edexcel

Moderators' Report/ Principal Moderator Feedback

Summer 2016

Pearson Edexcel GCE in

Engineering (6934)

Unit 4: Applied Engineering Systems

Edexcel and BTEC Qualifications

Edexcel and BTEC qualifications are awarded by Pearson, the UK's largest awarding body. We provide a wide range of qualifications including academic, vocational, occupational and specific programmes for employers. For further information visit our qualifications websites at www.edexcel.com or www.btec.co.uk. Alternatively, you can get in touch with us using the details on our contact us page at www.edexcel.com/contactus.

Pearson: helping people progress, everywhere

Pearson aspires to be the world's leading learning company. Our aim is to help everyone progress in their lives through education. We believe in every kind of learning, for all kinds of people, wherever they are in the world. We've been involved in education for over 150 years, and by working across 70 countries, in 100 languages, we have built an international reputation for our commitment to high standards and raising achievement through innovation in education. Find out more about how we can help you and your students at: www.pearson.com/uk

Summer 2016
Publications Code 6934_01_1606_ER
All the material in this publication is copyright
© Pearson Education Ltd 2016

Grade Boundaries

Grade boundaries for this, and all other papers, can be found on the website on this link:
http://www.edexcel.com/iwantto/Pages/grade-boundaries.aspx

The candidate's performance covered the full range of the mark spectrum, from single figure to full marks. The majority of centres presented candidate work which aided moderation but there are still centres presenting candidate work in ring binders, plastic presentation wallets etc. Candidates should be asked to use treasury tags in presenting portfolio evidence as this considerably aids moderation.

Centre assessors are encouraged to annotate candidate portfolios where marks are being awarded, as this significantly aids the moderation process. They are also asked to complete the correct learner assessment sheet when recording marks awarded to candidates. This learner assessment sheet is part of the assignment brief downloaded from the Pearson website.

Activity 1

Assessment Criteria (a)

(i) Most centres appear to have carried out the required test and candidates worked with the data. Performance with data handling differed considerably between centres. A range of different materials was used by the candidates.

(ii) The graphs of stress versus strain seemed to cause most candidates few problems but there were a number who did not complete this activity. Candidates were completing calculations without the relevant SI units and by doing so lost marks. The use of SI units is most important in engineering mathematical equations and candidates should be encouraged to use them in future examination series.

(iii) The structure calculations were generally fine with thorough answers provided by the candidates. Again, the use of SI units was a problem with candidates not being able to access the full marks.

(iv) Calculations for this task were well answered by the candidates answering task (iii) correctly. A small number of candidates could not perform this calculation.

(v) SI units were a constant issue in this task and a number of candidates obtained unusually high figures for this answer.

Activity 2

Assessment Criteria (b)

Many candidates gave brief explanations of the straight stairlift with centre assessors awarding marks from the higher band. These marks were reduced at moderation, as the content was not comprehensive and in enough detail to gain marks from the higher band. To achieve marks from the higher band mark candidates are required to demonstrate a full understanding of the stairlift with a detailed explanation of the electro-mechanical system.

Assessment Criteria (c)

Candidates provided some good answers describing energy transfer within the system. Block diagrams included technical detail highlighting how sub systems and components were interconnected. A number of candidates were awarded maximum marks for just providing a block diagram, with no written explanation of the construction and operation of the hand held straight stairlift. These marks were reduced at moderation.

Assessment Criteria (d)

The majority of candidates provided details of an alternative design solution which completed a similar function to the straight stairlift. Generally, candidates were able to provide a workable alternative design solution.

Activity 3

Assessment Criteria (e)

Candidates achieved the full spectrum of marks for this task. Some candidates provided a range of diagrams and descriptions but some just provided pages of text with no diagrams. Candidates providing just text had marks reduced at moderation as no block diagram had been included. Many candidates were able to design a control system to fulfil the design solution enabling the automatic control of passenger baggage.

Assessment Criteria (f)

Only a minority of candidates achieved maximum marks for this task. The majority of candidates achieved two or three marks. Very few candidates identified specific details or justification of health and safety or production constraints.