. Name the three types of blood cells and state their functions.



Date: _____

Name: _____ Div. _____ Roll No. _____

CHAPTER 2 – KINGDOM CLASSIFICATION - I

I. Answer the following:

i) State the advantages of classification.

ii) Describe the structure of a bacterial cell.

iii) Explain' the multiple fission' observed in Amoeba.

iv) State two features of a prokaryotic cell.



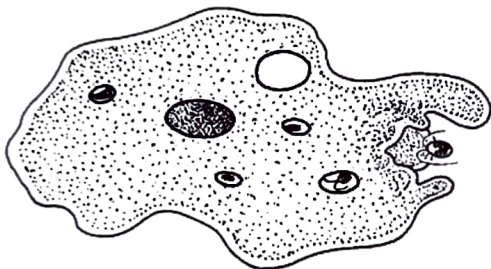
CHAPTER 2 – KINGDOM CLASSIFICATION - I

II. Fill in the blanks:

- Scientist, _____ proposed a five-kingdom classification of living organism.
- The highest rank of classification is _____ and the lowest rank of classification is _____.
- Respiration in amoeba occurs by _____.
- Green pigment, _____ in plants help them to make food.
- Bread mould has a network of hyphae, called _____.
- _____ is a bacterium which helps in conversion of milk into curd.
- Harmful bacteria are also called as _____.

III. Observe the following diagrams and answer the following:

i)

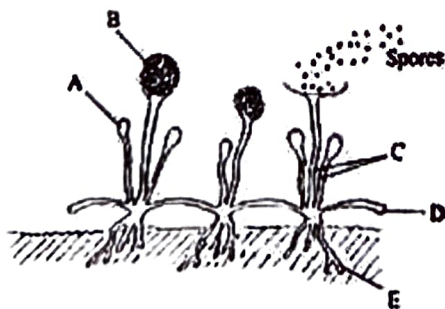


a) Identify the organism.

b) Locomotion occurs by means of _____

c) Movement shown by this organism is known as _____ movement

ii)



a) Identify the organism and state its kingdom.

b) Type of nutrition is _____

c) Label the parts B, D and E.

IV. Name the following:

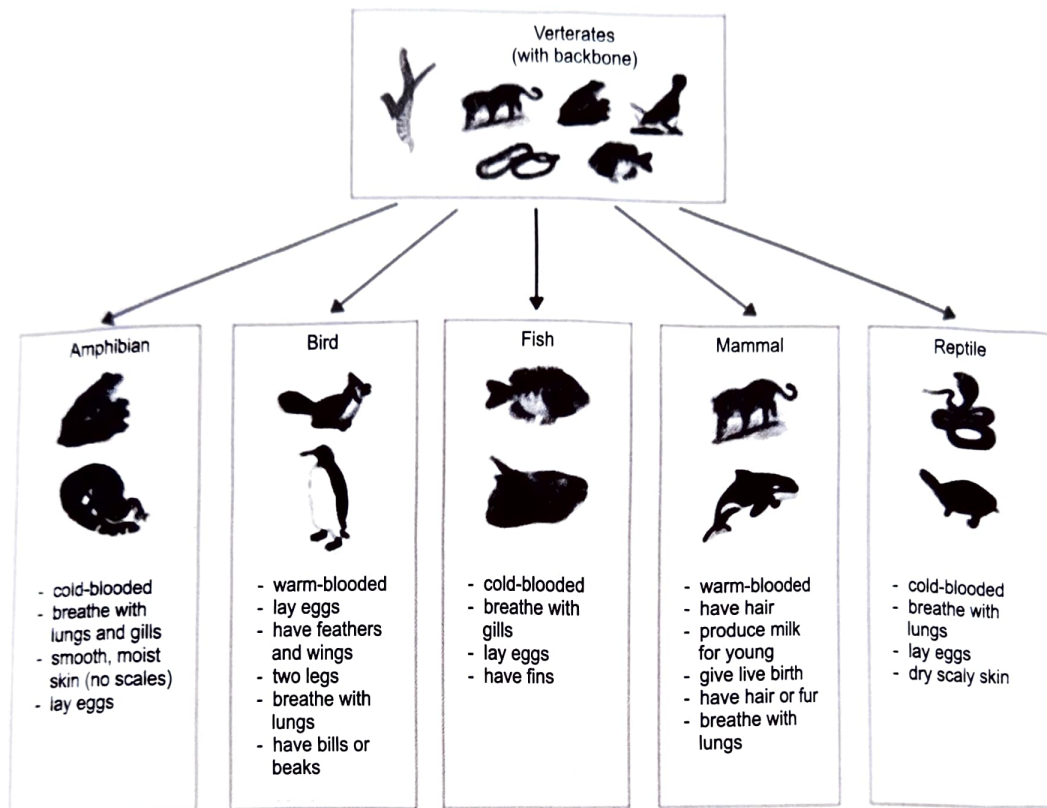
- Two diseases caused by fungi: _____, _____
- A fungus responsible for preparation of antibiotics: _____
- Two divisions of Kingdom Animalia: _____, _____
- A fungus used in the baking industry: _____
- Two ways of reproduction in amoeba: _____, _____



CHAPTER 3 – KINGDOM CLASSIFICATION - II

1. Observe the chart of vertebrates given below and answer the following question given below.

Fish, amphibians, reptiles, birds, mammals.



a. State the characteristics of Class Mammalia. Give two examples.

Examples: _____, _____

b. State two points of difference between the characteristics of Class Reptilia and Class Amphibia.



Name: _____ Div. _____ Roll No. _____

CHAPTER 3 – KINGDOM CLASSIFICATION - II

II. Picture study:



1



2



3

a. Identify the organisms in picture 1, 2 and 3

1 - _____ 2 - _____ 3 - _____

b. Identify the phylum that they belong to

1 - _____ 2 - _____ 3 - _____

c. State any one characteristic feature of each of them in 1, 2 and 3

1 - _____

2 - _____

3 - _____

III. Observe the following diagrams and answer the following:

a.



a) Identify the organism.

b) Identify the Phylum

c) Characteristic feature



CHAPTER 3 – KINGDOM CLASSIFICATION - II

b.

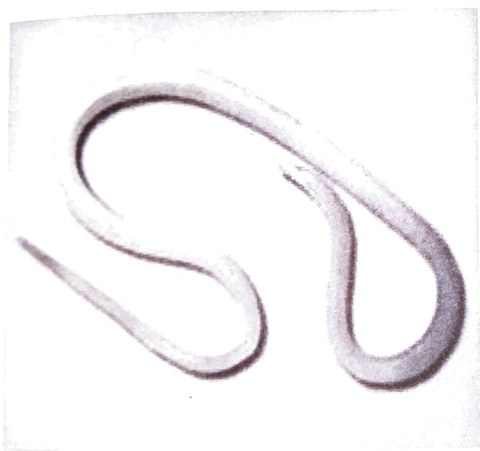


a) Identify the organism.

b) What is the mode of nutrition?

c) Characteristic feature

c.

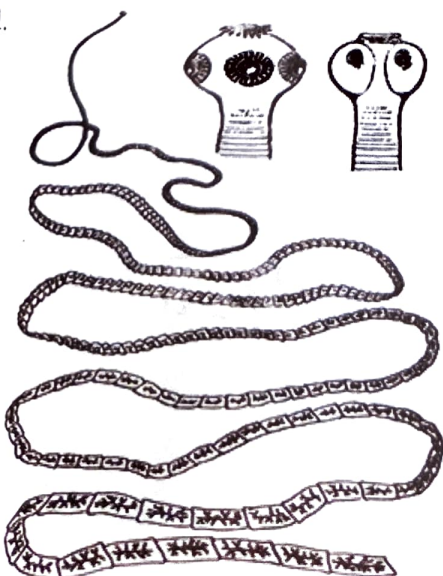


a) Identify the organism.

b) Identify the Phylum

c) Characteristic feature

d.



a) Identify the organism.

b) Identify the Phylum

c) Characteristic feature



CHAPTER 4 – PLANT LIFE

I. Fill in the blanks.

- i. _____ is obtained from food we eat.
- ii. Plants prepare their own food by the process of _____.
- iii. _____ trapped by chlorophyll is used to convert raw materials into sugars.
- iv. _____ serves as solvent for transporting materials within the plant body.
- v. Breakdown of food to liberate energy takes place in the _____ and _____ of the cell.
- vi. _____ and _____ are the waste products released at the end of respiration.

II. State whether the following statements are true or false.

- i. The glucose produced is transported from the leaves to other parts of the plant through tissues called phloem.

- ii. The stomata remain open during the night and close during the day time.

- iii. Chlorophyll is found in mitochondria.

- iv. 99% of water absorbed by plants are utilized for the process of photosynthesis.



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CHAPTER 4 – PLANT LIFE

III. Name the following.

i. The pigment which helps the leaves to trap energy.

ii. The end products of photosynthesis.

iii. The opening and closing of stomata are regulated by these structures.

iv. Example of metabolic activity which requires energy.

v. Energy rich molecules released at the end of respiration.

vi. Examples of organisms which undergo aerobic respiration.

IV. Give reactions for the following.

i. Photosynthesis

ii. Aerobic respiration

iii. Anaerobic respiration

V. Answer the following questions.

i. Explain the process of photosynthesis.



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ii. What is the optimum temperature required for the process of photosynthesis?

iii. How does temperature affect photosynthesis?

iv. List few significances of photosynthesis.

v. Give an example where energy of the sun is captured.

vi. How does photosynthesis help in balancing the important gases in atmosphere?

vii. Define respiration.

viii. Differentiate between aerobic and anaerobic respiration.



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ix. Which are the end products formed in aerobic respiration.

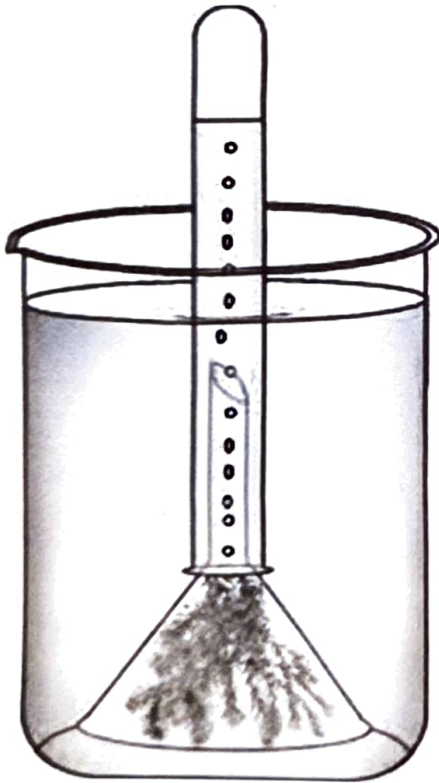
x. Give the exact location of the Stomata.

VI. Complete the following.

Plants carry out exchange of gases through _____ by a simple process of _____.

Stomata are present mostly on _____. In older woody stems they are replaced by _____.

VII. Observe the following experiment and answer the questions.



Procedure:

1. Take a fresh bunch of hydrilla plant in a glass beaker filled with water.
2. Invert a glass funnel over it.
3. Fill a glass test-tube with water and place it upside down over the stem of the inverted funnel.
4. Place the entire apparatus in sunlight. Leave the setup for about an hour.

Observation:

Bubbles of gas are seen rising. The gas is collected in a test-tube. Introduce a burning splint inside the test-tube, the splint will burn more brightly.

What do you infer from the following experiment?

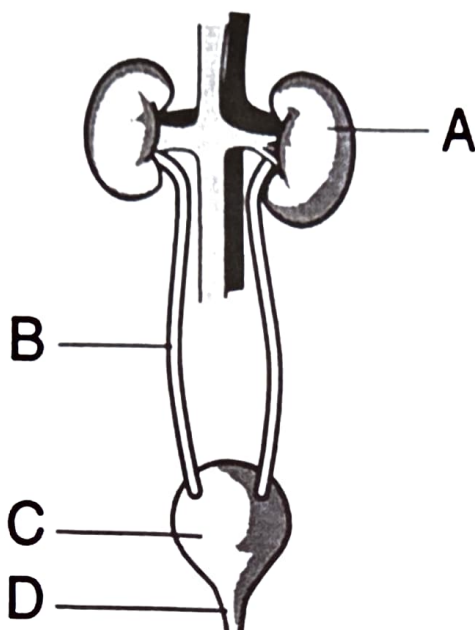


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CHAPTER 5 – THE HUMAN BODY: EXCRETORY SYSTEM

I. Identify the parts of the excretory system in the given diagram and state their exact location and function:



Part	Name	Function	Location
A			
B			
C			
D			



CHAPTER 5 – THE HUMAN BODY: EXCRETORY SYSTEM

II. Given below is one of the common kidney disorder in humans. Study the same and answer the questions that follows.



i. Identify the above kidney disorder.

ii. Explain the disorder.

iii. State the cause of it.

iv. Give the symptom for the above disorder.

v. Mention the treatments for the above disorder.

III. Multiple choice questions:

i. The excretory system filters the _____ to remove the waste could be harmful to our body.

- a) urine.
- b) blood.
- c) water.
- d) digestive juices.

ii. The reason why the right kidney is slightly lower than the left is

- a) the left kidney is bigger than right
- b) considerable space occupied by the heart
- c) considerable space occupied by the liver on the right side
- d) the right kidney is bigger than the left



CHAPTER 5 – THE HUMAN BODY: EXCRETORY SYSTEM

- iii. This is the functional unit of the kidney.
- a) Hilum
 - b) Neurons
 - c) Nephrons
 - d) Medulla
- iv. Which organ in the human body is responsible for removing carbon dioxide from the body?
- a) Kidney
 - b) Lungs
 - c) Blood
 - d) Ureter
- v. About 90% of kidney stones can pass out through urinary system by drinking _____
- a) Water
 - b) Juice
 - c) Sugar drinks
 - d) Milk
- vi. Excretion is a continuous process but urine is not passed out continuously because of
- a) Urinary bladder
 - b) Cloaca
 - c) Rectum
 - d) Ureter
- vii. Kidneys are not the only organs of excretion, their work is supplemented by
- a) Liver
 - b) Skin
 - c) Heart
 - d) Large intestine



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CHAPTER 5 – THE HUMAN BODY: NERVOUS SYSTEM

I. State the exact location and function of the following:

Parts	Location	Function
Cerebrum		
Cerebellum		
Medulla Oblongata		
Spinal Cord		



CHAPTER 5 – THE HUMAN BODY: NERVOUS SYSTEM

III. Multiple choice questions:

1. How do neurons communicate with each other?
 - A. Electrically
 - B. Chemically
 - C. Through weak, radio-like-impulses
 - D. A and B
2. Nervous System consists of:
 - A. Brain
 - B. Spinal Cord
 - C. Nerves
 - D. All the above
3. Which of the following statement is correct about Cerebellum?
 - A. It regulates the muscular movement for locomotion.
 - B. It is a part of brain.
 - C. Both A and B
 - D. Neither A nor B
4. Which nerves are attached to the brain and emerge from the skull?
 - A. Cranial Nerves
 - B. Spinal Nerves
 - C. Thoracic Nerves
 - D. Sacral Nerves
5. A microscopic gap between a pair of adjacent neurons over which nerve impulses pass when going from one neuron to the next is called:
 - A. Neurotransmitter
 - B. Synapse
 - C. Axon
 - D. None of the above
6. Spinal Cord originates from which part of the brain?
 - A. Cerebellum
 - B. Medulla Oblangata
 - C. Pons
 - D. Cerebrum



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CHAPTER 6 – HEALTH AND HYGIENE

I. Name the following:

1. Allergic reactions that becomes serious and triggers a life threatening reactions.
2. A nasal allergen
3. An example of a seasonal allergy
4. Allergy in which parts of mouth and lips swells.
5. This triggers anaphylaxis
6. Pet fur is a type of _____ allergy
7. Pollen grain is a type of _____ allergy.
8. A skin allergen.

II. Give any two preventive measures that can be taken in order to avoid the following allergies:

	Preventive measure 1	Preventive measure 2
Food allergy		
Seasonal allergy		
Insect allergy		
Medicinal allergy		