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

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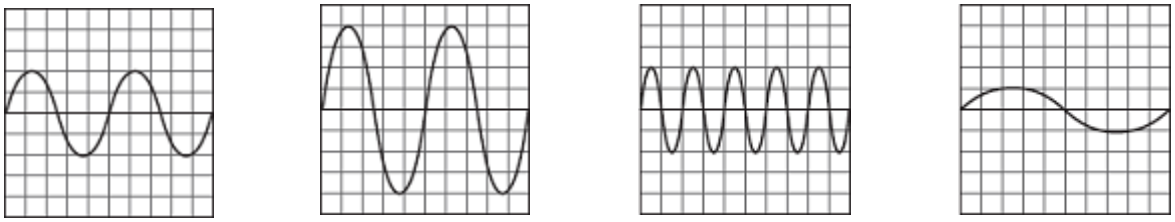
Name of the Student:_____
Max. Marks : 17 Marks **Time : 17 Minutes**

Q1.

(a) The diagram shows four sound waves, **J**, **K**, **L** and **M**, represented on an oscilloscope screen.

They are all drawn to the same scale.



J **K** **L** **M**

(i) Which **two** of the waves have the same amplitude?

Wave _____ and wave _____

(1)

(ii) Which of the waves would sound the loudest?

Wave _____

(1)

(iii) Only **one** of the waves is an ultrasound wave.

Which **one** is the ultrasound wave?

Wave _____

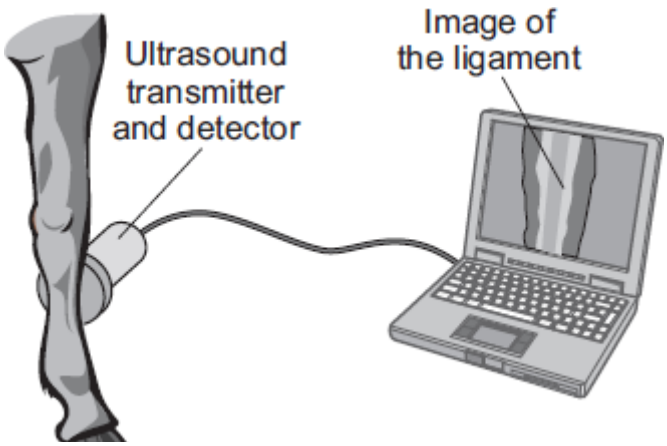
Give a reason for your answer.

_____

_____

(2)

(b) The diagram shows ultrasound being used to examine the ligament inside the leg of a horse.



Use words from the box to complete the following sentences.

computer	**detector**	**transmitter**

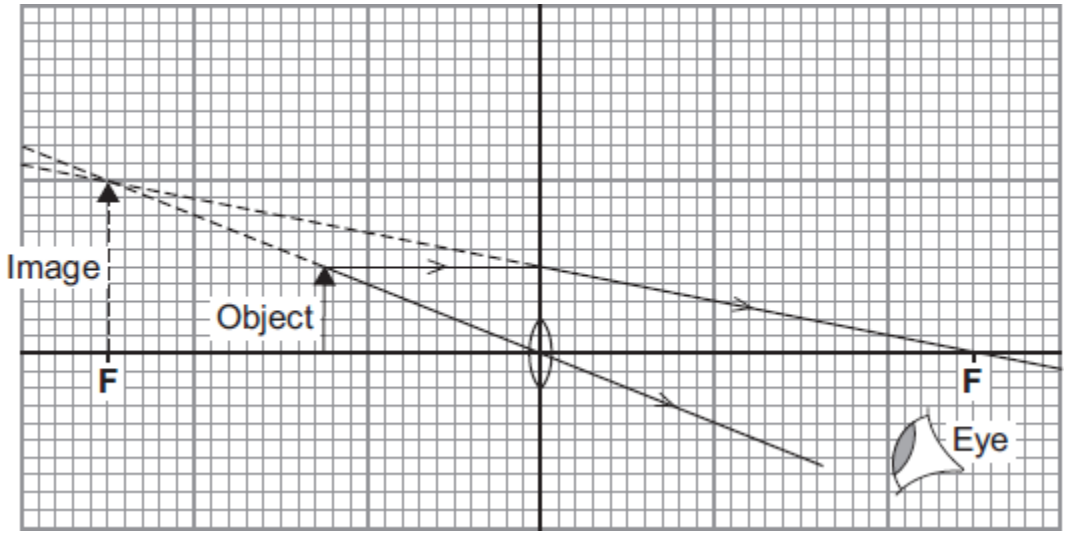
The _____ sends pulses of ultrasound into the leg. When the ultrasound meets the ligament, some is reflected back to the _____ The reflected pulses are converted by a _____ into an image that can be seen on the screen.

(2)

(Total 6 marks)

Q2.

The diagram shows a lens being used as a magnifying glass.



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

Draw a circle around your answer.

concave **converging** **diverging**

(1)

(ii) Use the equation in the box to calculate the magnification produced by the lens.

The object and image in the diagram have been drawn to full size.

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

Show clearly how you work out your answer.

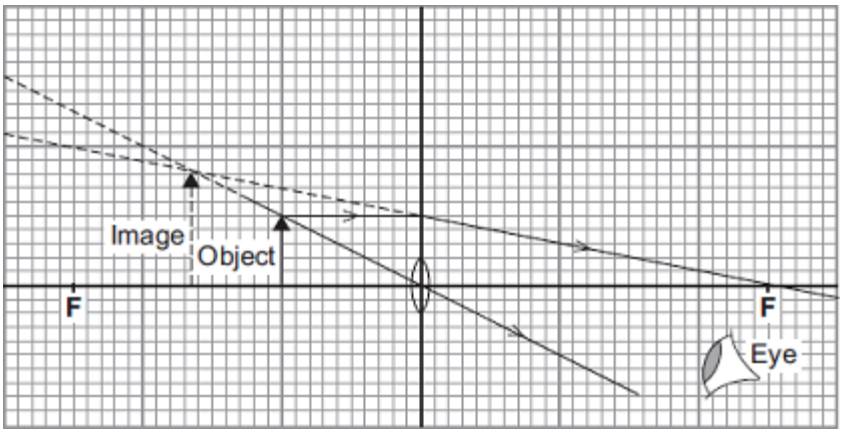
_____

_____

Magnification = _____

(2)

(b) The diagram shows how the image changes when the object has been moved closer to the lens.



Complete the following sentence by drawing a ring around the correct line in the box.

Moving the object closer to the lens

increases
does not change
decreases

the magnification

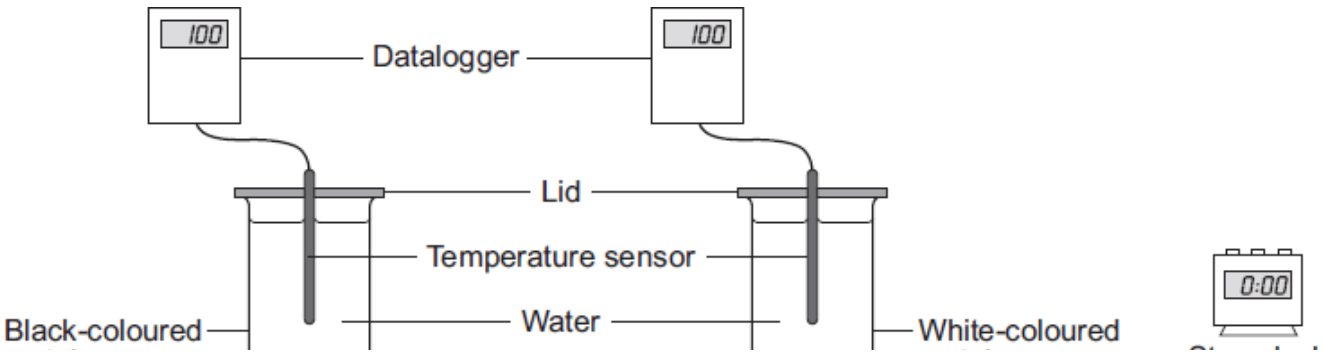
produced by the lens.

(1)

(Total 4 marks)

Q3.

The diagram shows the equipment a student used to investigate how the colour of a surface affects how fast it emits (gives out) heat.



An equal volume of boiling water was poured into each metal can. The student then recorded the temperature of the water in each can every minute for ten minutes.

(a) (i) Which of the following was a control variable in this investigation?

Put a tick (✓) in the box next to your answer.

The volume of boiling water. ☐

The decrease in temperature of the water. ☐

The outside colour of the metal can. ☐

(1)

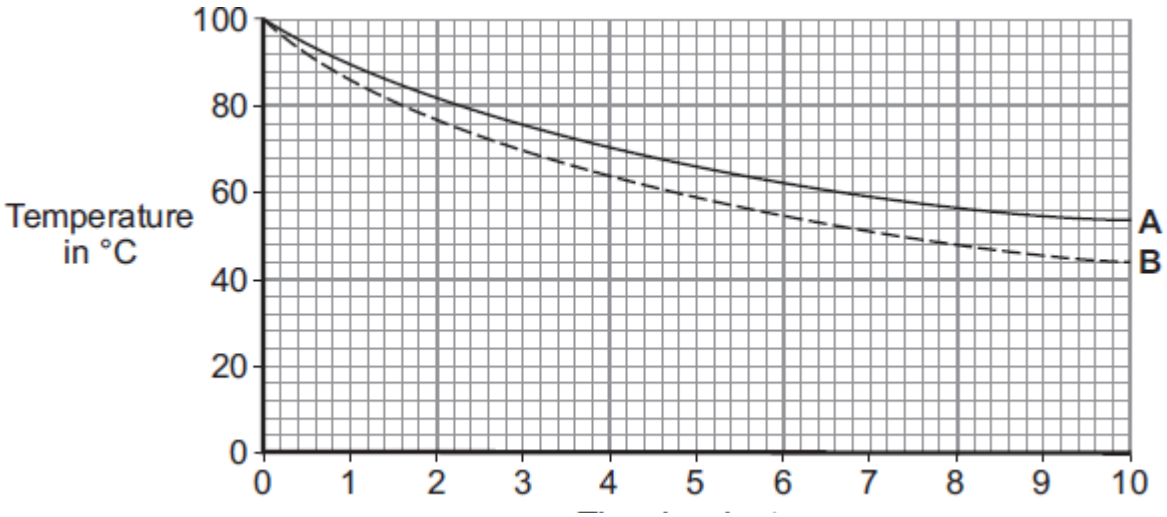
(ii) Give **one** advantage of using a temperature sensor and datalogger rather than a thermometer to measure the temperature of the water.

_____

_____

(1)

(b) The student's results for both cans are plotted on the graph.



Which line, **A** or **B**, shows how the temperature of the water inside the black-coloured metal can changed?

Draw a ring around your answer. **A** **B**

Explain the reason for your answer.

_____

_____

_____

_____

(2)

(c) Some gardeners make soil darker by digging black soot into the soil. Other gardeners use straw to protect plants from the cold.

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

On a warm day, the temperature of darker coloured soil will increase

slower than
as fast as
faster than

the temperature of lighter coloured soil.

(1)

(ii) Give a reason for your answer to part (c)(i).

_____

_____

(1)

(iii) The statement in the box is **false**.

Straw keeps plants warm by trapping air.

This is because air is a good conductor.

Change **one** word in the statement to make the statement **true**.

Write down your **new** statement. The answer has been started for you.

This is because air is a _____

(1)

(Total 7 marks)