

MAR THOMA RESIDENTIAL SCHOOL, THIRUVALLA

ANNUAL EXAMINATION 2019-'20

Marks-80

Class-VIII

PHYSICS

Time-2 h

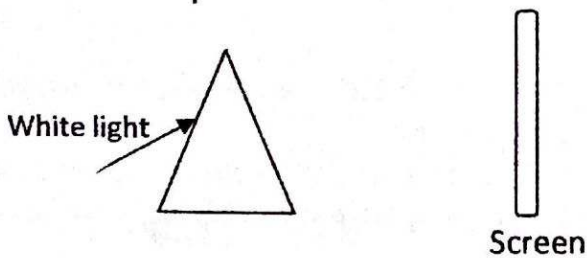
SECTION I
(Answer all questions)

Question 1

- a. i) State the law of flotation. (2)
ii) What is the apparent weight of a floating body? (2)
- b. Calculate the volume of wood of mass 6000kg, if the density of wood is 0.8g/cm^3 . (2)
- c. A gum bottle rests on its base. If it is placed upside down, how does the
i) thrust ii) pressure, change. (2)
- d. i) The hand flour grinder is provided with a handle near the rim. Give reason.
ii) The moment of a force of 15N about a pivot is 9Nm. Calculate the distance of force from the pivot. (2)
- e. Name the factors on which liquid pressure depends. (2)

Question 2

- a. i) Define the SI unit of work.
ii) A person standing with a heavy box on his head does no work. Give reason. (2)
- b. Name the form of mechanical energy possessed by
i) a wound up watch spring
ii) swinging pendulum (2)
- c. The depth of water in a vessel when seen from air appears to be less.
i) Name the phenomenon responsible for it.
ii) What is the cause of the phenomenon mentioned in part(i). (2)
- d. A ray of white light is falling on a prism. Complete the diagram till the light emerges out of the prism and falls on the screen.



- e. i) Name the mirror which always forms an erect and virtual image.
ii) Give one use of the above mentioned mirror. (2)

Question 3

- a. State the factors on which change in temperature of a body depends. (2)
- b. i) Name one factor on which the rate of evaporation depends.
ii) State how does the above mentioned factor affect the rate of evaporation. (2)
- c. i) What care must be taken while putting up the electric wires between two poles in winter?
ii) Give reason for the answer mentioned above. (2)
- d. i) Define the kind of thermal expansion liquids can have.
ii) Why do thick glass tumblers crack, when hot liquid is poured in it? (2)
- e. How is it possible to detect the filling of a bucket under a water tap by hearing the sound?(2)

Question 4

- a. Draw a diagram to show the wave pattern of high pitch note and a low pitch note ,but of the same loudness. (2)
- b. i) Which characteristics of sound makes it possible to recognize a person by his voice without seeing him?
ii) What is a monotone? (2)
- c. i) Define the household unit of electrical energy.
ii) How is the above mentioned unit related to its SI unit? (2)
- d. i) Name the material used for making fuse wire.
ii) State one property of the fuse wire. (2)
- e. 'An electric bulb is rated 100W-220V'
i) What do you mean by the above statement?
ii) Calculate the current that will flow through the bulb when in use. (2)

SECTION II (Answer all questions)

Question 5

- a. i) How can a pith ball electroscope be used to detect the presence of charge?
ii) What can be said about the charge of a body if,
1) the divergence of the leaves of a charged gold leaf electroscope increases.
2) the divergence of the leaves of a charged gold leaf electroscope decreases. (4)
- b. i) What is a lightning conductor?
ii) An electrical appliance of power 1500W is used for 4 hours each day. Find the cost of electrical energy consumed in 60 days at the rate of ₹ 6.25 per kWh. (3)
- c. i) What is the use of an electric meter?
ii) Name the three wires with the colour of insulations used, in household electrical circuits. (3)

Question 6

- a. i) Name the unit in which the loudness of sound is expressed.
ii) Why is the loudness of sound heard by a tuning fork increases when placed on a table top?
iii) Two waves of same pitch have amplitudes in the ratio 1:3. What will be the ratio of their 1) loudness 2) pitch? (4)
- b. i) Name the material used for making pendulum of a clock.
ii) Give reason for the above mentioned answer in part (i).
iii) Two identical rods-one hollow and the other solid, are heated to the same rise in temperature. Which will expand more? (3)
- c. i) Name one factor which determines the pitch of a stringed instrument.
ii) State how does the above mentioned factor depend.
ii) State how can we increase the pitch by the factor stated. (3)

Question 7

- a. i) Can a concave mirror form virtual image?
ii) Draw a ray diagram to support the answer above in part (i). (4)
- b. i) Define power.
ii) The kinetic energy of a body of mass 20kg is 1000J. Find its speed. (3)
- c. State the energy changes in the following
i) A microphone
ii) Photosynthesis
iii) Washing Machine. (3)

Question 8

- a. i) We do not feel uneasy even under the enormous atmospheric pressure. Give reason.
ii) How does the atmospheric pressure change with altitude?
iii) Calculate the pressure in pascal, exerted by a force of 400N acting normally on an area of 20cm^2 . (4)
- b. i) Name the forces acting on a body immersed in a liquid.
ii) State the direction of the forces mentioned above.
iii) How do the forces stated above determine whether the body will sink or not? (3)
- c. i) Define thrust.
ii) School bags have broad straps. Why? (3)