MAR THOMA RESIDENTIAL SCHOOL, TIRUVALLA

SECOND TERMINAL EXAMINATION 2019-'20

Class-VIII

PHYSICS

Marks-80

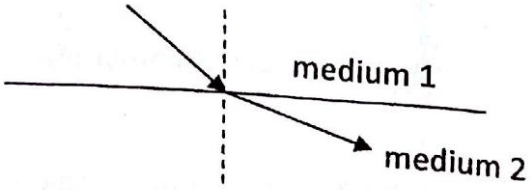
Time-2h

Section I

Question-1

a. State the laws of refraction of light.

b. i) From the diagram given below, state whether the speed of light increase or decrease in medium 2. (2)

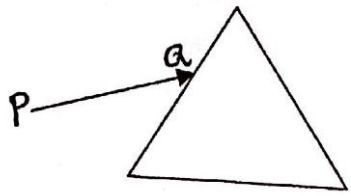


ii) Give one example of medium 2.

c. i) Define dispersion

ii) Which colour of white light is deviated the most? (2)

d. Complete the path of light ray till it comes out of the prism. (2)



e. i) What is lateral displacement? (2)

ii) Define the phenomenon responsible for early sunrise and late sunset. (2)

Question-2

a. i) Name the mirror which always forms an erect and virtual image.

ii) What is the size of the image formed by the above mentioned mirror as compared to that of the size of the object?

b. Name the kind of mirror used as (2

i) a shaving mirror

ii) a reflector in street light

c. Write two differences between real and virtual image. (

d. i) State the direction of incident ray which after reflection from a spherical mirror gets reflected along its own path. (

ii) Give a reason for the answer in part (i) above. (

e. Differentiate between convex mirror and concave mirror(2 points) (

a. State the factors on which the change in temperature of a body depends.

b. i) Name the material used for making pendulum of a clock.

ii) Give reason for the answer in part (i) above.

c i) The glassware used in kitchen are made up of pyrex glass. Why?

ii) Two iron rods one 5m long and the other 20m long are heated to $5^{o}C$. Which will expand more ? Give reason.

d. An iron washer is heated. State the effect on its

i) internal diameter

ii) mass.

e. i) How does the density of a liquid change on heating?

ii) At what temperature the density of water is maximum?

Question-4

a. Draw a displacement-time graph of a wave and label the amplitude and time period on it.

b. i) Define loudness.

ii) If the ratio of amplitudes of two waves is 3:4. Find the ratio of their loudness.

c. i) Name a factor that determines the pitch of sound produced by a wind instrument.

ii) State how can the pitch be increased by the factor stated in part (i) above.

d. A machine moves a load of 520N by a distance of 5.2m vertically up. Calculate the work done by the machine.

e. Find the kinetic energy of a body of mass 50kg moving with a speed of 20m/s.

Section II

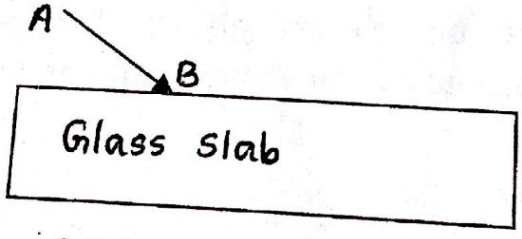
Question-5

a. i) Name the mirror which forms virtual, magnified image of an object.

ii) Give one use of the mirror mentioned in part (i) above.

iii) Define the focus of the above mentioned mirror.

b. i) Complete the path of the light ray till it emerges out of the glass slab.



ii) If the light ray falls normally on the glass slab above, what will be the angle of incidence?

c. An object is placed between F and C of a concave mirror. Draw a ray diagram to show the image formation. Also state the nature and size of the image formed.

Question-6

a. State the factors on which cubical expansion of solids depends.

b i) State the effect of pressure on boiling point.
ii) When a hot liquid is poured into a thick glass tumbler it cracks. Give reason.

c. i) Name the processes of changing liquid state to the vapour state (3)
ii) write two differences between the two processes mentioned above. (4)

Question-7

a. i) Define pitch of a sound.
ii) Draw a displacement-time graph to differentiate a high pitch note and a low pitch note.

b. i) Define frequency and time period of a wave. (3)
ii) Write the relation between frequency and time period.

c. i) Name two factors on which the pitch of sound produced by a stringed instrument depends. (3)
ii) How can the pitch be decreased by the factors stated above? (4

Question-8

a. i) Define heat energy.
ii) State the effects of heat.

b. Define i) principal axis ii) pole iii) focal length of a spherical mirror.

c. State the position and the nature of the image formed when
i) the object is placed beyond the centre of curvature of a concave mirror.
ii) the object is at infinity of a convex mirror.