



General Certificate of Secondary Education

Design and Technology (Resistant Materials Technology) 3545 Full Course

Higher Tier Written Paper

3545/H

Report on the Examination

2007 examination - June series

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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 3 '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) 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 relate CIM (computer integrated manufacture) to some form of controlling production. Few candidates went on to give a full and accurate description.
- (c) Many candidates gained one or two of the five marks on offer by explaining that CIM speeds up production. However, few went on to give details of how CIM linked up all the stages of manufacture from design to despatch.

Question 6

- (a) The majority of candidates were able to name all three 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 gain some marks for this part of the question by correctly identifying one way in which CAM (computer aided manufacture) has improved safety within the industrial workplace. The most common correct response was that there would be fewer workers in the factory. Very few candidates went on to give three correct answers and therefore lost marks.

Question 7

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.

Remote control holder C

Most candidates stated a correctly named metal with *steel* and *aluminium* being the most common, correct, responses. Reference to its 'durability' and 'strength' 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 C. 'Polish' and 'lacquer' were the most popular correct responses.

Question 8

Most candidates were able to gain marks on this question. Candidates correctly identified 'the keyless chuck', 'the use of a battery', 'the one handle design' 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 that a more detailed description is required.

Question 9

- (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'

Mark Ranges and Award of Grades

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