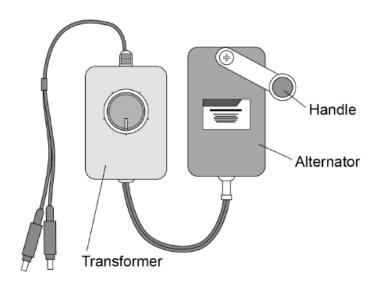
<u>AQA - Electromagnetic induction – GCSE Physics</u>

1. June/2020/Paper_2H/No.7

0 7 Figure 10 shows a portable power supply.

Figure 10



0 7. 1 The portable power supply has an alternator connected to a transformer.

The transformer can be adjusted to have different numbers of turns on the secondary coil.

Suggest why.

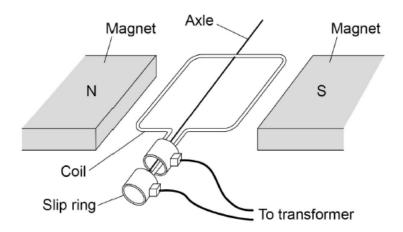
[2 marks]

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0 7 . 2	A lamp is connected to the power supply.	
	The lamp requires an input potential difference of 5.0 \vee .	
	The alternator generates a potential difference of 1.5 \vee .	
	The primary coil of the transformer has 150 turns.	
	Calculate the number of turns needed on the secondary coil.	[3 marks]
	Number of turns on the secondary coil =	

Figure 11 shows the inside parts of the alternator.

Figure 11



0 7 . 3	The handle of the alternator is turned, causing the coil to rotate.
	Explain why an alternating current is induced in the coil.

Explain why an alternating carrent is induced in the con.	[5 marks]

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0 7.4	Suggest the purpose of the slip rings.	[1 mark]
0 7 . 5	The alternator from the portable power supply is disconnected from the transformer and lamp.	
	Explain why the handle of the alternator becomes much easier to turn.	[3 marks]