CP10- 11 Revision Mat

Magnetic Forces (*Higher)*

State three factors that affect the force experienced by a current carrying conductor in a magnetic field

1.
2.
3.

**Equation given in exam: F = B x I x L**

State the units of each symbol in the equation

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Transformers

State the equation that links current, power and potential difference

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Calculate the power if there is 0.2A of current and 9V of potential difference

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**Equation given in exam: Vp x Ip = Vs x Is**

Calculate the potential difference across the secondary coil if the primary coil has a current of 0.8A with a potential difference of 50V. The current in the secondary coil is 20A.

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Calculate the strength of the magnetic field when a 100m wire carries 2A of current at right angles to the Earth’s magnetic field. There is a force of 0.04N on the wire.

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Describe what would happen to the force if the magnetic field of the wire and the magnet are in the same direction.

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Electromagnetism

Describe what an electromagnet is

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Define a solenoid

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Draw a diagram to show the magnetic field inside a solenoid

Describe how to increase the strength of an electromagnet

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When will magnets attract and repel?

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Describe what a magnetic field is

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Draw a bar magnet and draw the magnetic field

Describe how to determine the shape of a magnetic field

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Describe the difference between a permanent magnet and an induced magnet

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Describe the evidence that suggests the Earth has a magnetic field

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 Describe two ways to increase the potential difference in electromagnetic induction:

1.
2.

Transformers and energy

Describe what the national grid is

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Explain why step up transformers are used

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Explain why electricity is transferred across the national grid at high voltages

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Explain why step down transformers are used

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***Electromagnetic induction (Higher)***

Describe what a transformer is

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Describe how a transformer works

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