



P3.1

Medical Applications Higher Tier

Route: Question-Draft 1

Question

- ✓ Check
- the



Describe the features of ultrasound and X-rays, and what happens to each type of wave after it has entered the human body. (6 marks)

Command word

- Link sentences
- with a range of



Describe:

To give an ordered account of a method, process or principle.

Connectives

- Make sure you include
- the following



First, next, and, then also, in addition finally, lastly

Keywords

- Edit your first
- draft using the



Electromagnetic, wave frequency, wavelength transverse, ionising, skin, bone longitudinal, hearing, hertz boundary, reflect, speed, medium

Markscheme



P3.1

Marking points Medical applications

Route: Markscheme-Draft 2

1-2 marks



There is a basic description of a wave or there is a basic description of what happens to either wave when they enter the body.

Poor

SPAG

3-4 marks



A clear description of both waves or what happens to both waves inside the body or a clear description of one wave and what happens to the wave inside the body

Some SPAG

errors

5-6 marks



Detailed description of both waves and detailed description as to what happens to either wave inside the body.

Almost faultless

SPAG

Model answer



X-rays are high *energy*, high *frequency* and *short wavelength electromagnetic* waves with *ionising* properties. These *transverse* waves are *absorbed* by *bone* but travel through *skin*.

Improve your

first draft

Second draft

Ultrasound is a *longitudinal* wave with a frequency of above 20000 *Hz* (above the human limit). Inside the body it travels at different *speeds* through different *media* and is *reflected* at their boundaries.



P3.2

Medical Applications Higher Tier

Route: Question-Draft 1

Question

- ✓ Check
- the



Describe how you could use a clamp and stand, a steel rod, a plumb line, a ruler and pen to find the centre of mass of a shape. (6 marks)

Command word

- Link sentences
- with a range of



Describe:

To give an ordered account of a method, process or principle.

Connectives

- Make sure you include
- the following



First, next, and, then also, in addition finally, lastly

Keywords

- Edit your first
- draft using the



Hole ends pencil line straight cross, balance

Markscheme



P3.2

Marking points Medical applications

Route: Markscheme-Draft 2

1-2 marks



There is a basic description of how to find the centre of mass that is unclear but works.

Poor

SPAG

3-4 marks



A clear description of how to determine the centre of mass. The method works.

Some SPAG

errors

5-6 marks



Detailed description of how to find the centre of mass. The method works.

Almost faultless

SPAG

Model answer



Firstly, clamp the steel rod horizontally from the clamp. Next, make a hole in the shape and hang the shape by the rod through the hole. Now hang the plumb line from the rod. Mark the ends of the plumb line on the shape and use a ruler to draw a straight line. Make another hole and repeat the process. The centre of mass is where the two lines cross. Balance the shape.

Improve your

first draft

Second draft



P3.3

Magnetic fields Higher Tier

Route: Question-Draft 1



Question

✓ Check
the

? Explain how relay switches work.
(6 marks)

Command word

Link sentences
with a range of

i Explain:
To link all points made logically.

Connectives

Make sure you include
the following

i So that, so, that means
therefore
consequently
as a result
because

Keywords

Edit your first
draft using the

i Current, coil
electromagnet
magnetic field
iron bar
contacts, circuit

Markscheme



P3.3

Marking points Magnetic fields

Route: Markscheme-Draft 2

1-2 marks



There is a brief explanation of how a current is caused in the circuit.

Poor

SPAG

3-4 marks



There is some explanation of how a current is caused to flow in a circuit.

Some SPAG

errors

5-6 marks



There is a clear and detailed explanation of how a current is caused to flow in a circuit.

Almost faultless

SPAG

Model answer



When a current flows through an electromagnet a magnetic field is produced around the electromagnet. This means that the iron bar is attracted and pulled on to the electromagnet. As a result contacts/ switch gaps are closed which completes the circuit. Current can now flow through the circuit..

Improve your

first draft

Second draft



P3.3a

Magnetic fields Higher Tier

Route: Question-Draft 1

Question

- ✓ Check
- the



Explain how transformers work.

. (6 marks)

Command word

- Link sentences
- with a range of



Explain:

To link all points made logically.

Connectives

- Make sure you include
- the following



So that, so, that means therefore consequently as a result because

Keywords

- Edit your first
- draft using the



Current, input alternating primary, secondary, coil magnetic field induce, voltage

Markscheme



P3.3a

Marking points Magnetic fields

Route: Markscheme-Draft 2

1-2 marks



There is a brief explanation of how a transformer works.

Poor

SPAG

3-4 marks



There is some explanation of how a transformer works.

Some SPAG

errors

5-6 marks



There is a clear and detailed explanation of how a transformer works.

Almost faultless

SPAG

Model answer



When *an alternating current* is supplied to the *primary coil* an alternating magnetic field is produced in the *iron core*. This *magnetic field* now links with the *secondary coil* which induces and *alternating voltage* across the *secondary coil*.

Improve your

first draft

Second draft