MAR THOMA RESIDENTIAL SCHOOL, THIRUVALLA

SECOND TERMINAL EXAMINATION 2018-'19

Marks-80

Class-VIII

PHYSICS

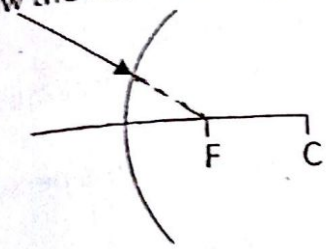
Time-2h

Section A

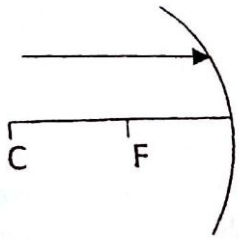
Question-1

a. i) How does the speed of light determine the optical density of a medium?
   ii) A ray of light falls normally on a glass slab. What is the angle of incidence?
b. State the laws of refraction.
c. Name and define the phenomenon responsible for early sunrise and late sunset.
d. Draw the reflected ray for the incident rays.

i)



ii)



e. State the kind of mirror used
   i) by a dentist
   ii) as a street light reflector.

Question-2

a. Define moment of force and state its SI unit
b. i) Name the type of mirror used a rear view mirror.
   ii) Give reason for using the above mentioned mirror in part (i).
c. i) Define focus of a convex mirror.
   ii) The radius of curvature of a concave mirror is 20cm. Find its focal length.
d. State the factors affecting pressure on a surface
e. State the position of the object so that the image formed by a concave mirror is
   i) behind the mirror and virtual
   ii) beyond the centre of curvature and real.

Question-3

a. Glass ware used in kitchen are generally made of Pyrex . Give reason.
b. When hot liquid is poured into a thick glass tumbler, it cracks. Give reason.

c. i) What do you mean by anomalous behaviour of water?
ii) At what temperature, density of water is maximum?
d. i) Define heat energy,
ii) State its SI unit.
e. State the factors on which rate of evaporation depend.

Question-4

a. i) Draw a displacement-distance graph of a wave.
ii) Label the wave length and amplitude on the graph drawn.
(2)
b. Name and define the characteristics of sound which enables one to distinguish two sounds of same loudness but of different frequencies given by the same instrument.(2)
c. i) Name the unit in which the loudness of sound is expressed.
ii) Why is the loudness of the sound heard by a plucked wire increased when mou sound board?
d. i) What characteristics of sound makes it possible to recognise a person by his voi without seeing the person.
e. Two waves have frequencies 180 Hz and 720 Hz, but the same amplitude. Compa
i) pitch ii) loudness.
(2)

Section B

Question-5

a. A water pond appears to be 2.7m deep. If the refractive index of water 4/3, find actual depth of pond.
b. Draw a ray diagram to show the appearance of a stick partially immersed in wate
(3)
c. i) A dam has the broader walls at the bottom than at the top. Give reason.
ii) A gum bottle rests on its base. If it is placed upside down, how does the
1) thrust 2) pressure change

Question-6

a. Write three differences between real and virtual image.
b. Name the kind of spherical used
i) as a vigilance mirror.
ii) as a shaving mirror.

Question-7

a. i) Name two ways of change of liquid state to the vapour state.
   ii) Write three points of differences between the above mentioned ways.
b. How does the density of a substance change on heating?
c. i) What is linear expansion?
   ii) State three factors on which it depends.

Question-8

a. State three factors which affect the loudness of sound heard by a listener.
b. i) Define 1) time period 2) frequency of a wave.
   ii) Write the relationship between the time period and frequency of a wave.
c. i) How is it possible to detect the filling of a bottle under a water tap by hearing the sound at a distance?
   ii) Draw a diagram to show the wave pattern of a high pitch note and a low pitch note but of same loudness and quality.