

Moderators' Report/ Principal Moderator Feedback

Summer 2016

Pearson Edexcel GCE in
Engineering (6932)

Unit 2: The Role of the Engineer

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Centres were efficient in ensuring that the samples were available for moderation by the required deadline. As in previous series, some authentication documents and copies of the required OPTeM forms were not included by some centres. These were contacted and reminded of the need for this important documentation. Centres that were contacted regarding documents usually responded quickly to the moderator requests and the moderation process was not over- delayed. Most centres are using the document provided for recording the marks, with a small number either developing their own or using a copy of the page from the specification.

Across the sample, there was some good, clear annotation and referencing of evidence; although this was not the case for all samples. Centre assessors are encouraged to annotate in detail, to support the awarding decisions throughout the work and to reference the mark sheet to show the page numbers for each section.

As in previous years, many centres have developed strong links with local companies for the focus of the investigation. Centres are reminded to keep the focus on an engineer for this unit and relate the tasks to the work the engineer does. Learners should be encouraged to investigate a current local engineer where possible, with the emphasis on both terms. There was some good evidence of learners having work experience over a one week period, which showed to be very beneficial and is the preferred method of gathering the evidence for the report. Other learners managed to arrange some visits to the engineer. There were some samples that were based on a single visit or a visitor talk which will generally provide some information for the report, but lacks the benefits of a more prolonged experience.

Assessment Criterion (a)

Learners provided a good introduction to the report by describing the role of the engineer. Some background company information was useful, but this should not include a full educational history of the engineer, which was seen in some samples and is unnecessary. Most learners provided a good description, although the justification of the role was at times weak and for some learners marked leniently. When addressing the MB3 criteria, a clear justification of the role is needed here, that could extend from why it is important.

Assessment Criterion (b)

Some common technologies were evident in the sample. These included the technologies that the role would use, such as specialist manufacturing equipment, robotics, CAD/CAM and control systems. In addition, general communications technologies and tracking methods were also described. Some learners included technologies that are not used, and stated this, so some of the reporting was unnecessary. There were some general technologies described, such as drills, manual lathes etc. which should be avoided in this section. More

learners in this series, described commonly used communications technologies which are useful and used regularly by the engineers, so should always be included. Linking clearly, the technology to the engineer, describing its purpose and use will then lead to the higher MB3 marks if justification for the technology is evident.

Assessment Criterion (c)

In this section, learners sometimes only considered standards. Both legislation and standards should be reported here to access the full range of marks. Some referencing of the standards, to the engineer and the use of, was seen. Across the samples, there was some good MB3 evidence, with learners clearly showing the consequences of non-compliance. Where a centre was judged to be generous in this section, the issues of non-compliance and how the engineer ensured the standards were met were often not clear or not considered. Centres are reminded to carefully mark learner work across the MB3 band with particular reference to the commentary in the descriptor relating to non-compliance.

Assessment Criterion (d)

Learners provided good descriptions of some general Health and Safety Standards and useful links to RIDOR, PUWER, COSHH and risk assessment. For some learners, documentation was evident, which was useful in describing these. Further annotation would have been a benefit to these to support the description and link the purpose closer to the engineer. Some of the marking was lenient where MB3 was awarded without clearly explaining how the engineer ensured that the standards were met.

Assessment Criterion (e)

Evaluations were better than previous series; with more learners showing some data to support these and access the higher marking bands. As in previous series some learners evaluated each section of their report, rather than evaluating the product or service. Learners and assessors should remember to include some testing to access the higher mark bands. This could include test data from the engineer as third party evidence.

The nature of the product and engineer has a great impact on this section and in the modifications, so learners should try to access an engineer and product that can facilitate a thorough evaluation leading to modifications,. Additionally, complex products can be difficult to evaluate, so this should also be considered.

QWC

Generally, centres are recording and rewarding QWC for this section appropriately. There were some good supportive statements for learners, particularly at the higher mark bands. A number of centres were overlooking the QWC element and awarding low marks for the evaluation or awarded marks severely here.

Assessment Criterion (f)

Learners attempted to identify some modifications following the evaluation. There were some common themes, seen in previous samples relating to energy and solar power. This is the section where some learners performed not as well as others, with many having difficulty suggesting modifications. Some learners commented on the reliability of the product, which may have been improved much over its lifespan. Here modifications were difficult to suggest. Learners should be encouraged to always relate the modifications to the evaluation statements. This was not always seen. In addition, diagrams to show how the modifications would be introduced are also an advantage.