Edexcel iGCSE Physics Checklist

Section F22: Electric Motors and Electromagnetic induction

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| ***I can*** | ☺ | 😐 | ☹ |
| understand that a force is exerted on a current-carrying wire in a magnetic field, and how this effect is applied in simple d.c. electric motors and loudspeakers |  |  |  |
| use the left hand rule to predict the direction of the resulting force when a wire carries a current perpendicular to a magnetic field |  |  |  |
| describe how the force on a current-carrying conductor in a magnetic field increases with the strength of the field and with the current. |  |  |  |
| understand that a voltage is induced in a conductor or a coil when it moves through a magnetic field or when a magnetic field changes through it and describe the factors which affect the size of the induced voltage |  |  |  |
| describe the generation of electricity by the rotation of a magnet within a coil of wire and of a coil of wire within a magnetic field and describe the factors which affect the size of the induced voltage |  |  |  |
| describe the structure of a transformer, and understand that a transformer changes the size of an alternating voltage by having different numbers of turns on the input and output sides |  |  |  |
| explain the use of step-up and step-down transformers in the largescale generation and transmission of electrical energy |  |  |  |
| know and use the relationship between input (primary) and output (secondary) voltages and the turns ratio for a transformer |  |  |  |
| know and use the relationship:  input power = output power |  |  |  |
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