

GCSE

Design & Technology: Systems & Control Technology

45651

Report on the Examination

4565
2014

Version: 0.1

Further copies of this Report are available from aqa.org.uk

Copyright © 2014 AQA and its licensors. All rights reserved.

AQA retains the copyright on all its publications. However, registered schools/colleges for AQA are permitted to copy material from this booklet for their own internal use, with the following important exception: AQA cannot give permission to schools/colleges to photocopy any material that is acknowledged to a third party even for internal use within the centre.

Administration

It is pleasing to note that the majority of centres complied with AQA's instructions relating to the collation, packaging and dispatching of scripts.

It was encouraging to see that candidates noted the comments last year about ink colour and not writing in pencil. Black ink or black ball-point pen should be used for written answers. Candidates should also be reminded to write their responses within the space allocated on the paper. If we cannot read the responses, we cannot credit them with marks.

General

There was evidence of the use of the preliminary material by centres when preparing their candidates for the examination. The use of the preliminary material is intended to give the candidates 'ownership' of their paper. It allows them to produce real and valid responses based on work done in the weeks before the examination. Where centres had made good use of the preliminary material, their candidates invariably went on to produce good quality designs.

Teachers should emphasise good examination techniques to their candidates, in particular the need to read and re-read each question carefully before attempting it.

The longer questions show where the marks are awarded and candidates would be advised to refer to this when answering the question.

They should also be taught to use any 'spare' time at the end of the examination to carefully go through both the questions and their answers.

Question 1

The first section of this question was well answered. Many candidates gained full marks by suggesting suitable specification points. The block diagrams were well attempted. The section on making the robot move was poorly answered or not attempted by many. For full marks speed reduction needed to be shown.

Teachers should emphasise the need to use the correct terms and names for the systems as given in the specification, and also the requirement for neat, simple sketches.

Question 2

The first section of this question was generally poorly answered with many candidates showing no understanding of the use of feedback in control systems. Some candidates were confused and gave examples of feedback being used in product evaluation. There was a mixed range of responses for the flow chart question.

Question 3

Section 3(a) was generally well answered with only the relay and the buzzer losing some candidates marks. The majority of candidates could name the components and most calculated the formula correctly.

Question 4

This question was generally well answered by the majority of candidates. Where the question asks for a suitable component to sense a model train, an 'LDR and light source' or a 'micro switch beneath the track' were acceptable answers but only around half of the candidates gave a suitable response.

In 4(c), the flowchart was well attempted by most with many gaining full marks however marks were lost by not adding the connecting lines in the correct places.

Question 5

Most candidates had a good understanding of the concepts and gained marks here but some candidates were unable to list the main stages in the PCB production process.

The PCB layout section was well answered with the majority of candidates gaining full marks. The final section on testing the PCB was not well answered by many.

Question 6

The logic circuit was well answered, as was the section on the solenoid. Most candidates could give one method of creating a delay but few could give two. The health and safety section was well answered.

The final 8 mark section gained a range of responses with the majority of candidates scoring six marks or higher. Some candidates lost marks by repeating their answers or not giving a sufficiently comprehensive response to gain full marks.

Teachers and candidates are reminded of the need for the use of good English, particularly in the questions with extended written responses. Also, sketches should be clear and well described.

Mark Ranges and Award of Grades

Grade boundaries and cumulative percentage grades are available on the [Results Statistics](#) page of the AQA Website.

Converting Marks into UMS marks

Convert raw marks into Uniform Mark Scale (UMS) marks by using the link below.

UMS conversion calculator www.aqa.org.uk/umsconversion