Edexcel iGCSE Physics 4PH0 Learning Plan

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| **Section F22: Electric Motors and Electromagnetic Induction** | | |
| Specification | Resources | Assessment |
| 6.12 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  6.13 use the left hand rule to predict the direction of the resulting force when a wire carries a current perpendicular to a magnetic field  6.14 describe how the force on a current-carrying conductor in a magnetic field increases with the strength of the field and with the current.  6.15 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  6.16 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  6.17 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  6.18 explain the use of step-up and step-down transformers in the largescale generation and transmission of electrical energy  6.19 know and use the relationship between input (primary) and output (secondary) voltages and the turns ratio for a transformer  6.20 know and use the relationship:  input power = output power | Video: Section 5 – Lesson 8 – Electromagnetic effects (part 1) Section 5 – Lesson 9 – Electromagnetic effects (part 2)  Powerpoint: Physics 32 – Electromagnetic effects 1  Physics 33 – Electromagnetic effects 2  Textbook: Ch.22 – Electric Motors and Electromagnetic Induction.  Page 187 – Movement from electricity  Page 189 – Electromagnetic induction  Page 193 – The transformer  Page 194 – Transformers and the UK National grid  Page 195 – End of Chapter Checklist  Edexcel iGCSE Physics Student Checklist Section F22.doc  DVD Revision check list | Textbook. Page 195-196 – Questions (1) to (4)  Textbook Answers (PDF)  Page 197-198 End of Section F Questions (1) to (7)  Answers to End Of Section F Questions (pdf)  DVD Multiple choice test  Talking paper – Edexcel Physics Section F22 – Electric Motors and Electromagnetic Induction  Chapter F22 Exam Question – pdf  Chapter F22 Exam Question mark scheme - pdf |

Videos – www.igcsesciencecourses.com

Textbook Ref: Edexcel International GCSE Physics Student Book - Pearson

DVD Video Clips – see resource DVD in textbook.