Class-VIII
Annual Examination (2023-2024)
Subject:Science
SET- A1/A2
Marking scheme

Time allowed: 2 ½ hours M.M:60

General Instructions:

(i) The question paper comprises three sections A, B and C .Attempt all the questions of each section together.

(ii) Do not mix your answers from one section into another.

(iii) Note : The question paper has 6 printed pages.

Set no.	Set no.	Section: A Physics	M.M:20
A1	**A2**	**Expected answers /value points**	**Marks**
Q1.		**Select and write one most appropriate option out of the four options given for each of the questions (i) to (v)**	(1)
		(i) Which of the following statements are correct? (A) Sound is produced by vibrations. (B) Sound requires a medium for propagation. (C) Light and sound both require a medium for propagation. (D) Sound travels slower than light. (a) (A) and (B) only (b) (A) ,(B) and (C) only (c) (A) ,(C) and (D) only (d) **(A) ,(B) and (D) only**	
		(ii) Which of the following is not likely to cause a Tsunami? (a) A major nuclear explosion under sea (b) Earthquake (c) Volcanic eruption (d) **Lightning**	(1)

(iii) Ultrasound has frequency of vibration

(a) between 20 and 20,000 Hz
(b) below 20 Hz
(c) above 20,000 Hz
(d) between 500 and 10,000 Hz

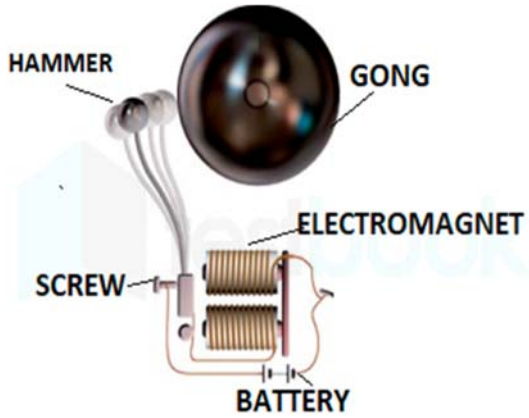
(1)

(iv) Which of the following statements is incorrect?

(a) Friction acts on a ball rolling along the ground.
(b) Friction acts on a boat moving on water.
(c) Friction acts on a bicycle moving on a road.
(d) Friction does not act on a ball moving through air.

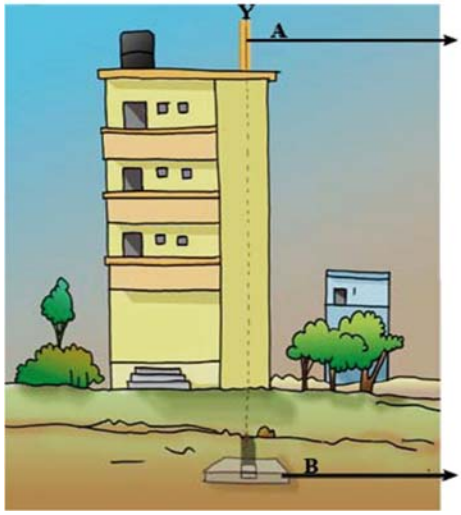
(1)

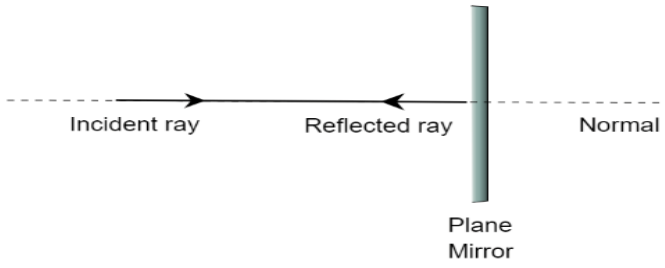
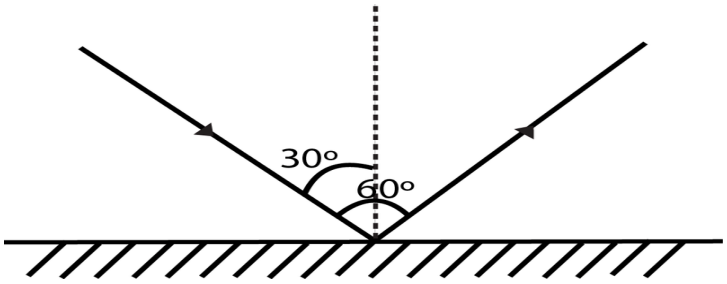
(v) In the circuit in Figure of an electric bell shown below , when the circuit is completed, the hammer strikes the gong. Which of the following force(s) is responsible for the movement of the hammer?

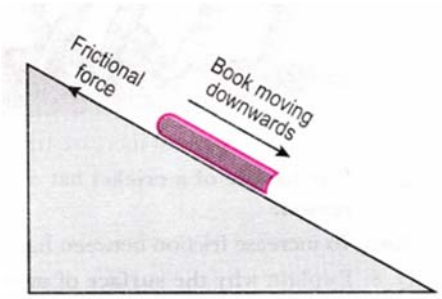


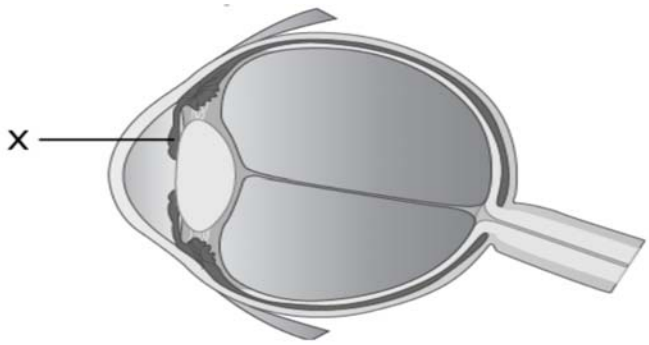
(1)

(a) gravitational force alone
(b) magnetic force alone
(c) electrostatic force alone
(d) frictional force alone

Q2		**Questions (i) to (iii) are very short answer questions carrying 02 marks each.** (i) **SETA1:** Read the following situation and answer the questions. Squeezing a piece of lemon between the fingers to extract its juice. a) Identify the agent exerting the force and the object on which force acts. b) Name the type of contact force in the above situation. c) state the effect of force on an object on which the force acts.. **ANS: Agent-fingers , object- lemon , name - muscular force ,effect of force - change in shape** **SETA2** (i) A Rocket has been fired upwards to launch a satellite in its orbit. Name the two forces acting on the rocket immediately after leaving the launching pad. **ANS: Force of gravity , friction in air, upthrust .** (ii) (a) Identify lightning conductor and a copper plate in the following figure:  (b) Explain how does lightning conductor protects a building from getting struck by lightning.	2 ½+½ +½+½ 1+1 2

		ANS: (a) A- lightning conductor and B- copper plate	½+½
		(b) The conducting rod provides an easy route for the transfer of electric charge to the ground.	1
		(iii) (a)What would be angle of incidence and angle of reflection if you throw the light on the plane mirror along the normal ? (b) Draw a ray diagram to justify your answer.	2
		OR	
		(iii) (a) Consider a plane mirror.The angle between incident ray and reflected ray is 60°.What is the value of angle of incidence? (b) Draw a ray diagram showing angle of incidence and angle of reflection for the above part.	
		ANS: (iii) angle of incidence = angle of reflection =0°	1
			1
		OR	
		(iii) Angle of incidence will be 30°	1
			1

Q3		Question is a short answer question carrying 03 marks (a) Suppose your writing desk is tilted a little. A book kept on it starts sliding down. Show with the help of a diagram,the direction of frictional force acting on it. (b) A marble is allowed to roll down an inclined plane from a fixed height. At the foot of the inclined plane, it moves on a horizontal surface (a) covered with newspaper (b) covered with a layer of sand and (c) covered with a glass sheet. On which surface will the marble move the shortest distance? Give reason for your answer. (c) Is there a force of friction between the wheels of a moving train and iron rails? If yes, name the type of friction.  **ANS: (a)** **upwards/opposite to the direction of motion** **(b) shortest distance on surface covered with a layer of sand ; max.friction** **(c) yes , rolling friction**	3 ½ x 6
Q4		Observe the following picture of a suspended small thermocol ball touching the rim of a tumbler which will begin to oscillate when the tumbler vibrates. (a) If we strike the tumbler with a steel spoon harder ,will the thermocol ball be displaced farther? What does this indicate in terms of amplitude of a vibrating object ?	3

		(b) A simple pendulum makes 10 oscillations in 20 seconds. What is the time period and frequency of its oscillation? **ANS: (a) YES. This indicates that the tumbler vibrates with larger amplitude.** **(b) Time period = time/no. Of oscillations** **T= 20/10 = 2 s** **frequency=f= 1/T = ½ = 0.5 Hz**	1+2
Q5		Read the paragraph given below and answer the questions: We see things only when light coming from them enters our eyes. Eye is one of our most important sense organs. It is therefore important to take care of your eyes.It is necessary that you take proper care of your eyes. If there is any problem you should go to an eye specialist. (a) Name the part of the eye that is marked as "X"in the following diagram.  (b) Why do the eyes of the nocturnal birds have large cornea and large pupil? (c) What kind of lens is there in our eyes? Where does it form the image of an object? OR (c) "Too little or too much light is bad for the eyes"Justify the statement. **ANS: (a) IRIS** **(b) To Allow more light to enter their eyes and can see in faint light.** **(c) Convex , retina** **OR** **(c) Insufficient light - eyestrain and headaches.too much light - injure retina.**	3 1+1+1