

CLASS – 7(Physics) CHAPTER – 1 . Physical Quantities

E. Numerical Problem:

Ans 10. L=10cm

B=6cm

H=4cm

$$\text{Volume} = L \times B \times H = 10 \times 6 \times 4 = 240 \text{cm}^3$$

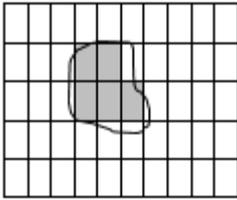
Ans 11. Side=10cm

$$\text{Area of square} = \text{Side} \times \text{Side} = 10 \times 10 = 100 \text{cm}^2$$

Thikness=2cm

$$\text{Volume} = \text{Area} \times \text{thikness} = 100 \times 2 = 200 \text{cm}^3$$

Ans 12.



Area of 1 Sq = 1cm^2

No. of Sq. = 5

therefore: Area of 5 Sq. = 5cm^2

Ans 13. Volume of rectangular box = 300cm^2

Height = 1cm

Breadth = 15cm

Length = ?

$$\text{Volume} = L \times B \times H$$

$$300 = L \times 1 \times 15$$

$$300 = L \times 15$$

$$300/15 = L$$

$$20 = L \text{ or } L = 20\text{cm}$$

Ans 14. Density = 2gcm^{-3}

$$\text{Volume} = 100\text{cm}^3$$

$$\text{Mass} = ?$$

$$\text{Density} = \text{Mass}/\text{Volume}$$

$$2 = M/100$$

$$M = 2 \times 100 = 200\text{g}$$

Ans 15. Initial level of water = 100ml

$$\text{Final level of water} = 150\text{ml}$$

After dipping object

$$\text{Rise of level} = \text{final} - \text{initial}$$

$$= 150 - 100$$

$$= 50\text{ml}$$

$$1\text{ml} = 1\text{cm}^3$$

$$50\text{ml} = 50\text{cm}^3$$

$$\text{Volume of object} = 50\text{cm}^3$$

$$\text{Mass} = 100\text{g}$$

$$\text{Density} = \text{Mass}/\text{Volume}$$

$$\text{Density} = 100/50 = 2\text{gcm}^{-3}$$

Ans 16. Speed = 10kmh^{-1}

$$\text{Distance} = 4 \text{ km}$$

$$\text{Time} = ?$$

Speed = Distance/time

$10 = 4/\text{time}$

$10 \times \text{time} = 4$

Time = $4/10 = 0.4\text{h}$

Ans 17. **Going uphill:**

Distance = 100m

Time = 5 min = 5×60

= 300 sec

Speed = Distance/time

Speed = $100/300 = 1/3 = 0.33\text{m/s}$

Coming downhill:

Distance = 100m

Time = 200sec

Speed = Distance/time

Speed = $100/200$

Speed = $1/2 = 0.5\text{m/sec}$

NO, downhill speed is more.

F. Answer in Detail

Q 18. What do you understand by 3D space ? Explain with simple example.

Ans. 3D space for three dimensional space.

It is geometrical setting for finding the position of any point with the help of three values. eg-bird flying in the air with respect to our home.

Q 19. Define volume using 3D concept. Give formula for volume of a rectangular box. Explain the concept of volume with three example.

Ans. It is as the three dimensional (3D) space occupied by a substance say solid, liquid or gas. formula of volume is $V=L \times B \times H$ eg- take stones of different sizes. Dip them in water one by one. See the rises in water level in each case. Different stones occupy different space and hence different volume.

Q 20. What do you mean by unit volume? Give popular units of volume in case of solids.

Ans. Unit volume is the volume of a cube having each side of unit length. Unit of volume is cubic metre when length is in metre, breadth is in metre and height is also in metre.

Volume= $1\text{metre} \times 1\text{metre} \times 1\text{metre}$

Unit of volume= $1\text{m} \times 1\text{m} \times 1\text{m}$

= 1m^3 , that is cubic metre

Q 21. How can we assess the volume of a liquid? Discuss a graduated cylinder and a graduated beaker?

Ans. Volume of liquids can be easily assessed with the help of containers. Volume of container broadly means the capacity of the container. Different types of container are used to find the volume of liquids.

Graduated cylinder:(diagram from book)

This cylinder is used to measure the volume of a liquid. It is made up of plastic or glass. It has narrow base. Graduated cylinders are available from 10ml to 1000ml.

Graduated beaker: (diagram from book)

It is also known as measuring beaker. The measuring beakers may be used to measure fixed volume of liquids. In that case their capacities are marked on the beaker. These beakers may be made of material like (Aluminium or Steel) plastic or glass.

Q 22. Give the process of measurement of volume in the case of (i) a solid body and (ii) a liquid body?

Ans. (i) A solid body measurement of volume of a given stone. (diagram from book)

(1) Place a graduated cylinder or beaker on table.

(2) Put some water in it and note the water level correctly. Let it be V_1 .

(3) Dip the stone tied up with thread in the water completely.

(4) Note the new level rising due to dipping of the stone. Let it be V_2 .

(5) Difference in the two water level is the volume of stone, let it be V . then

$$V = V_2 - V_1$$

(ii) Measurement of the volume of liquid. (diagram from book)

(1) Take a clean graduated cylinder and place it on the table top.

(2) Pour the given liquid into the cylinder carefully without spilling.

(3) Let the liquid settle down for some time.

(4) Read the lower surface level of the liquid by maintaining the horizontal level of eye.

(5) In the given figure, the reading is 50ml which is the volume of the given liquid.

Q 23. How will you estimate the area of a leaf?

Ans. Area of a leaf:

(1) Place the leaf on the graph paper. (2) Mark the outline of the leaf with a sharp pencil carefully.

(3) Count the number of complete big squares within the outline.

(4) Count the number of squares covered more than half by the outline of the leaf.

(5) Ignore the number of the squares covered by the outline of the leaf.

(6) Leaving the ignored squares, area of the leaf is equal to total number of countable squares are ticked.

Therefore area of leaf = 7 squares

As area of each square is 1cm^2

Therefore area of leaf = 7cm^2

Q 24. Show that mass and volume are not directly related to each other?

Ans. If we have two same sized boxes, one made of plastic, then mass of iron box will be more similarly if we take an iron ball and a plastic ball of same mass then volume of a plastic ball will be more.

Q 25. Define density? Write its formula and express density in a proper unit with proper symbol.

Ans. The density of a substance is given by mass per unit volume of that formula of density is $D=M/V$

If mass of a substance is in kilogram, that is kg and volume is cubic meter that is M^3 than unit of density is kilogram/meter³ that is kg/m^3 or $kg\ m^{-3}$

Q 26. Define speed and write its formula and express proper units of speed with proper symbol?

Ans. Speed is defined as the distance covered by an object per unit time formula of speed =distance travelled/time taken

That is, $V=D/T$

Unit of speed

If an object covers a distance of 1meter in 1 second then unit of speed is, meter/second that is m/s or ms^{-1}

COMPUTER - STD 7

CH-1 (COMPUTER- EXTERNAL HARDWARE)

1. Tick the correct.

- a. Output Devices
- b. Input Device
- c. Touch Pad
- d. OMR
- e. Storage Device
- f. 4 GB

2. True and False.

- a. False (Keyboard-mouse)
- b. True
- c. True
- d. True
- e. False (5 GB-700 MB)
- f. True

3. Write the full form of following.

- a. **DVD-ROM**: Digital Video Disc-Read Only Memory
- b. **CD-ROM**: Compact Disc-Read Only Memory
- c. **PPM**: Pages Per Minute
- d. **LPM**: Lines Per Minute
- e. **CPS**: Characters Per Second
- f. **USB**: Universal Serial Bus
- g. **BD**: Blu-ray Disc

4. Fill in the blanks.

- a. Software
- b. Hardcopy
- c. Plotter
- d. 100 GB
- e. Microphone
- f. Motion input

5. Define the following.

- a. **Track Ball**: The track ball is similar to the mouse, but the roller ball is mounted on the top and the user spins the ball with thumb, fingers.
- b. **Touch Pad**: A touch pad is a flat, pressure-sensitive surface that is used in notebook computers.
- c. **Motion Input**: Motion input lets the user guide on-screen elements using air gestures. Like moving our body or a handheld input device through the air.

- d. **Graphic Tablet:** Graphic tablet, also called Digitizer, is an input device which has a special pen to write on it.
- e. **Webcam:** A Web camera is a real-time camera that enables a user to capture video and still images, make video telephone calls etc.
- f. **Digicam:** A digital camera, also called digicam, is an electronic input device used to capture and store photographs electronically in the computer.
- g. **Barcode Reader:** Barcode reader, also called a barcode scanner, is used to input data from bar codes.
- h. **MICR:** MICR reader is an input device used to read and identify magnetized characters printed on a document such as cheque.

6. Describe the various types of following.

a. **Keyboard:** Types of keyboard are:

- 1. Wireless Keyboard
- 2. Compact Keyboard
- 3. Virtual Keyboard
- 4. Braille Keyboard

b. **Mouse:** Types of mouse are:

- 1. Mechanical mouse
- 2. Optical mouse
- 3. Wireless mouse
- 4. Air mouse
- 5. Touch mouse

c. **Scanner:** Types of Scanner are:

- 1. Flatbed Scanner
- 2. Handheld Scanner

d. **Monitor:** Types of monitor are:

- 1. CRT monitor
- 2. LCD monitor
- 3. LED monitor.

6. Answer in 1-2 sentences.

a. What is a computer system?

Ans: A computer is called a computer system, as it is not a single machine but a collection or combination of many devices which work together to perform a task.

b. How will you classify external hardware?

Ans: External hardware are categorized into input devices, output devices, storage devices and communication devices.

c. What is the use of Data projector?

Ans: A data projector is an output device that projects the data on a large screen so that an audience can see the image clearly.

d. Differentiate between Impact and Non-Impact printer.

Ans:

Impact Printer	Non-Impact Printer
1. Printer that have direct contact between printer head and paper are known as impact printers.	1. Printer that do not have direct contact between printer head and paper are known as Non-impact printer
2. Example- Dot Matrix printer.	2. Example- Laser printer.

e. Write a short note on Dot Matrix printer and Laser printer.

Ans: **Dot Matrix printer**- It is an Impact printer that contains movable print head with pins that strike the ribbon.

Laser printer- It is a non-impact printer that uses laser technology to print on paper.

f. What are the features of a Flash drive?

Ans: Flash drive is also known as Pen Drive. Pen Drive is portable and lightweight and has a storage capacity ranging from 512 MB to 100 GB.

8. Answer Briefly.

a. What do you mean by Hardware? What are its components?

Ans: All the physical and mechanical devices attached together to make a computer system are called hardware. We can see and touch the hardware. There are two kinds of hardware components: External and Internal hardware. The hardware components that are attached outside the computer case or system unit are called external hardware. Examples- Keyboard, Monitor, mouse etc. The hardware components that are fitted inside the system are called internal hardware. Examples- CPU, motherboard, RAM etc.

b. Define Touch screen. Write any three gestures and common used of touch screen.

Ans: A touch screen is a screen that we can touch with our finger to input information. Our finger acts as a pointing device. Examples- Tablet PC, Smartphone etc. some gestures and their common uses are:

1. Swipe – Scrolls
2. Stretch – Zooms in
3. Pinch – Zooms out

c. What is the use of output device? Explain Smartboard and Plotter.

Ans: **Smartboard** - A Smartboard is an output device that displays the images on a connected computer screen, usually via a data projector.

Plotter - Plotter is a sophisticated printer used to produce high-quality drawings such as blueprints, maps etc.

d. Define Optical disc and explain its types.

Ans: An optical disc is a type of storage media that consists of a flat, round, portable disc made of metal, plastic. Its uses are:

1. **Compact Disc** - A compact disc is a flat, round, portable storage medium. Two basic types of compact disc designed for use with computers are CD-ROM and DVD-ROM.
2. **Recordable CD (CD-R) and DVD (DVD-R)**- A CD-R and DVD-R are multi-session compact discs on which we can record our own items such as text, graphics.
3. **Re-writable CD (CD-RW) and DVD(DVD-RW)**- A CD-RW and DVD-RW are erasable discs that allow us to write multiple times.
4. **Blu-ray Disc**- Blu-ray is a new DVD format, which has a higher capacity and better quality.

e. What are communication devices? Explain the purpose of Modem.

Ans: A communication device is any type of hardware capable of transmitting data, instructions, and information between a sending device and a receiving device.

The purpose of modem is to convert digital signals to analog signals and to convert an analog signals to digital signals.

Eng. Ch- Bravo Manju !

Class 7

WORD STUDY

Part - E

1) scrubbing - to rub something hard to clean.

2) scraping - move a rough or sharp thing across something to clean.

3) wiping - make something clean or dry with cloth.

4) brushing- use a brush to clean something.

5) sweeping - clean something with broom.

Part - F. Fill in the blanks with the correct words from the bracket.

1) aisle

2) whether. - weather

3) bald - bawled

4) forth

5) principal's

Part -G. Match these elements with their meanings.

1) guide words. - the first and the last words on a dictionary page.

2) definition - what the word means

3) headword - the word about which the entry is given

4) pronunciation - the way a word is spoken.

5) part of speech - the category to which the word belongs.

Grammar study .

Part - H write simple, compound or complex for the sentences.

1) complex

2) complex

3) simple

4) complex

5) simple

6) compound

Part - I

2) Manjula freed her hands and opened the door.

3) Akhil owns a motorcycle which his father gifted him.

4) Rohit is very talented and disciplined boy.

5) It was likely to rain heavily because clouds were thundering very loudly .

CLASS 7

CHEMISTRY (LESSON1)

SHORT QUESTIONS-

1Q- What is matter? Give three examples of things made of matter.

Ans- Anything which occupies space and has mass is called matter. Eg- table, chair, pen, etc.

2Q- What do you mean by intermolecular force?

Ans- The molecules are held by a force of attraction, called intermolecular force.

3Q- Name the three states of matter and give one example of each.

Ans- The three states of matter are solid, liquid and gas. Eg. of solid-ice, eg. of liquid-water, eg. of gas-water vapours.

4Q- Do gases have a fixed volume as liquids do? Give reasons.

Ans- No, gases do not have a fixed volume because in a gas, the intermolecular force is so weak that the molecules are free to move to every part of container and occupies its entire volume.

5Q- What is interconversion of states?

Ans- The change in the state of matter from one to another is called interconversion of states.

6Q- What is sublimation? Name two substances that sublime.

Ans- Some solids vaporize without melting. This phenomenon is called sublimation. Camphor and iodine are the two substances that sublime.

7Q- What is an element? Give three examples.

Ans- A substance that cannot be broken down into simpler substances by a chemical means is called as an element. Eg- hydrogen, oxygen, carbon, etc.

8Q- What is a compound? Give two examples.

Ans- A substance that can be split into simpler substances by a chemical means is called a compound. Eg- water, carbon-dioxide, etc.

9Q- What are atoms and molecules?

Ans- Atom- An atom is the smallest part of an element that takes part in a chemical reaction.

Molecule- A molecule is the smallest part of an element or a compound that is capable of an independent existence.

10Q- What forces hold atoms in a molecule and molecules in a matter? Which of these forces is stronger?

Ans- Chemical bond holds atoms in a molecule and intermolecular force of attraction holds molecules in a matter. Chemical bond is more stronger than intermolecular force of attraction.

LONG QUESTIONS-

1Q- Explain the ice-water interconversion on the basis of intermolecular force.

Ans- Ice to water- In ice, the molecules vibrate about their mean positions. On being heated, they receive energy from outside and vibrate with a greater energy than before. Gradually, they receive so much energy that they can overcome the strong cohesion of ice. As a result, the molecules become labile and the ice melts down.

Water to ice- When water is cooled, its molecules lose energy and move nearer to each other. As a result, cohesion increases and the water solidifies, i.e; freezes.

2Q- Discuss why the shape of solid is fixed whereas that of a liquid or a gas is not.

Ans- A solid has a definite shape because the molecules are so tightly held that they cannot move closer to or away from their positions, whereas the liquids and gases do not have a fixed shape because the molecules in these are not so tightly held as in solids.

3Q- Why is a solid not compressible but a gas is? Explain.

Ans- A solid is non-compressible but a gas is compressible to a very great extent because the intermolecular space is very small in a solid and the largest in a gas. As the intermolecular space increases, the molecules can be pushed together more easily.

4Q- Describe an experiment to show the thermal expansion of a solid, a liquid and a gas. Explain expansion on heating and contraction on cooling.

Ans- Thermal expansion in a solid-

- 1) Place a metal rod on two wooden blocks in such a way that its one end is fixed to a wall.
- 2) Attach a paper pointer to a round pencil and place the pencil below the free end of the rod.
- 3) Heat the rod. The rod expands and the pencil rotates and so does the pointer.

This shows that a solid expands on heating. Now if we stop heating it, it will not expand further and will contract.

(with DIAGRAM FROM THE BOOK)

Thermal expansion in a liquid-

- 1) Fix a transparent straw to a narrow mouthed bottle filled with coloured water to the brim.
- 2) Seal the mouth with a sealing paste and place the bottle in a bowl of hot water.
- 3) The level of the water in the straw rises.
- 4) Now take out the bottle and allow it to cool.
- 5) The water level in the straw falls again.

This shows that a liquid expands on heating and contracts on cooling.

(with DIAGRAM FROM THE BOOK)

Thermal expansion in a gases-

- 1) Fit an uninflated balloon to the mouth of a bottle.
- 2) Place the bottle in a pan containing water and heat it.
- 3) The balloon gets inflated as the air in the bottle expands.
- 4) Remove the bottle and allow it to cool
- 5) The balloon gets deflated as the air in the bottle contracts.

This shows that the gases expand on heating and contracts on cooling.

(with DIAGRAM FROM THE BOOK)

Class 7 Eng lit.

Ch- Bravo Manju !

A) True or False.

1) False

2) True

3) False

4) False

5) False

6) True

B) Read the sentences and answer the questions.

1] "Go ahead and buy whatever you need, dear."

a) Who said these words and to whom ?

Ans= Mrs. Parelkar said these words to her daughter Manjula .

b)What did the person spoken to need to buy? Did the person buy whatever was needed ?

Ans= Manjula need to buy colours and painting brushes to learn painting. Yes, she brought what was needed.

c) What happened the next day?

Ans) The next day Manjula painted her first painting and showed it to her mother.

2] " Please don't say that ever again !"

a) Who said these words and to whom ?

Ans= Mrs. Parelkar said these words to Mr.Parelkar.

b) Why did the speaker respond so?

Ans=Mrs.Parelkar responded so to Mr.Parelkar because he said Manjula must learn something more useful like cooking and stitching.He thought that she would never become an artist with hands like her.

c) How did there conversation affect Manjula ?

Ans= Mr. parelkar's words hurt and discouraged Manjula from painting. She returned from her room, bundled up the watercolours and the three brushes and tucked them into farthest corner of her cupboard.

3] " I'm sure you would have won a prize."

a) Who said these words and to whom?

Ans=Amol said these words to Manjula.

b) What prize did the speaker refer to?

Ans.Amol was referring to the prize of On-the-Spot Painting competition.

c) What prompted the speaker to say these words?

Ans=Amol was confident of Manjula's talent and wanted to remind Manjula that she could win a prize in the competition. He hoped to change her mind about participating in it.

C) Answer these questions.

Q1) How were Manjula's hands different?

Ans) Manjula had claw like fingers that were malformed .She had just two fingers on each hand .

Q2) What presents did she get for her birthday?

CLASS – 7(Physics)

CHAPTER – 1

PHYSICAL QUANTITIES AND MEASUREMENT

A. TICK THE BEST CHOISE:

Ans: 1.(b) Three Dimensional

Ans: 2(a) Three values

Ans: 3(c) Area X Thickness

Ans: 4(c) (a) or (b)

B. Fill in the blanks:

Ans(5) Mass, volume

Ans(6) three dimensional

C. Mark true or false against the relation:

7. True

8. True

D. Match the following:

9. Ans:

Quantity	Unit
(a)Speed	ms^{-1}
(b)Volume	Cm^3
(c) mass	kg
(d) density	kg m^{-3}
(e) length	m

CLASS – 7(Biology

CLASS – 7(Biology)

Ex. A-fill in the blanks

1.allergy

- 2.allergens
- 3.airborne
- 4.hives
- 5.anaphylaxis
- 6.contact
- 7.perennial
- 8.skin prick

ExB-Choose the correct option

- 1.(a) airborne allergens
- 2.(d)all of these
- 3.(d)all of these
- 4.(a)hives
- 5.(b)natural rubber products donot cause allergies
- 6.(a) airborne
- 7.(d)avoid allergens

ExC-True/False

- 1.false,non-communicable
- 2.true
- 3.false,cockroaches cause allergies
- 4.true
- 5.false,vomiting and diarrhoea are common symptoms of food and medicines allergies
- 6.true
- 7.false,cause skin allergies
- 8.false,hay fever is a seasonal allergy

9.true

10.true

ExD- Match the following

1.(e)

2.(f)

3.(b)

4.(h)

5.(a)

6.(c)

7.(d)

8.(g)