

NOTE: TO BE SOLVED DURING WINTER VACATIONS.

Q1 State the reason for the following.

- (i) Why the word 'AMBULANCE' printed laterally inverted on an ambulance van?
- (ii) A red rose when seen in blue light appears black.
- (iii) If we raise our left hand in front of a plane mirror, the image will raise its right hand.
- (iv) The bottom of a cooking utensil is blackened while its inner part is made shining.
- (v) Outer surface of the inner wall and inner surface of the outer wall of a thermos flask are silvered.
- (vi) Two friends cannot talk to each other if they are on the moon.
- (vii) A person presses his ears against the railway track to find whether a train is approaching or not. Why?
- (viii) Why do electricians wear rubber gloves while ~~working~~ working.
- (ix) An atom gains electrons from another atom. What will be the nature of charge on the gainer atom?
- (x) A metal spoon is heated at one end and the heat is felt at the other end after a while.

Q2 State the S.I unit of the following.

- (i) Charge
- (ii) Current
- (iii) Frequency
- (iv) Amplitude
- (v) Volume
- (vi) Velocity
- (vii) Weight
- (viii) Temperature
- (ix) Energy
- (x) Time Period

Q3 Give technical term of following:

- (i) The maximum displacement of a wave on either side of its mean position.
- (ii) Scientific name for the human voice box.
- (iii) Repetition of sound produced by the reflection of sound waves from a reflecting surface.
- (iv) The process during which a liquid changes to its solid state.
- (v) The process during which a substance in its solid state changes directly into its gaseous state without undergoing the process of melting.
- (vi) A pair of colours which on mixing produce white colour.
- (vii) Chemicals that are capable of absorbing a particular colour of light.
- (viii) The shortest distance covered by a body between its initial and final positions.
- (ix) A quantity that needs both magnitude and direction to be described.
- (x) Motion that repeats itself after regular intervals of time.

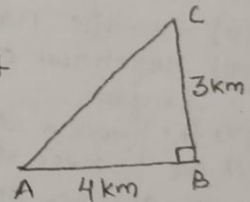
Q4 Answer in short

- (i) A car is moving at the rate of 40 km/hr towards east. Which physical quantity is stated here.
- (ii) Differentiate between mass and weight.
- (iii) Define translatory motion.
- (iv) Write the characteristics of an image formed by a plane mirror.
- (v) Write two uses of plane mirror.
- (vi) What do you mean by colour subtraction. Give one example.
- (vii) What are Complementary Colours. Give one example.
- (viii) State a difference between regular and diffused reflection.
- (ix) If the angle between the incident ray and plane mirror is 42° , then what will be the angle of reflection.
- (x) Define temperature and state its S.I unit.
- (xi) What is meant by ignition temperature.

- (xii) Write two precautions while handling fire.
- (xiii) Define (a) Longitudinal wave (b) Transverse waves
- (xiv) Define (a) amplitude (b) frequency.
- (xv) Define loudness of sound. Write the factors on which the loudness of vibrating body.
- (xvi) Write the conditions required for occurrence of an echo.
- (xvii) Write full form of "SONAR".
- (xviii) ~~Write~~ Write the frequency range of (a) Infrasound sound (b) Audible sound (c) Ultrasonic sound
- (xix) What do you understand by noise pollution.
- (xx) Write the laws of magnetism

Q5 SOLVE THE NUMERICALS :

- (i) Calculate the minimum distance required for an echo to be heard?
 - Speed of sound in air = 340 m/s persistence of sound for normal human ear = 0.1 sec.
- (ii) A girl claps and hears the echo after reflection from a cliff which is 660 m away from her. If the velocity of sound is 330 m/s, calculate the time taken for hearing the echo.
- (iii) A SONAR transmits an ultrasonic sound signal towards the bottom of a sea. Time interval between the transmitting and the receiving of sound waves is :
 If the speed of ultrasonic sound in seawater is 1560 m/s. Find the depth of
- (iv) Convert a) 76°F into $^{\circ}\text{C}$ b) 81°C into $^{\circ}\text{F}$ c) 325 K into $^{\circ}\text{C}$ d) 35°F into K
- (v) The angle between incident ray and reflected ray is 88° . Find the angle of incidence.
- (vi) An express train moves at a speed of 72 km/hr . How far will it travel in 4 hr.
- (vii) A train covers 1540 km with a speed of 40 km/hr . How long does it take to finish the journey.
- (viii) An object moves from A to C in a triangular path as shown in figure. Find a) distance travelled b) displacement
- (ix) The frequency of a sound wave is 500 Hz . Find the time period.
- (x) The time period of a sound wave is 0.05 second . Find the frequency.



Q6 THINK AND ANSWER.

- (i) A person presses his ears against the railway track to find whether a train is approaching or not. Why?
- (ii) Why is asbestos used in fire-proof buildings?
- (iii) Under very dim light, we are able to see the objects but cannot distinguish between colours why?
- (iv) A child walks 7 m straight from his house, then turns left and walks 20 m . He then turns left again and walk 7 m . What is his displacement.
- (v) Describe the types of motion of a screw when it is turned.