Moderator's Report
Principal Moderator Feedback

Summer 2017

Pearson Edexcel GCE
In Engineering (6935)
Paper 01
The engineering environment

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Unit 6935: The Engineering Environment

There were fewer centres for moderation this year as the qualification draws to a close. Most centres posted the samples in advance of the deadline and included the candidate authenticity statements. Most centres included detailed Mark Allocation Records referencing the candidate evidence against the criteria. For most centres, these were supported by useful statements confirming the quality of evidence and linked to the level of marking.

Centres were building on strong links with local engineering companies, which meant that less research projects were seen and more experience related reporting. There were similarities in the companies used by some centres, in comparison to previous series, showing that the links were still maintained. The most relevant ad detailed work came from candidates that had strong links with a company or engineer. As in previous series, there was evidence of a single visit or presentation. Candidates made the best of these opportunities and provided thorough investigations overall.

Assessment criterion (a)

Candidates provided a good range of standards and regulations for this criterion. There was a strong link to the engineer and more justification detail was seen than in previous series evidence. Some candidates limited their response overlooking the impact and justification and were appropriately awarded Mark Band 2 for their work.

Assessment criterion (b)

Most documents described had clear links to the product. Specifications and risk assessments were popular in this section, as were engineering drawings. Candidates should also consider other records that could be used such as work flow and quality assurance documents. Some candidates included examples of the type of documents. Few of these were annotated. This would have been useful to link the example to the engineer and what it was used for. Some candidates included many documents as an appendix with no referencing or links to the report. Candidates should be reminded to make better use of this type of resource and when including it, ensure it is referenced or used appropriately.

Assessment criterion (c)

Candidates generally performed well in this section. As in previous series there were some common issues such as lighting and heating. Often candidates would describe solar panels and wind turbines in this section, with no clear reference to the product. Where this occurred, similar systems would be suggested in the modification section later in the report. There was some useful energy monitoring systems explained, with useful data from calculations or measurements. There was some good justification of the energy measures taken, although some marking was generous in this section where the clear link to the impact of the energy efficient was not evident.

Assessment criterion (d)

Across the samples the environmental issues were quite similar, although some clear issues were seen, for example, directly linked to water treatment and cooling systems?
The general issues were emissions, noise, and water pollution. The effect of these was also considered. There was some background detail on where the raw materials come from and how they are processed at the end of life cycle. Recycling waste materials was common, including oils and coolants for machine operations. Some candidates described waste metals being sent to landfill, which would not happen due to current environmental policies in place.

Assessment criterion (e)

Candidates considered a range of appropriate technologies. These were usually supported by good descriptions of the use and why they are essential; to the manufacture of the product. There were common theses such as CAD, CAM and CNC systems. Communications were also included in this section. There was some evidence of candidates including detail on smart materials and modern high performance materials, indicating the possible use of these. If the product does not use these materials, this would have been better suited, where feasible as a modification to the product and included in the relevant section of the report. Candidates generally performed well in this section, with the justification evidence taking many candidates 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.

Assessment criterion (f)

Modifications were evident across most samples. These were often based on the evaluation of the product. Many candidates scored well in this section, with Mark Band 3 evidence appropriately awarded. As in previous series, the modifications were sometimes simplistic or not feasible, such as moving the factory to a different location. Some candidates provided useful diagrams to support the modifications. This was useful and showed that the process had been considered to a possible solution. Some solutions involved rearranging the production line. Simple diagrams were provided, again being useful to the descriptive evidence here. As in past series, there was a common them of reducing energy across the premises. This would usually involve lighting, solar panels and wind turbines. Some candidates did extend their reasoning here with savings calculations and possible sites for the solar panels and turbines. Some candidates also had input from the engineer at this point, with their feedback on the suggested improvements. This was useful to the section and supported the modifications suggested.

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