



General Certificate of Secondary Education

Design and Technology (Resistant Materials Technology) 3545 Full Course

**Foundation Tier Written Paper
3545/F**

Report on the Examination *2008 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:

- (i) Failure to sort scripts into attendance order;
- (ii) Candidate details either omitted or incorrectly recorded on the script;
- (iii) Incorrectly submitting the sheet of colour photographs with the script.

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

General

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

The use of the preparation 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. It is anticipated and intended that teachers should have full involvement when preparing candidates for the examination by fully utilising the preparation material. Where centres had made good use of the preparation material their candidates invariably went on to produce high quality scripts. Centres and/or candidates who failed to take advantage of the preparation material generally found themselves disadvantaged. However, centres must guard against over 'over coaching' as this can suppress the candidates' creative ability, particularly when answering the design question.

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 one of the least well answered question on the paper and centres are encouraged to prepare their candidates thoroughly for this type of question.

Question 1

The majority of candidates answered this question well. Many candidates gained full marks by producing four relevant specification requirements for picnic furniture and subsequently went on to expand their answer and provide a suitable explanation for each.

Candidates lost marks by repeating answers or repeating the given example answer.

Question 2

The majority of candidates answered this question well. It was clearly evident that they had worked with the preparation material and they subsequently went on to produce high quality responses.

- **Variety of Ideas**

Many candidates were able to access high marks by showing three **different** ideas. There was less evidence this year of candidates demonstrating their creative ability by producing original designs. There were more copies of existing products which had been slightly manipulated and developed.

- **Quality of sketching**

The standard of sketching was generally good. Many candidates made an attempt at producing a pictorial view of their idea. The majority of 2D line drawings were clear and in proportion. There was good use of colour/rendering techniques.

- **Quality of notes**

The quality of annotation varied considerably. Most candidates chose to provide simple notes to describe the features of their ideas. Weaker candidates simply labelled the parts of their design, whilst higher marks were awarded to candidates who provided detailed notes regarding the function of their designs.

Question 3

The first part of this question was well answered by most candidates; only the 'Electric' symbol caused any real problems.

The second part of the question proved more troublesome; candidates lost marks by misinterpreting the question and naming machines rather than processes where you would see the safety symbols

Question 4

- (a) The majority of candidates were able to access two of the three marks on offer by naming a generic material and providing a suitable reason for its use. The more able candidates gave a correct specific material and gained full marks.
- (b) This question remains to be one of the least well answered on the paper. Candidates are still producing vague responses with regards to the types of tools and processes they would use to make the cup holder. There was an increase in the number of candidates who elected to give details of how they would make their chosen cup holder by CAD/CAM methods. However, once again, detail is limited.

Question 5

Serving spoon A

Few candidates correctly named a specific type of solid wood from which the serving spoon was likely to have been made from. However, most picked up one mark by stating that it was made from 'wood' or, more often, stating that it was made from 'pine'. Reference to its 'appearance' and 'strength' were generally given as correct reasons for their choice.

Serving spoon B

Few candidates correctly named a specific type of plastic from which the serving spoon was likely to have been made. However most picked up one mark by stating that it was made from 'plastic' or, more often, stating that it was made from 'acrylic'. Reference to the material's 'appearance', 'strength' and 'easy clean surface' were generally given as correct reasons for their choice.

Serving spoon C

Few candidates correctly gave stainless steel as a suitable material from which the serving spoon was likely to have been made. However most picked up one mark by stating that it was made from 'metal' or, more often, stating that it was made from 'steel'. Reference to the materials 'strength' was generally given as a correct reason for their choice.

Question 6

The majority of candidates were able to match each of the four joints to its correct fixing. However, naming the fixing proved to be quite difficult. Whilst most could name the 'screws' and the 'nuts and bolts', very few knew the name of the 'cam lock/scan' fixing or the 'pop/blind rivet'.

The majority of candidates knew that a 'screwdriver' would be used with the 'screws' and 'cam lock/scan' fixings. Fewer candidates knew that you would use a 'spanner/wrench/socket' with the nut and bolt. Even fewer candidates knew that you would use a 'rivet gun' with a 'pop/blind rivet'.

Question 7

- (a) Most candidates correctly identified Part A as a 'chain'.
- (b) Naming Part B proved more difficult. Many candidates named the 'sprocket' as a 'cog'.
- (c) Most candidates were able to gain some marks by explaining the function of the chain and sprocket system.
- (d) The majority of candidates were able to give two maintenance operations which would be carried out on a chain and sprocket system. 'Cleaning and oiling' proved to be the most popular correct response.
- (e) Most candidates were able to gain some marks by explaining why regular maintenance of machinery is important. References to it preventing a breakdown and safety were among the most popular responses. Few candidates went on to give a full and detailed answer.

Question 8

- (a) The majority of candidates were able to give two reasons why the BBQ fork should not be used without a handle. References to it being 'unsafe and being 'difficult to use' formed the bulk of the correct responses.
- (b) Almost all candidates gained some marks for designing a handle for the BBQ fork. Many candidates gained high marks for designs that displayed many ergonomic features.

Question 9

- (a) The candidates' knowledge of 'smart' materials was very weak, with very few correctly naming 'polymorph'.
- (b) Candidates were able to gain some marks for answers relating to generic advantages of modelling materials. Few went on to gain full marks by relating their answers specifically to polymorph.

Question 10

- (a) The majority of candidates were able to place the four words in the correct places.
- (b) Candidates gained some marks by correctly giving explanations as to why packaging can be harmful to the environment. The majority correctly identified that the production of packaging uses up natural resources and leads to global warming. They also dealt with issues related to the disposal of packaging such as landfill and the effect on wildlife.

Mark Ranges and Award of Grades

Please see the following link:

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