

Moderators' Report/
Principal Moderator Feedback

Summer 2016

Pearson Edexcel GCE in
Engineering (6935)

Unit 5: The Engineering Environment

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Overall centres posted the samples in advance of the deadline. Most centres attached the learner authenticity statements and Mark Allocation Records. For those that did not, requests for these were made. Marks were recorded on the approved document for most centres which was useful to the process in comparison to a centre devised document.

Some good practice was seen with some centres annotating the MAR form and the learner work. Some centres were thorough here, with some not annotating the learner work at all.

It was clear that some good engineering links were made, with many centres using local companies for the focus of the investigation. A number of samples showed that a single visit or presentation was the method of research. Centres are encouraged to build stronger links with local companies in order to give the learners a sound opportunity to obtain all the information needed for this unit. Some learners reported the investigation was based on a work placement, which would be the ideal choice here.

Assessment criterion (a)

Learners provided a good range of standards and regulations here. All were related closely to the engineer and were in the main relevant. At times more clearer links to the engineer were needed, instead of general statements describing what the regulation or standard was. Higher band evidence sometimes lacked the impact and justification detail.

Assessment criterion (b)

A good range of documents were described in the samples. Some of these lacked links to the product, but in the main, most showed some consideration. Included in the samples were working drawings, tracking documents and quality control. There were some good examples where learners provided scans of the document and included these, with good annotation or as an appendix. The annotation describing the use and purpose was particularly useful here and should be encouraged.

Assessment criterion (c)

Learners generally met MB2 criteria in this section. Common issues relating to lighting and heating were evident. Some learners considered the amount of energy the production system used and described how these had impacted and what measures the company had taken. To access the higher bands, justification was needed by some learners considering the effects on the company by introducing these measures.

Assessment criterion (d)

Environmental concerns were general across most samples. These included emissions, noise, and water pollution. The effect of these was also considered. Some learners looked more into the long term effect, from mining and transport of materials in other countries which was relevant to the study. Most learners considered recycling and how the engineers reduced waste by using some form of recycling system. This, for some, then linked into the effect on the environment. There were some general statements describing that whole products would simply be scrapped or sent to landfill if recycling was not in place and limited the recycling simply to paper or scrap materials from production.

Assessment criterion (e)

Learners generally described the technologies well. CAD and associated CNC or CAM technologies were often seen. Unlike other series, learners tended to describe the technologies that were actually used rather than simply describing a range. Communications and general workplace technologies were also described well, with some good justifications across the technology section. Learners generally performed well in this section, with the justification evidence taking many learners into the MB3 mark bands.

QWC

The technologies section also provides opportunities for QWC. Assessors were identifying this and awarding marks appropriately. Across the samples, a range of specialist terms with good grammar and punctuation was observed. Some centres held back marks in this section which could have been awarded for good QWC.

Assessment criterion (f)

Modifications relied on the selection of engineer and product here. If the product was complex and tried and tested, then, as in the linked unit, the evaluation and modifications could be difficult to complete. Most learners attempted some basic modifications. At times there were some general changes to workforce or working layouts. Also popular, although general again, were improvements to lighting and heating to reduce energy. Supportive evidence in efficiency savings would be useful if this is suggested. Learners should always be encouraged to include images of the product or part of the process they are evaluating. These can be annotated to describe the features and lead into the modifications. Where suggested, the modifications are always best supported by diagrams or working drawings to show how the improvement could be made. If there is any feedback from the engineer, as seen in some samples, then this should also be included to show the modifications are relevant.