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 transformer6.20 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 1Physics 33 – Electromagnetic effects 2Textbook: Ch.22 – Electric Motors and Electromagnetic Induction.Page 187 – Movement from electricityPage 189 – Electromagnetic inductionPage 193 – The transformerPage 194 – Transformers and the UK National gridPage 195 – End of Chapter ChecklistEdexcel iGCSE Physics Student Checklist Section F22.docDVD 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 testTalking paper – Edexcel Physics Section F22 – Electric Motors and Electromagnetic InductionChapter F22 Exam Question – pdfChapter 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.