

## Assessment Schedule – 2018

### Digital Technologies: Demonstrate understanding of complex concepts used in the design and construction of electronic environments (91638)

#### Assessment Criteria

Achievement	Achievement with Merit	Achievement with Excellence
<p>Demonstrating understanding of complex concepts used in the design and construction of electronic environments involves:</p> <ul style="list-style-type: none"> <li>describing complex software concepts (e.g. describing software flags used to show conditions within a program, such as indicating the status of a model train on a track)</li> <li>describing microcontrollers and other complex hardware concepts (e.g. describing various feedback techniques in op-amp circuits).</li> </ul>	<p>Demonstrating in-depth understanding of complex concepts used in the design and construction of electronic environments involves:</p> <ul style="list-style-type: none"> <li>explaining complex software concepts (e.g. how interrupts are used to suspend usual programme flow, such as when a second model train enters the same section of track as the first train)</li> <li>explaining microcontrollers and other complex hardware concepts (e.g. explaining how signals can be mixed such as audio in a summing op-amp circuit).</li> </ul>	<p>Demonstrating comprehensive understanding of complex concepts used in the design and construction of electronic environments involves:</p> <ul style="list-style-type: none"> <li>discussing complex software concepts (e.g. discussing why flags are selected for a program, such as when handling requests from multiple sources in a model train system)</li> <li>discussing microcontrollers and other complex hardware concepts (e.g. discussing why multiple stages of amplification rather than a single stage is more appropriate for a pressure sensor design).</li> </ul>

#### Evidence

N1	N2	A3	A4	M5	M6	E7	E8
Report demonstrates very little understanding, and / or report is substantially reproduced with little input by the candidate.	Report is substantially produced by the candidate but demonstrates little understanding. Not enough evidence to show understanding. One part of the required response may be completely missing, or several parts may be weak.	Describes as required to show understanding. Some explanations or descriptions may be weak or partial.	Describes as required to show clear understanding.	Explains as required to show in-depth understanding. Some aspects of explanation may be partial or weak	Explains as required to clearly show in-depth understanding.	Discusses as required to demonstrate comprehensive understanding. Some aspects may be partial or weak.	Discusses as required to clearly demonstrate comprehensive understanding.

**N0** = No response; no relevant evidence.

#### Cut Scores

Not Achieved	Achievement	Achievement with Merit	Achievement with Excellence
0 – 2	3 – 4	5 – 6	7 – 8