Practice Question Set For GCSE
Subject : Physics
Paper-2 Topic: GCSE Triple Science_Waves (LDQ)

Name of the Student:_____
Max. Marks : 22 Marks **Time : 22 Minutes**

Q1.

In the diagram below, a frog sits on a rock in a pond.

(a) Complete the following sentences by drawing a ring around the correct line in the box.

(i) The frog can see its image in the pond because the surface of the pond acts

like a | concave / convex / plane | mirror.

(1)

(ii) Draw a ring around each of **two** words from the box below to describe the image in the pond.

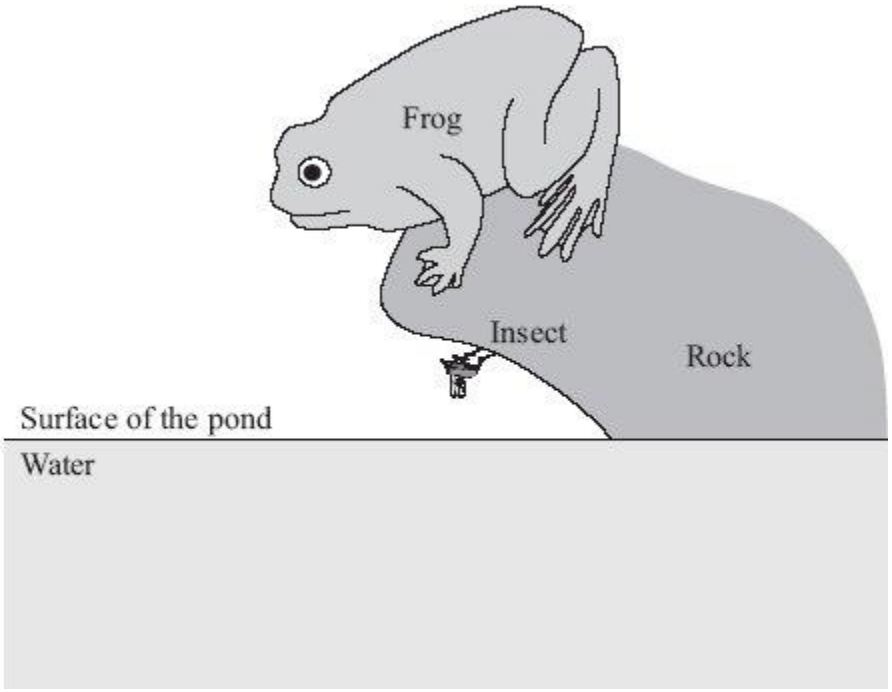
bigger	**inverted**	**real**	**smaller**	**upright**	**virtual**

(2)

(b) There is an insect underneath the rock.

Use a ruler to draw rays of light on the diagram to show how the frog uses reflection to see the insect.

Mark the direction of the rays.

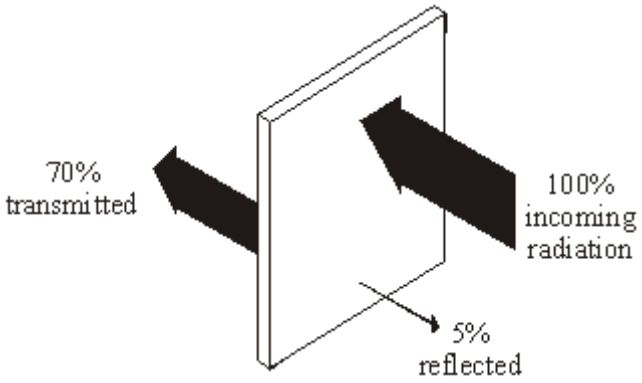


(3)

(Total 6 marks)

Q2.

(a) Infra red radiation can be reflected, absorbed and transmitted by glass.



(i) What percentage of infra red is absorbed by the glass?

_____

(1)

(ii) Complete the following sentence by drawing a ring around the correct word or phrase.

The absorbed infra red

increases
does not change
decreases

the temperature of the glass.

(1)

(b) **Two** of the following statements are true. **One** of the statements is false.

Tick (✓) the boxes next to the **two** true statements.

All objects absorb infra red radiation.	
Black surfaces are poor emitters of infra red radiation.	
A hot object emits more infra red than a cooler object.	

(1)

(c) The following statement is false.

Black surfaces are good reflectors of infra red radiation.

Change **one** word in this statement to make it true.

Write down your **new** statement.

_____

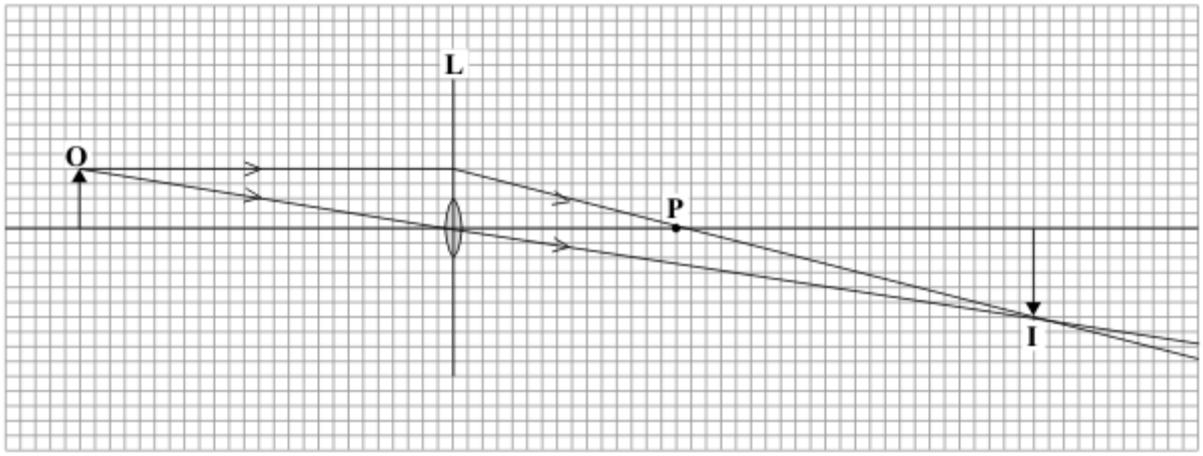
_____

(1)

(Total 4 marks)

Q3.

The ray diagram shows the position and size of the image, **I**, of an object, **O**, formed by a lens, **L**.



(a) What type of lens is shown in the ray diagram?

_____

(1)

(b) Name the point labelled **P**.

_____

(1)

(c) The ray diagram has been drawn to scale.

Use the equation to calculate the magnification.

$$\text{magnification} = \frac{\text{image height}}{\text{object height}}$$

Show clearly how you work out your answer.

_____

_____

Magnification = _____

(2)

(d) How can you tell from this ray diagram that the image is a real image?

_____

_____

(1)

(Total 5 marks)

Q4.

(a) A student uses a microphone to send different sounds to an oscilloscope. The diagrams show five traces, **A**, **B**, **C**, **D** and **E**, on the oscilloscope. All the traces are drawn to the same scale.

(i) Which **three** diagrams show traces with the same amplitude?

Diagrams _____ , _____ and _____ .

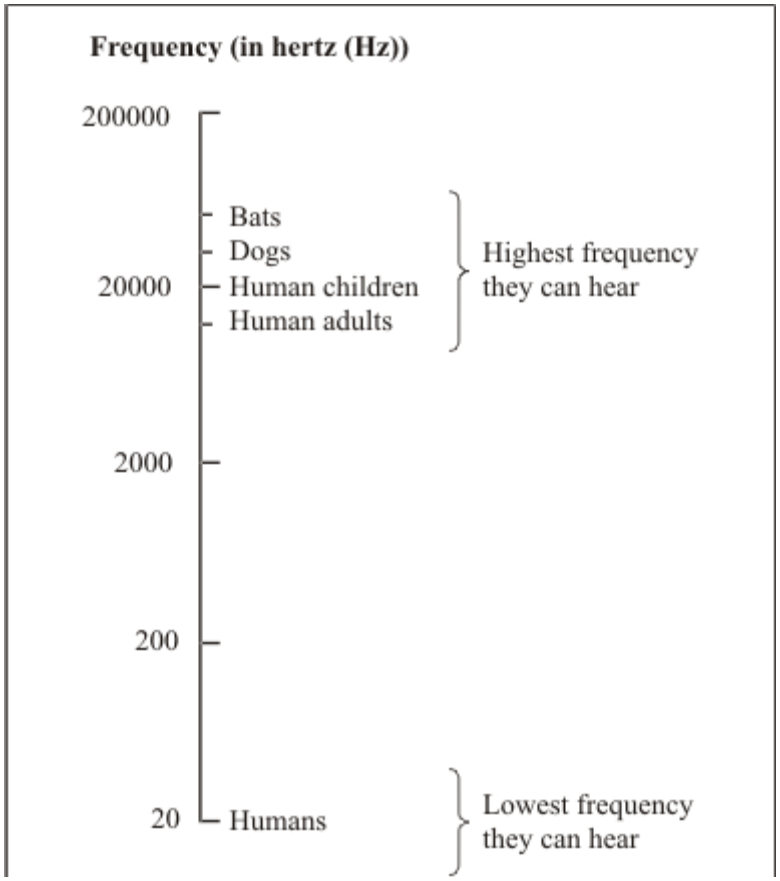
(1)

(ii) Which **two** diagrams show traces with the same frequency?

Diagrams _____ and _____ .

(1)

(b) The diagram shows the sound frequencies which some living things can hear.



(i) What is the widest range of frequencies that a human child can hear?

_____

(1)

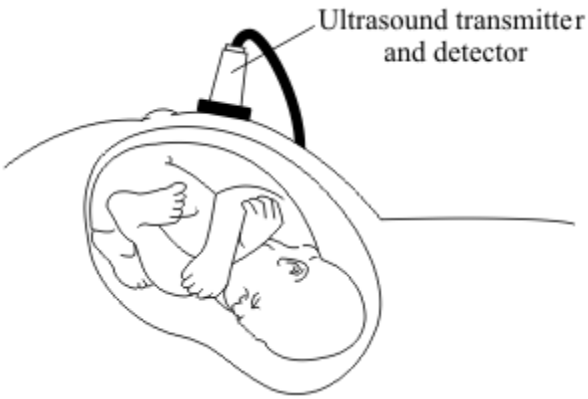
(ii) Why can some dog whistles be heard by dogs but not by humans?

_____

_____

(1)

(c) An ultrasound scan can be used to make a picture of a baby in its mother's womb. An ultrasound transmitter and detector are placed above the mother's womb. Ultrasound goes into the body of the mother and into the body of the baby.



Use the correct words from the box to complete the sentences.

detector	reflection	refraction	sound	substance	transmitter

(i) When the ultrasound crosses from one _____ to another,

some ultrasound becomes an echo caused by _____ .

(ii) This information is collected by the ultrasound _____

and made into a picture on a screen.

(3)

(Total 7 marks)