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ASSESSMENT and QUALIFICATIONS ALLIANCE

General Certificate of Secondary Education

Design and Technology (Resistant Materials Technology) 3555 Short Course

Higher Tier Written Paper

3555/H

Report on the Examination

2007 examination - June series

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Administration

Most centres complied with AQA's instructions relating to the collation, packaging and dispatch of scripts. There were, however, a number of centres that in one or more ways contravened the regulations, which in turn resulted in difficulties for the examiners. The following examples highlight these difficulties:

- failure to sort scripts into the order candidates appear on the attendance list;
- candidate details either omitted or incorrectly recorded on the script;
- incorrectly submitting the insert of colour photographs with the script.

Fewer candidates contravened the regulations with regard to the use of correction fluid and the colour of ink employed to record their answers.

General

The examiners reported that once again there was substantial evidence of the use of the Preparation Sheet by centres when preparing their candidates for the examination.

The use of the preparation sheet is intended to give the candidates 'ownership' of their paper. It allows them to produce real and valid responses to the examination questions based on work done in the weeks before the examination. It is anticipated and intended that teachers should have full involvement when preparing candidates for the examination by fully utilising the preparation sheet. Where centres had made good use of the preparation sheet their candidates invariably went on to produce high quality responses. However, centres and/or candidates who failed to take advantage of this preparation material generally found themselves disadvantaged.

The quality of sketching was found to be particularly good in most centres. The use of rendered, well-annotated, pictorial views is now the norm rather than the exception.

There was some evidence of candidates misinterpreting questions. Teachers should emphasise good examination techniques to their candidates. In particular the need to read and re read each question carefully before attempting it. 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.

The manufacturing/making question remains the least well answered question on the paper and centres are encouraged to prepare their candidates thoroughly for this type of question. In particular, correctly naming tools/equipment was an area of the specification in which candidates appeared to be quite weak.

Question 1

This question was well answered. Many candidates gained full marks by producing five relevant specification points for a computer games storage system and subsequently expanding their answers to provide suitable explanations. Reference to aesthetics, durability, safety and environmental issues, were amongst the most common correct responses. Candidates lost marks by repeating answers already given.

Question 2

It was clearly evident that the majority of teachers and candidates had worked with the preparation sheet.

- **Variety of Ideas**

  Weaker candidates produced simple CD racks. Candidates gained marks for clearly showing how their design was themed for their target market. The majority of candidates chose a flat pack/self assembly method of design when answering situation 2, 'a design which can be given away inside a computer games magazine'.

- **Quality of sketching**

  The standard of sketching was very impressive. Most candidates were able to produce a pictorial view of their idea, with many displaying fully rendered pieces of artwork.

- **Quality of notes**

  An increasing number of candidates are gaining full marks by providing detailed notes regarding the function of their designs rather than simple labelling.

- **Quality of evaluation**

  Most candidates were able to gain one of the two marks on offer by showing some measure of analytical thinking. Weaker candidates simply listed features of their design without making any value judgements, or simply stated that their design fulfilled the design requirements, making no further comment.

Question 3

The majority of candidates gained marks on this question by displaying some knowledge of an industrial manufacturing process. Injection moulding and vacuum forming were the most common process chosen by the candidates. Weaker candidates gave superficial information regarding how their computer games storage system would be manufactured.

Question 4

(a) (i) This was a very well answered question with the majority of candidates correctly naming three methods of carrying out market research. Use of the Internet, questionnaires and looking in magazines were the most popular correct responses.

(a) (ii) Most candidates correctly explained why it is important to carry out market research. They related it to designing a product which reflected the requirements of the consumer.

(b) (i) This was a very well answered question with the majority of candidates correctly naming three methods of advertising a product. Use of television adverts, internet 'pop ups' and posters were amongst the many correct answers given.

(b) (ii) Most candidates correctly explained why it is important to advertise a product. They related it to raising public awareness of the product thus increasing sales.

Question 5

(a) The majority of candidates were able to name all two items of personal safety equipment. A few candidates placed the personal safety equipment into the wrong cell and lost marks. Candidates were generally able to give a suitable process where they would use the personal safety equipment, together with a hazard that the personal safety equipment prevented.

(b) Most candidates were able to give two ways in which CAM (computer aided manufacture) has improved safety in the industrial workplace. 'There are less people in the workplace', 'machines can do dangerous activities' and 'machines do can work 24/7 without getting tired' were the most popular correct responses. Very few candidates went on to give three correct responses.

Question 6

Teachers and candidates are reminded that only **specific** materials will be awarded marks on this paper.

(a) Remote control holder A
The majority of candidates correctly named a specific type of solid wood from which the remote control holder was likely to have been made. 'Beech' and Oak' were the most common correct responses. Reference to its 'appearance' and 'strength' were generally given as correct reasons for their choice.

Remote control holder B
It is pleasing to note that there were an increasing number of correctly named plastics given by the candidates with *acrylic* being the most common correct response. Reference to it being 'clear' and having 'a good surface finish' were generally given as correct reasons for their choice.

(b) Most candidates gave a suitable *specific* finish which could be applied to remote control holder A. 'Varnish' and 'wax' were the most popular correct responses.

Question 7

Most candidates were able to gain marks on this question. A number went on to gain full marks. Candidates correctly identified 'the keyless chuck', 'the use of a battery', and 'the ergonomically designed handle' as improved features of drill A over drill B. Marks were lost during the candidates' explanation of how the feature helps the user. Teachers and candidates are reminded that when the question is awarded 2 marks a detailed description is required.

Question 8

(a) The majority of candidates were able to correctly describe a method of ensuring that all the pieces of acrylic were cut to the same size. The use of a template was the most common method employed.

(b) Many candidates were able to correctly describe a method of ensuring that all the pieces of acrylic were bent to the same angle. The use of a jig was the most common method employed.

(c) Candidates gained some marks by partially explaining the importance of carrying out quality control checks when manufacturing products. Few candidates went on to give a full and detailed explanation. Correct responses included information that lead to it being 'a higher quality product', 'there is less chance of product failure', 'it will improve the reputation of the company' and 'improve the sales of the product.

Question 9

(a) Most candidates were able to correctly identify two ways in which ICT could be used when carrying out research. Many struggled to give a third way. Using the Internet for a variety of researching tasks was the most popular correct response.

(b) Most candidates were able to correctly give two advantages of using CAM (computer aided manufacture) rather than making products by traditional methods. Many struggled to give a third advantage. Reference to 'speeding up production', 'increased accuracy' and 'safety' were amongst the correct responses.

Mark Ranges and Award of Grades

Please see the following link:

http://www.aqa.org.uk/over/stat.html