CiE iGCSE Physics 0625 Learning Plan

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| **Section 29: Electric Circuits** |
| Specification | Resources | Assessment |
| **Core*** Draw and interpret circuit diagrams containing sources, switches, resistors (fixed and variable), heaters, thermistors, light-dependent resistors, lamps, ammeters, voltmeters, galvanometers, magnetising coils, transformers, bells, fuses and relays
* Understand that the current at every point in a series circuit is the same
* Give the combined resistance of two or more resistors in series
* State that, for a parallel circuit, the current from the source is larger than the current in each branch
* State that the combined resistance of two resistors in parallel is less than that of either resistor by itself
* State the advantages of connecting lamps in parallel in a lighting circuit
* Describe the action of a variable potential divider (potentiometer)
* Describe the action of thermistors and light- dependent resistors and show understanding of their use as input transducers
* Describe the action of a relay and show understanding of its use in switching circuits

**Supplement*** Draw and interpret circuit diagrams containing diodes
* Calculate the combined e.m.f. of several sources in series
* Recall and use the fact that the sum of the p.d.s across the components in a series circuit is equal to the total p.d. across the supply
* Recall and use the fact that the current from the source is the sum of the currents in the separate branches of a parallel circuit
* Calculate the effective resistance of two resistors in parallel
* Describe the action of a diode and show understanding of its use as a rectifier
* Recognise and show understanding of circuits operating as light-sensitive switches and temperature-operated alarms (to include the use of a relay)
 | Video: Section 5 – Lesson 5 – Electric CircuitsPowerpoint: Physics 29 – Electric CircuitsTextbook Pages 186-187 Series and parallel circuits (1)Pages 188-189 Series and parallel circuits (2)Pages 180-181 Resistance (1)Pages 208-209 ElectromagnetsPages 232-233 More on componentsPages 234-235 Transistors (1)Pages 236-237 Transistors (2)Section 29 checklist.doc | TextbookPage 187; Questions (1) to (4)Page 189; Questions (1) to (3)Page 181; Questions (1) to (3)Page 209; Questions (1) to (4)Page 233; Questions (1) to (5)Page 235; Questions (1) to (2)Page 237; Questions (1) to (4)Textbook answers: Page 330 - 331Talking Paper video – Section 29 – Electric CircuitsSection 29 Exam Question - pdf Section 29 Exam Question mark scheme - pdf  |

Videos – www.igcsesciencecourses.com

Textbook Ref: Complete Physics for Cambridge iGCSE (Stephen Pople) - OUP

DVD Assessments – see resource DVD in textbook.