

Question bank

Chapter-1 Physical Quantities and Measurement

Q-1 Match the three columns :

Q-2 State True or False for the following and correct the false statements giving reasons.

- (1). When we look at the world it is a 2-D, perception.
- (2). Equal volume of different substance have the same mass.
- (3). Speed tells us how slow a body is moving.
- (4). Equal mass of different substances have the same volume.
- (5). S.I. unit of volume is litre.
- (6). S.I. unit of speed does not exist because it is a ratio.

Q-3 Fill in the blanks

- (2). A common device used to measure mass is _____.
- (1). A bottle will hold water as much as its _____.
- (3). The density of water is maximum at _____ Celsius.
- (4). The unit for area of a leaf can be written as _____.
- (5). A device used to measure volume of a liquid is _____.
- (6). We can calculate the volume of a cuboid by _____.
- (7). The visual error in taking a reading is called _____.
- (8). An object that sinks in water must have _____ density than water.
- (9). The unit of speed can be written as _____.
- (10). When time taken to cover a distance is more, the speed is _____.

Q-4 Short answer type questions

- (1). How can we differentiate between area and volume?
- (2). What is meant by the capacity of a bottle?

- (3). Substance A has a density of 6g/cm^3 and substance B has a density of 3g/cm^3 . If you have a block of B that is of double the size of a block of A, Which of the two blocks will be heavier?
- (4). Explain one use of a graduated measuring cylinder?
- (5). Density of copper is 8.96 g/cm^3 . What does it mean?
- (6). Name a smaller unit of volume and connect it to S.I. Unit of volume.
- (7). How much water a container with dimensions 5 cm^3 will hold?
- (8). What is the speed of a train if it travelled 200 km in four hours?
- (9). A train travels a distance of 550 km in 10 hours. Find its speed in km/h and m/s.
- (10). A bicycle moves at 3 m/s . How far will it go in 30 s?

Q-5 Long answer type questions

- (1). Explain with example, steps to measure the volume of a regular 3-dimensional object.
- (2). Explain how we can measure the area of an irregular 2-dimensional body?
- (3). How can we measure the density of an irregular body?
- (4). Expressions such as “as light as a feather or as heavy as lead”, indicate that equal volumes of different substances can vary considerably in their masses. Explain.
- (5). If the mass of an object is 50 kg and its density 100 kg/m^3 , what would be its volume?
- (6). A bottle of capacity 500 ml weighs 250 g when empty and 500 g when filled with water and 625 g when filled with glycerin. Calculate the density of water and glycerine. Which liquid is denser and by how much?
- (7). Explain the steps in finding the volume of a stone.
- (8). Explain the meaning of the term 'speed' with an example.
- (9). If you and your friend are running a 100 m race. How will you know who ran faster?

Multiple Choice Questions

(a) For volume the S.I. unit is cubic meter, which can be written as m³ . Why do we write m³ ?

- (i) Because volume of a unit cube is $1\text{ m} \times 1\text{ m} \times 1\text{ m}$.
- (ii) For volume the S.I. unit is square meter.
- (iii) Because it is m multiplied by the 4, visible sides.
- (iv) Because volume of a unit cube is $3 \times 1\text{ m}$.

(b) The space occupied by a ball is :

- (i) Capacity
- (ii) Volume
- (iii) Mass
- (iv) Weight

(c) When a plastic toy is floating on water:

- (i) We can measure its volume by the amount of water it displaces
- (ii) We can measure its volume by using a calibrated beaker only
- (iii) We can measure its volume by tying it with a stone
- (iv) We cannot measure its volume

(d) The area of a soccer field is :

- (i) Space occupied by it
- (ii) Volume occupied by it
- (iii) Surface occupied by it
- (iv) Capacity it represents

(e) Parallax error can be corrected by :

- (i) Taking many readings and calculating its mean
- (ii) Keeping the eye level near the reading mark
- (iii) Keeping the eye level just below the reading mark

(iv) Keeping the eye level just above the reading mark.

(f) Area of two dimensional irregular figure can be estimated more accurately when –

- (i) The grid paper has grids of larger size
- (ii) The grid paper has grids of smaller size
- (iii) The size of the grid in the paper does not make a difference
- (iv) Plain paper is better than grid papers for the purpose

(g) A substance of high density will have –

- (i) Less matter per unit volume
- (ii) More matter per unit volume
- (iii) Less volume for less amount of matter
- (iv) More volume for more amount of matter

(h) The density of aluminium is 2.7g/cm^3 and that of iron is 7.8g/cm^3 so for the same volume the mass of :

- (i) Iron will be more than aluminium
- (ii) Aluminium will be more than iron
- (iii) Aluminium and iron will be same
- (iv) It will depend on the effect of gravitational force

(i) When $\text{Density} = \text{Volume} / \text{Mass}$, then Mass is equal to –

- (i) $\text{Volume} / \text{Density}$
- (ii) $\text{Density} / \text{Volume}$
- (iii) $\text{Density} / \text{Mass} \times \text{Volume}$
- (iv) $\text{Density} \times \text{Volume}$

(j) A block of wood has a density of 0.9 g/cm^3 and a volume of 50 cm^3 , what shall be the mass of the block?

- (i) 45 g
- (ii) 55.5 g

(iii) 41 g

(iv) 50.9 g

Chapter-2 Motion

Q-1 Fill in the blanks

- (1). When a body moves about a fixed axis the body is in _____ motion.
- (2). Another name for vibratory motion is _____.
- (3). A cyclist moving in a crowded market will have _____ motion.
- (4). A boy sitting on a merry go round has a _____ motion.
- (5). A boy playing football is an example of _____ motion.
- (6). The motion used to make clock and watches is called _____.
- (7). Motion of a swinging pendulum and a guitar string are _____.
- (8). Motion of the hands of a clock is called _____.
- (9). Weight of a body is the force exerted in _____ direction.

Q-2 Short answer type questions

- (1). Give two example of uniform motion.
- (2). A car travels a distance of 240 km in 4 hours. Calculate its speed.
- (3). The distance between two stations is 324 km. How much time it will take to cover this distance at an average speed of 18 km/h?
- (4). What is periodic motion?
- (5). What are the S. I. units of speed, mass and weight?
- (6). Are mass and weight synonymous? Explain.
- (7). How can we say that a body is at rest?
- (8). How is average speed calculated?
- (9). What kind of motion do the pedals of a bicycle have?

Q-3 Match the column**Q-4 Long answer type questions**

- (1). Differentiate between motion and rest.
- (2). Name different kinds of motion giving examples for each.
- (3). Differentiate between periodic and non-periodic motion.
- (4). Name two instruments that produce music by vibration. Explain vibration.
- (5). How can you differentiate between translatory motion and rotatory motion?
- (6). How can one improve the average speed of a vehicle? Explain giving an example.
- (7). Differentiate between uniform and non-uniform motion.
- (8). Explain the motions of a carpenter's drill.
- (9). State three differences between mass and weight.
- (10). Find the total distance covered by a car in 30 minutes that moves with a uniform speed of 60 km/h for the first 10 minutes and then with speed of 50 km/h for the rest of the journey.

Q-5 State True or False and correct the false statements giving reasons.

- (1). Two cars going in the same direction at the same speed are at rest relative to each other.
- (2). If a ball is falling from a height, it will fall with a uniform speed.
- (3). Speed = Distance $\times$ Time
- (4). An object can have two types of motion at the same time.
- (5). In top sporting events wrist watches are used to measure time.
- (6). The flight of an insect can be called random motion.
- (7). Amplitude is the maximum displacement of a simple pendulum.
- (8). Weight of a body is constant but mass is not.
- (9). In uniform motion same distance must be covered in same time interval.
- (10). The unit of weight is newton (N).

Multiple Choice Questions

(a) To say that a body is in motion :

- (i) The observer must move from one place to another with respect to the body.
- (ii) The body should move fast enough to be noticed.
- (iii) The body should change its position with respect to a stationary object in a span of time.
- (iv) Passengers sitting inside a bus are in motion relative to each other.

(b) A repetitive motion which takes place at equal intervals of time is called-

- (i) Random motion
- (ii) Translatory motion
- (iii) Curvilinear motion
- (iv) Periodic motion

(c) A body in translatory motion :

- (i) Has all the points of the body moving the same distance along the same path, in the same time.
- (ii) Has a motion that is around an axis where all the points of the body travel different distances.
- (iii) Has a motion that regularly retraces its own path.
- (iv) Has a motion that traverses the same path in approximately the passage of equal time interval.

(d) The motion of a drilling machine is best described as –

- (i) Rotatory and oscillatory
- (ii) Circulatory and oscillatory
- (iii) Oscillatory and translatory
- (iv) Circulatory and translatory

(e) If a car travels a distance of 75 km in 2 hours at uniform speed, its speed expressed in m/s is

- (i) 37.5
- (ii) 10.4
- (iii) 5.25
- (iv) 18.5

(f) A car moving on a straight highway at a slow speed is in:

- (i) Circular motion
- (ii) Rectilinear motion
- (iii) Periodic motion
- (iv) Rotatory motion

(g) Which of the following statements is correct?

- (i) Weight of a body is constant so is its mass.
- (ii) Weight of a body is constant but its mass is not.
- (iii) Mass of a body is constant so is its weight.
- (iv) Mass of a body is constant but its weight is not.

(h) A car travels from point A to point B at a speed of 50 km/hr because of heavy traffic. While returning from point B to point A, the car travels at a speed of 100 km/hr. Its average speed is

- (i) 100 km/hr
- (ii) 75 km/hr
- (iii) 66.6 km/hr
- (iv) 85 km/hr

Chapter-3 Energy

Q-1 Match the column

Q-2 State True or False for the following and correct the false statements giving reasons.

(1). Work is said to be done if a force is applied on a body.

- (2). Mechanical energy can be potential energy or kinetic energy.
- (3). Kinetic energy of a body depends on its motion.
- (3). Kinetic energy of a body depends on its motion.
- (5). One calorie is a smaller unit than joule (J).
- (6). A moving stone breaks a glass pane because of kinetic energy.

Q-3 Fill in the blanks

- (1). For work to be done _____ is essential.
- (2). S. I. unit of energy is _____.
- (3). Energy we get from moving water is called _____.
- (4). Plants convert light energy into _____.
- (5). When wood is burnt _____ energy is converted to heat energy.
- (6). A stretched rubber has a lot of _____ energy.

Q-4 Short answer type questions

- (1). How do we define energy?
- (2). When we do physical exercise how does taking food help?
- (3). Give an example of muscular energy.
- (4). How do we get sound energy?
- (5). What energy changes happen in photosynthesis process in plants?
- (6). How do we define Calorie?

Q-5 Long answer type questions

- (1). How do we understand Joule?
- (2). What are the factors upon which kinetic energy of a body depends?
- (3). Explain how water falling from a height can be converted to electrical energy?
- (4). Both work and energy have the same unit, explain.
- (5). State the law of conservation of energy illustrating one example.

(6). Explain the energy transfer in an oscillating pendulum..

Multiple Choice Questions

(a) Work done is –

- (i) Force multiplied by distance between two bodies on which force is applied
- (ii) Force multiplied by distance moved by the point of application of the force in the direction of the force.
- (iii) Force multiplied by distance moved by the body in the direction of the force.
- (iv) Force multiplied by distance moved by the body in any direction.

(b) The energy from the food we humans derive, is in the form of :

- (i) Heat energy
- (ii) Light energy
- (iii) Chemical energy
- (iv) Mechanical energy

(c) A tightly wound spring has –

- (i) Chemical energy
- (ii) Potential energy
- (iii) Muscular energy
- (iv) Heat energy

(d) Two bodies of equal mass are put at the top of two different buildings. The potential energy will be more in case of

- (i) Body on the taller building.
- (ii) Body on the less tall building.
- (iii) As the mass is the same they will have the same potential energy.
- (iv) As the force of gravity is the same they will have same potential energy.

(e) In winters when we rub our hands heat energy is produced from –

- (i) Light energy
- (ii) Muscular energy
- (iii) Chemical energy
- (iv) Electrical energy

(f) In hydroelectricity electricity is generated by utilizing –

- (i) Solar energy of the Sun
- (ii) Wind energy of the moving air
- (iii) Kinetic energy of water
- (iv) Electrical energy that is stored

(g) A cricket batsman hits the ball high in air. Which of the following statements is true for the moving ball?

- (i) At the highest point the ball has maximum kinetic energy.
- (ii) At the highest point the ball has maximum potential energy.
- (iii) Higher the ball reaches, more slowly it will fall to the ground.
- (iv) When the ball falls back to the ground it will have maximum potential energy.

Chapter-4 Light Energy

Q-1 State True or False for the following and correct the false statements giving reasons

- (1). A highly polished surface reflects most of the light falling on it.
- (2). Image formed by a plane mirror is inverted.
- (3). Green leaves appear green because it absorbs green light.
- (4). In simple terms a plane mirror is a plane polished surface.
- (5). Translucent glass is also used as mirrors.
- (6). In diffused reflection also, the angle of incidence is equal to angle of reflection.
- (7). The colour of an opaque object is decided by the colour of light falling on it.

- (8). A reflected light can never be reflected again
- (9). For a point object the image formed by a plain mirror is large.
- (10). The speed of light through glass is less than in, air.

Q-2 Fill in the blanks

- (1). The bouncing of light from a mirror is called _____.
- (2). When the left side appears to be the right side in an image it is called _____.
- (3). For regular reflection to occur, the surface must be _____.
- (4). The reflected ray is the angle between _____ and _____.
- (5). An image is formed when two or more rays _____.
- (6). Black objects appear dark because _____.
- (7). The place where the incident ray strikes the mirror is called _____.
- (8). Dull objects reflect _____.
- (9). When the three primary colours are mixed _____ proportion, white is the result.
- (10). When a green light falls on a red rose its colour will become _____.

Q-3 Match the column

Q-4 Short answer type questions

- (1). What is reflection of light?
- (2). Why do some objects appear bright and shiny?
- (3). If a black object absorbs all the light how do we see it?
- (4). Why do mirrors form proper images but polished rough surfaces don't?
- (5). In a ray diagram what is "Normal"?
- (6). If transparent objects allow light to pass through them; then how are we able to see them?
- (7). State three characteristics of images formed by a plane mirror.

- (8). What is a water image?
- (9). Name the colours of the rainbow.
- (10). What are the primary colours of subtractive mixing?

Q-5 Long answer type questions

- (1). Draw a ray diagram and label incident ray, normal and reflected ray.
- (2). State the laws of reflection.
- (3). What are various uses of plane mirrors?
- (4). Why are cinema screens not made of polished surfaces?
- (5). Why are the ceilings of rooms usually painted white?
- (6). How are we able to see colour of an object?
- (7). How do the position of image change in a plane mirror with the change in position of the object? Explain with a diagram.
- (8). Explain in brief the conditions needed for the formation of a rainbow.
- (9). Name the primary colours for mixing. Which colours do we get when pairs of these are mixed?
- (10). Why rainbows are always seen in the afternoon or in the morning? Explain.

Multiple Choice Questions

(a) When light falls on an object which of the following does not happen?

- (i) Light passes through it
- (ii) Light bounces back into the same medium
- (iii) Light can be completely cut off after being absorbed
- (iv) Light moves around the object

(b) When light is reflected from a polished surface it has a different:

- (i) Colour
- (ii) Speed
- (iii) Direction

(iv) Angle

(c) The image formed by a plane mirror is always:

- (i) Inverted
- (ii) Of the same size
- (iii) Larger in size
- (iv) Formed on a screen

(d) The grass looks green to us because –

- (i) It absorbs the green component of white light
- (ii) It reflects light of green colour only
- (iii) It reflects light of all the colours, though we see only green
- (iv) It absorbs all the colours of light

(e) The angle of incidence is equal to :

- (i) The angle of reflection
- (ii) The angle of normal
- (iii) The angle of reflection deducted from the normal
- (iv) The sum of angles of reflection and incidence.

(f) Which of the following statements is not correct about image formed by a plane mirror?

- (i) The image is of same size and upright.
- (ii) The image formed is behind the mirror as the object is in front.
- (iii) The image shows lateral inversion.
- (iv) The image can be projected on a screen.

(g) Mixing of primary colours Red, Green and Blue gives-

- (i) Magenta
- (ii) Black
- (iii) White

(iv) Yellow

(h) We are able to see a non-luminous object because -

- (i) Bright light falls on it
- (ii) Light from the object reaches our eyes
- (iii) Light from our eyes reaches the object and reflects back
- (iv) Light travels in a straight line

(i) Which of the following is not a use of plane mirror?

- (i) Used as looking glass
- (ii) Uses to make periscope
- (iii) Used as a reflector in street lights
- (iv) Used to make kaleidoscope

(j) In a movie theatre everyone is able to see the movie because:

- (i) There is regular reflection of images from the screen.
- (ii) The seats are so designed that everyone can see the screen.
- (iii) The reflection from the screen is diffuse reflection.
- (iv) The theatre lights are kept dim, during the show.

Chapter-5 Heat

Q-1 State True or False for the following and correct the false statements giving reasons

- (1). Heat is a form of energy which we can see.
- (2). Weight of a cold object is always less than that of a hot object.
- (3). When we touch hot water heat flows from water to our hand.
- (4). Molecules of hotter objects vibrate more.
- (5). When we sweat our body temperature goes up.
- (6). In melting solid substances convert to gas.
- (7). On heating the particles of substances expand.

- (8). Convection of heat does not need any medium.
- (9). A heating pan has no use of an insulator.
- (10). In cold weather birds puff their feathers.

Q-2 Fill in the blanks

- (1). Wool is a _____ conductor of heat because _____ is formed in it.
- (2). In conduction, the _____ do not travel from hot end to cold end.
- (3). Our wet clothes dry because of _____.
- (4). In condensation water vapour changes to _____.
- (5). All liquids are bad conductors of heat except _____.
- (6). Heat transfer from the Sun to the Earth happens by _____.
- (7). Convection takes place in _____ only
- (8). In severe winter we should wear _____ of cloth.
- (9). _____ gets heated and cools down faster than water causing sea breeze.
- (10). In summer we use umbrellas to cut off _____.

Q-3 Match the column

Q-4 Short answer type questions

- (1). The boiling point of water is 100°C . How much is that in Fahrenheit and Kelvin scale?
- (2). Why cooking utensils must be made of both conducting and insulating material?
- (3). Explain the terms deposition and evaporation.
- (4). What is parallax error?
- (5). Differentiate evaporation from boiling.
- (6). When water in a test tube is heated in the middle; why water at the bottom remains cold?
- (7). How does radiation occur from a room heater?

- (8). Name two effects of heat on liquids.
- (9). How are black painted car radiators helpful?
- (10). Why clean white snow melts slowly?

Q-5 Long answer type questions

- (1). When water is heated in a pan, how does its temperature rise?
- (2). What are the processes in liquefaction, explain with examples.
- (3). How can we connect the Celsius and Kelvin scales?
- (4). Why are roofs of factory shed not painted in black?
- (5). How can we distinguish between good and bad conductors of heat?
- (6). Explain conduction with an example.
- (7). Explain change of state with an example.
- (8). How can we differentiate between convection and radiation?
- (9). Explain land breeze with the help of a figure.
- (10). Explain the construction of a vacuum flask.

Multiple Choice Questions

(a) In case of conductors the direction of heat flow is:

- (i) Often from cold to hot body
- (ii) Sometimes from cold to hot body
- (iii) Always from hot to cold body
- (iv) Sometimes from hot to cold body

(b) Which of the following is not a temperature scale?

- (i) Kelvin
- (ii) calorie
- (iii) Fahrenheit
- (iv) Celsius

(c) Bodies in thermal equilibrium have a temperature difference :

- (i) In Celsius scale it is 4°C
- (ii) In Fahrenheit scale it is 32°F
- (iii) It is zero in any scale
- (iv) In Kelvin scale it is 273K

(d) Thermometers work on the principle of

- (i) Cooling of substances
- (ii) Heating of substances
- (iii) Expansion of substances
- (iv) Convection of heat

(e) Land breeze and sea breeze are good examples of :

- (i) Radiation in nature
- (ii) Convection in nature
- (iii) Conduction in nature
- (iv) Wind transfer in nature

(f) In vacuum flask heat loss is minimized by cutting down

- (i) Conduction and radiation
- (ii) Convection and radiation
- (iii) Convection and conduction
- (iv) All the three modes of heat transfer

(g) Which of the following are bad conductors of heat?

- (i) Silver and copper
- (ii) Silver and wool
- (iii) Wood and steel
- (iv) Water and Air

(h) Pans of cooking utensils should be made of materials that are

- (i) Conductors
- (ii) Insulators
- (iii) Radiators
- (iv) Semiconductors

(i) The fastest mode of heat transfer is

- (i) Radiation
- (ii) Convection
- (iii) Conduction
- (iv) Combination of conduction and convection

(j) Thermal equilibrium is achieved when

- (i) Heat transfer is from hot to cold
- (ii) Heat transfer is cold to hot
- (iii) When there is no heat transfer
- (iv) When heat transfer is just beginning

Chapter-6 Sound

Q-1 State True or False for the following and correct the False statements giving reasons

- (1). Every source of sound is a vibratory body.
- (2). Vocal cord of females are longer than that of males.
- (3). Sound travels in the air as longitudinal waves.
- (4). The lower end of the human audible range of sound is 5 Hz.
- (5). The time taken for one vibration in a wave is called time period.
- (6). Loudness of sound depends on frequency of vibration.
- (7). Sound travels faster in liquids than in solids.
- (8). The reflection of sound obeys the laws of reflection.

- (9). Unit of time period is hertz.
- (10). Auditoriums are designed for no echo formation.

Q-2 Fill in the blanks

- (1). In a sitar smaller length of the string produces _____ sound.
- (2). Sound cannot travel in _____.
- (3). For a wave the maximum displacement of a medium from mean position is called its _____.
- (4). In longitudinal waves particle vibration and movement of wave is in _____ direction.
- (5). Sound above human hearing range is called _____.
- (6). A sound of high frequency will have _____ pitch.
- (7). Sound heard after its reflection from a rigid surface is called _____.
- (8). Sound travels faster in liquids than in _____.
- (9). Unit of frequency is _____.
- (10). Sound cannot travel in _____.

Q-3 Short answer type questions

- (1). How is sound produced?
- (2). What are longitudinal waves?
- (3). Why sound cannot travel in vacuum?
- (4). How can you say that shorter vibrating body produces a shrill sound?
- (5). How do we produce sound from our throat?
- (6). Why it can be difficult to converse in a large bare room?
- (7). Why is thunderclap heard few seconds after lightning?
- (8). How can a room be made sound proof?
- (9). What is loudness of sound?
- (10). What do you understand by echolocation?

Q-4 Match the column

Q-5 Long answer type questions

- (1). Explain the terms, amplitude and frequency giving examples.
- (2). How can you justify that sound travels in water but not in vacuum?
- (3). How can you prove that sound is conducted by solids?
- (4). How can you prove that light travels much faster than sound?
- (5). If a huge explosion occurred on the Moon it will be seen but not heard. Can you explain why?
- (6). How will you prove that loud sound is produced by large vibrations?
- (7). What are the various uses of ultrasound?
- (8). Why echo formed in a small room does not disturb the quality of sound?
- (9). Write a note on sound absorbers giving practical examples.
- (10). What are different uses of echo and sonar?

Multiple Choice Questions

(a) Which of the following correctly explains the production of sound?

- (i) Sound is produced by hitting something with heavy object.
- (ii) Sound is produced only when we hear it.
- (iii) Sound is produced only when we hear it.
- (iv) Sound is produced when two bodies are brought together.

(b) Which of the following is not correct for propagation of sound?

- (i) Sound travels the fastest in solid medium.
- (ii) Speed of sound is faster in liquids than in air.
- (iii) Speed of sound is faster in liquids than in air.
- (iv) Sound always needs a medium to travel.

(c) If we shorten the size of a string of a musical instrument its pitch will

- (i) increase
- (ii) decrease
- (iii) remain unaffected
- (iv) depend on the tune

(d) Which of the following is audible sound for humans?

- (i) 30,000 Hz
- (ii) 10 Hz
- (iii) 10,000 Hz
- (iv) 25000 Hz

(e) Which of the following is audible sound for humans?

- (i) 25000 Hz
- (ii) 10,000 Hz
- (iii) 100 Hz
- (iv) 10 Hz

(f) Quality of music in a small room and a large room can be different because -

- (i) Only few people can sit in a small room.
- (ii) Small room can become very noisy.
- (iii) Many people can listen to the music in a large room
- (iv) In a small room music is not affected by echo formation.

(g) Which of the following is a good reflector of sound?

- (i) High wall made of concrete
- (ii) Curtains made of thick cotton
- (iii) Wall lining of thermocol
- (iv) Sheets of sponge

(h) Some animals are able to sense an earthquake humans cannot sense it because-

- (i) They can listen to ultrasonic sound
- (ii) They can listen to infrasonic sound
- (iii) They can listen to echo
- (iv) They are trained for it

Chapter-7 Electricity and Magnetism

Q-1 State True or False for the following and correct the false statements giving reasons

- (1). A freely hanging piece of wood always points to North-south direction.
- (2). Electromagnets are not only powerful but also permanent.
- (3). A group of two or more cells is called a battery.
- (4). Good conductors of electricity have free electrons.
- (5). Earth's magnetism resides deep in the Earth.
- (6). A closed circuit means the switch is OFF.
- (7). Electrons have a positive charge.
- (8). Good conductors of electricity are bad resistors.
- (9). Three bulbs connected in parallel circuit will always give dim light.
- (10). Fuses can also be called switches for safety

Q-2 Fill in the blanks

- (1). A sure test of magnetism is _____.
- (2). The core of an electromagnet is made of _____.
- (3). Wool is a _____ conductor of electricity.
- (4). Electricity is conducted in liquids by motion of _____.
- (5). Path along which current flows is called a _____.
- (6). Source of current in a torch is _____.
- (7). Electricity that does not move is called _____.

- (8). Fuse is best described as a _____.
- (9). A battery is made of _____.
- (10). In a circuit diagram zigzag line represents _____.

Q-3 Short answer type questions

- (1). What is a magnetic pole; how do they exist in pairs?
- (2). How will you test if a piece of iron is a magnet?
- (3). What is an electromagnet?
- (4). How can we know the polarity of an electromagnet?
- (5). Why electric switches should not be touched with wet hands?
- (6). What is an electric circuit?
- (7). Name two uses of an electromagnet.
- (8). How is an ion formed?
- (9). What is a solenoid?
- (10). What is magnetic declination of Earth?

Q-4 Match the column

Q-5 Long answer type questions

- (1). State the laws of magnetism and how can we test them?
- (2). How can we differentiate between an electromagnet and a permanent magnet?
- (3). Describe an experiment to show that like poles of a magnet repel.
- (4). How can we make an electromagnet more powerful?
- (5). What are primary cells?
- (6). How good conductors conduct electric current?
- (7). Why electrical connections in house wiring is done in parallel circuit?
- (8). Describe the working of an electric bell.
- (9). Differentiate between a series circuit and a parallel circuit?

(10). Draw a circuit diagram having a battery, a switch, two bulbs and a fuse.

Multiple Choice Questions

(a) Which of the following is true for a freely suspended magnet?

- (i) It keeps moving in the horizontal plane.
- (ii) It comes to rest pointing magnetic north and south.
- (iii) It comes to rest pointing geographic north and south.
- (iv) It can come to rest in any random direction.

(b) A magnetic needle changes direction when a magnet is brought near it. This is because:

- (i) There is Earth's magnetic field
- (ii) The magnetic needle loses its magnetism
- (iii) There is magnetic field of the magnet
- (iv) There is no change in the direction of the magnetic needle

(c) Which of the following is not true for an electromagnet?

- (i) Its magnetism is permanent.
- (ii) Its magnetism is temporary.
- (iii) Its magnetism also has North and South poles.
- (iv) It is used in callbells.

(d) In a battery the positive terminal of an electric cell is attached to –

- (i) Positive terminal of the next cell
- (ii) Negative terminal of the next cell
- (iii) The Earth
- (iv) It depends on the requirement

(e) If a circuit is open, then the bulb connected in the circuit:

- (i) Glows brightly

- (ii) Does not glow
- (iii) Glows for some time and then stops glowing
- (iv) Depends on the type of bulb

(f) In an electric bell the armature functions as –

- (i) A gong
- (ii) An automatic switch
- (iii) The electromagnet
- (iv) The permanent magnet

(g) Which of the following is not an advantage of a dry cell?

- (i) It is easy to use
- (ii) They all are rechargeable.
- (iii) Two or more can be used to produce more current.
- (iv) They do not leak

(h) The magnet used in an electric bell is –

- (i) An electromagnet
- (ii) A permanent magnet of soft iron
- (iii) A permanent bar magnet
- (iv) A tablet shaped magnet