

Moderators' Report/
Principal Moderator Feedback

Summer 2013

GCE Engineering

Unit 6934_01

Applied Engineering Systems

Edexcel and BTEC Qualifications

Edexcel and BTEC qualifications come from 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 2013

Publications Code UA035340

All the material in this publication is copyright

© Pearson Education Ltd 2013

UNIT 6934

Applied Engineering Systems

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

Centres are encouraged to annotate student portfolios where marks are being awarded, as this significantly aids the moderation process.

Activity 1

Assessment Criteria (a)

- (i) Most centres appear to have carried out the required test and students worked with the data. Performance with data handling differed considerably between centres. A range of different materials were used by centres.
- (ii) The graphs of stress versus strain seemed to cause most students few problems but there were a number who did not complete this activity. Students 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 students should be encouraged to use them in future series.
- (iii) The structure calculations were generally fine with thorough answers provided by the students. Again, the use of SI units was an issue with students not being able to access the full marks.
- (iv) Calculations for this task were well answered by the students answering task (iii) correctly. A small number of students could not perform this calculation.
- (v) SI units were a constant issue in this task and a number of students obtained unusually high figures for this answer.

Activity 2

Assessment Criteria (b)

Many students gave detailed explanations of the sliding gate. Centre assessors generally awarded marks in-line with national standards. However some students produced only a few paragraphs, with no specific detail, but were awarded marks from the higher band mark by centre assessors.

Assessment Criteria (c)

Students 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 students were leniently awarded maximum marks by the centre assessor for just providing a block diagram, with no written explanation of the construction and operation of the sliding gate.

Assessment Criteria (d)

Many students produced different and unique design solutions to this task but some did not provide detailed explanations of how their designs would function and operate. A number of students produced written reports as a solution to this task, but did not provide any sketches/drawings of their ideas.

Activity 3

Assessment Criteria (e)

The responses of some students to the given design brief for this task were very good and unique. Many produced feasible and workable design solutions with some explanation and block diagram/pathways. Only a minority of students included negative feedback, with many students referring to negative feedback, but not demonstrating how the negative feedback would operate, to control the copper wire diameter tolerance. Many students also failed to provide details of how their design solutions met the design brief by including details of sensors and transducers used. Quite a number of spelling and grammatical errors were identified in hand written text. This could have been reduced by the use of ICT equipment.

Assessment Criteria (f)

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

Grade Boundaries

Grade boundaries for this, and all other papers, can be found on the website on this link:

<http://www.edexcel.com/iwant to/Pages/grade-boundaries.aspx>

Pearson Education Limited. Registered company number 872828
with its registered office at Edinburgh Gate, Harlow, Essex CM20 2JE

Ofqual



Llywodraeth Cynulliad Cymru
Welsh Assembly Government

