

Moderators' Report/ Principal Moderator Feedback

June 2011

GCE Engineering

Unit 6934_01

Applied Engineering Systems

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Unit 6934

Applied Engineering Systems

Overall, the candidates' performance covered the full spectrum of achievement. Some almost achieved full marks, and some marks were very low and in single figures.

Activity 1

Assessment Criteria (a)

- (i) A few centres carried out a demo of the tensile test and candidates worked with the data. Some visited other places to use their equipment. Some visited local engineering companies who have a tester. As the results of this test are then required for the following sub-tasks, they did not perform very well with them.
- (ii) The graphs of stress versus strain seemed to cause few problems, although some very weak candidates, who did not perform as level 3 candidates, struggled with this. Calculations were treated in a similar manner, many were good, but some struggled to make sense of what was required. All compared their values, but quite a few didn't really seem to know what they were comparing.
- (iii) The structure supporting a load was solved reasonably well by most candidates, but the weaker candidates had problems with it and didn't seem to know where to start. Some used software to do the analysis, which technically fits the bill with a question starting with 'determine....' and that's how it would be done at work.
- (iv) The calculations for this section were OK if the preceding section had gone well. Several left it out or guessed.
- (v) There were few problems with this section for candidates who had completed the preceding tasks.

Activity 2

Assessment Criteria (b)

The calculations were usually well done but the explanations were limited. Many omitted to mention the conversion of energy.

Assessment Criteria (c)

Some good answers were provided for the energy transfers, but a few just described the motor and drill again, without mentioning energy. Some block diagrams were very untidy and unsuitable to be considered as an appropriate diagram.

Assessment Criteria (d)

Most candidates understood the basic principle required to change the speed of the drill. However some of the drawings and explanations were poor. One candidate showed toothed wheels driving a belt. Some candidates showed useful knowledge of circuit protection, but many ignored this altogether.

Activity 3

Assessment Criteria (e)

There was a wide variation in responses for this section. Some were really good with all bullet points addressed competently. Other candidates did not attempt this section. Spelling, punctuation and grammar which are assessed in this section were generally poor and apparently not considered by some centre assessors. Although some solutions were not feasible they showed knowledge of the general principles of signals and display techniques. There was some evidence of misuse of specialist terms.

Assessment Criteria (f)

Some candidates made hard work of this by producing work that did not address the criteria and in some cases made no mention of production or safety constraints. Many candidates just made a list of components.

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