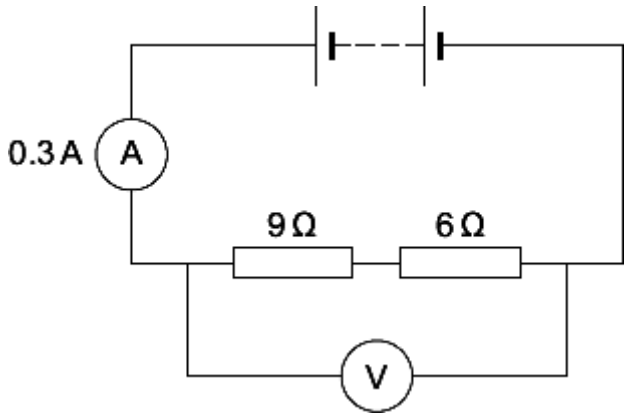
Practice Question Set For GCSE
Subject : Physics
Paper-1 Topic: Electricity (Low Demand)

Name of the Student:_____
Max. Marks : 18 Marks **Time : 18 Minutes**

Q1.

(a) The diagram shows a simple circuit.



(i) Calculate the total resistance of the two resistors in the circuit.

_____

Total resistance = _____ Ω

(1)

(ii) Calculate the reading on the voltmeter.

Show clearly how you work out your answer.

_____

_____

Voltmeter reading = _____ V

(2)

(iii) Draw a ring around the correct answer in the box to complete the sentence.

Replacing one of the resistors with a resistor of higher value will

decrease
not change
increase

the reading on the ammeter.

(1)

(b) The voltmeter in the circuit is replaced with an oscilloscope.

Which one of the diagrams, **X**, **Y** or **Z**, shows the trace that would be seen on the oscilloscope?

Write your answer, **X**, **Y** or **Z**, in the box.

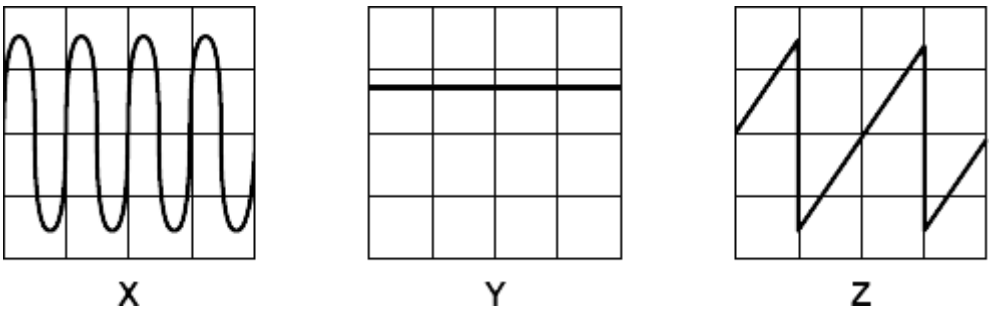


Diagram ☐

Give a reason for your answer.

_____

_____

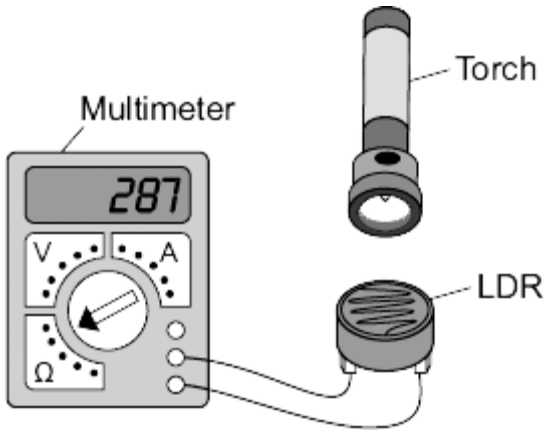
_____

(2)

(Total 6 marks)

Q2.

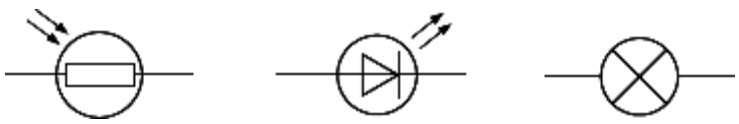
A student used the apparatus below to find out how the resistance of a light-dependent resistor (LDR) depends on light intensity.



The resistance of the LDR was measured directly using a multimeter.

(a) (i) Which **one** of the following is the correct circuit symbol for a LDR?

Draw a ring around your answer.



(1)

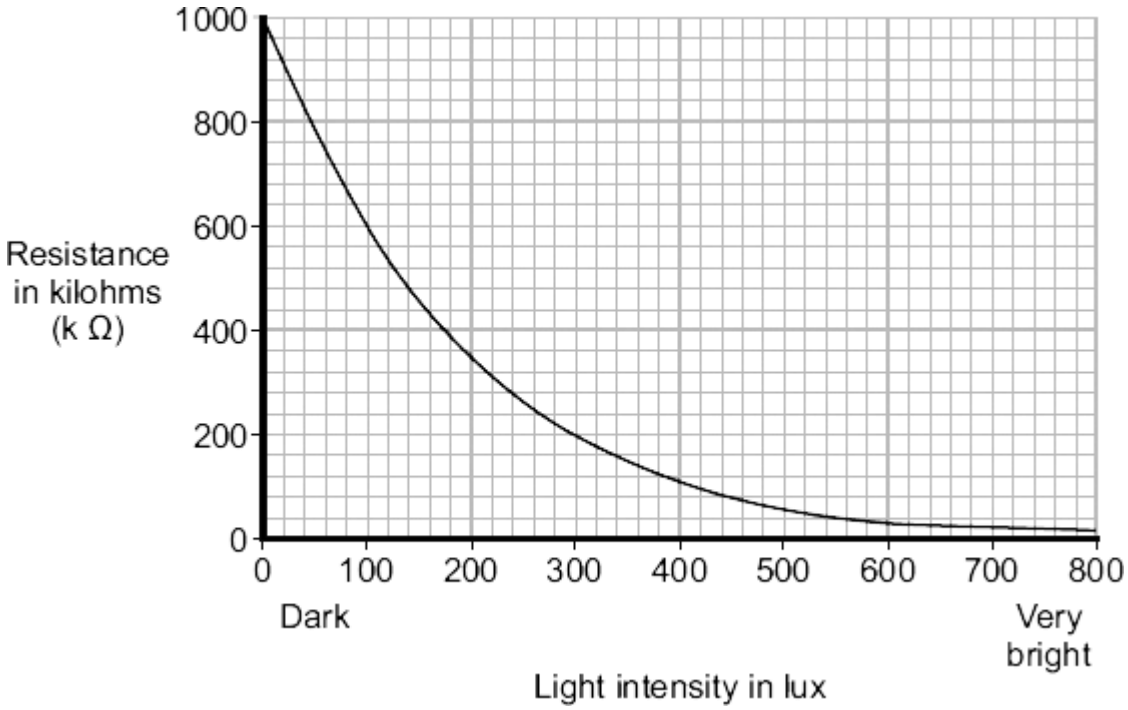
(ii) Name **one** factor that will affect the intensity of the light hitting the LDR.

_____

_____

(1)

(b) The manufacturer of the LDR provides data for the LDR in the form of a graph.



Describe how the resistance of the LDR changes when the light intensity increases from 100 lux to 300 lux.

_____

_____

_____

(2)

(c) The student only obtained three results. These are given in the table.

Light intensity	Resistance in kilohms
Dark	750
Bright	100
Very bright	1

(i) The student could **not** use the results to draw a line graph.
Why not?

_____

_____

(1)

(ii) Do the student's results agree with the data the manufacturer provided?

Draw a ring around your answer. YES NO

Give a reason for your answer.

_____

_____

_____

(1)

(d) Which **one** of the following circuits probably includes a LDR?

Tick (✓) **one** box.

A circuit that automatically switches outside lights on when it gets dark. ☐

A circuit that automatically switches central heating on and off. ☐

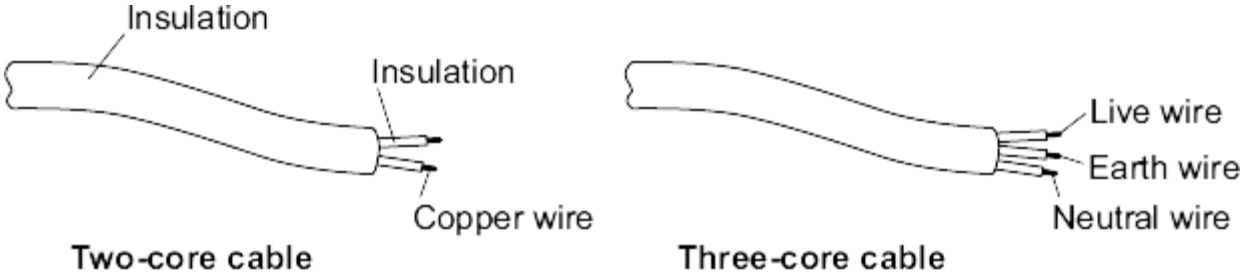
A circuit that automatically turns lights off when no one is in the room. ☐

(1)

(Total 7 marks)

Q3.

(a) The diagram shows a piece of two-core cable and a piece of three-core cable.



(i) Which **one** of the wires inside a three-core cable is missing from a two-core cable?

Draw a ring around your answer.

earth wire **live wire** **neutral wire**

(1)

(ii) Use a word from the box to complete the following sentence.

double	**extra**	**totally**

A pottery table lamp fitted with a two-core cable is safe to use because it is

_____ insulated.

(1)

(b) The cables connecting the power sockets in a building contain wires 1.8 mm thick. The maximum current that can safely pass through these wires is 20 amps. A fuse is included in the circuit to protect the wiring.

Explain how a fuse protects the wiring of a circuit.

_____

_____

_____

_____

_____

_____

_____

(3)

(Total 5 marks)