

CDT: DESIGN AND COMMUNICATION

Paper 7048/01

Structured

General comments

Candidates were required to complete **one** question from **Section 1** (**Question 1** or **Question 2**) and **two** questions from **Section 2** (**Question 3** - **Question 6**). This instruction was followed by the majority of candidates but a small number answered more than three questions.

Question 1 was the more popular of **Section 1** and **Questions 4** and **6** the most popular of **Section 2**. Very few candidates attempted **Question 5**.

The standard of work was comparable to that of the previous year. It was clear from the responses that there are many able candidates who were well prepared for the examination.

Whilst many excellent answers were seen, the following areas were considered to be general weaknesses:

- Understanding of 1st and 3rd angle orthographic projection symbols (**Question 1b**);
- The ability to accurately produce an isometric drawing from orthographic views (**Question 2a**);
- The determination of the true shape of a development (net) (**Question 3a** and **Question 5a**);
- The ability to focus a design proposal on the given specification points (**Question 3b**);
- The ability to clearly communicate a design proposal using sketches and notes (**Question 4c**);
- The ability to add a decision box and feedback loop to a flow chart (**Question 6c**).

Centres are once again advised **not** to secure the papers together with string or a treasury tag. Candidate's answer sheets should be placed in the despatch envelope in the order listed on the attendance register.

Comments on specific questions

Section 1

Question 1

A good range of responses were seen to this question.

- (a) Many candidates produced excellent orthographic drawings that scored maximum marks. Some candidates scored marks for the overall sizes of the views but not always for the spacing and sizes of the doors and windows. Views that were 'out of projection' prevented some candidates from scoring full marks.
- (b) Most candidates attempted to draw a projection symbol but very few candidates scored the maximum 4 marks. Frequently symbols were not completely accurate or did not match the orthographic views drawn.
- (c) Many excellent answers were seen to this question. A small number of candidates constructed an ellipse of the wrong size. Some candidates used a trammel to draw the ellipse but failed to show evidence of this method.

Most candidates successfully constructed an isometric box. Those candidates who did not manage to draw a box to the correct size usually still scored a mark for the 'string'.

- (d) Nearly all candidates completed the top and end of the oblique drawing. The addition of the door and the windows to the front and end surfaces was a good discriminator. The shop sign was successfully added by most candidates.



- (e) Many candidates failed to use 'bright and bold' colours, as specified by the question, although the general standard of colour application was pleasing.

Question 2

A good range of responses were seen to this question but part (a) proved particularly difficult for many candidates.

- (a) Responses to this question were usually either correct, scoring high marks, or very poor. Many candidates produced a drawing of 'rectangular' furniture that was accurate in length but not always in height or depth. The two rails proved to be very difficult for many candidates.
- (b) Many candidates drew the second dowel but not always with a complete socket. Most candidates added the vertical join line whilst few added hatching correctly.
- (c) Almost all candidates completed the pictogram. Step 2 saw a few hammers instead of mallets. In Step 3 - many omitted an arrow to indicate 'push together'. Step 4 was generally completed well with a cloth to wipe off the excess glue. In Step 5, quite a few candidates added a weight to 'apply pressure' but very few indicated time. The overall standard of drawing was impressive.
- (d) Most candidates attempted to show wood and acrylic by an appropriate method but often left out shadow and reflections.

Section 2

Question 3

This question proved to be reasonably popular, with part (a) the most successfully answered.

- (a) Many candidates accurately constructed a development (net) with six surfaces that would make a box. The determination of the true lengths for the lid, glue flaps, folds in flaps and fold lines were good discriminators.
- (b) Some good responses to this question were seen, but the majority of candidates failed to fully focus their answers upon the specification points. The quality of sketching and annotation was variable.
- (c) Most candidates re-drew their sketch from part (b) and added colour. Rendering the drawing to make the display stand appear as if it was made from acrylic was often weak.

Question 4

This question proved to be a popular choice and most candidates scored marks for each of the four parts.

- (a) Almost all candidates attempted to draw the packages in three dimensions. The octagon proved to be the most difficult of the shapes. The orientation of each layer also proved to be challenging.
- (b) Many excellent answers were seen to this question. Most candidates constructed the 'E', the triangle and the hexagon to a reasonable degree of accuracy. The 'P' and the 'S' proved to be good discriminators.
- (c) Almost all candidates attempted to draw a 'pop-up' mechanism but in many cases there was insufficient detail to determine whether the mechanism would actually work. The level of communication in this question was disappointing.
- (d) Many candidates produced a three-dimensional view of the idea they had sketched in part (c) and added colour. Drawing the design in an open position and with the 'L' clearly visible proved to be challenging.



Question 5

Very few candidates attempted this question. Those candidates who did attempt this question often failed to score high marks.

- (a) It was very rare to see a development (net) that was close, in shape or size, to the correct answer. Many candidates simply produced a drawing of the given side view.
- (b) Candidates made a fair attempt to modify (by adding or removing material) the top of the stand to hold the watch. The quality of the drawing often made it difficult to determine how successful the design would be.
- (c) This part of the question was answered to a good standard, with many imaginative ideas for the label based upon the theme of 'Diving'.
- (d) This part of the question was generally poorly answered with the stand to display the watch proving to be too difficult for many candidates to draw successfully. Some candidates produced two-dimensional views or partly completed three-dimensional views.

Question 6

This question proved to be the most popular of the **Section 2** questions. Many candidates scored high marks and there was little differentiation in some parts of the question.

- (a) The majority of candidates divided the circle into the correct sized sectors and applied appropriate colour and labels. Many candidates scored maximum marks for this question.
- (b) Many candidates accurately constructed a bar chart to an appropriate scale. Almost all candidates determined the relative heights of the 'bars' correctly and applied appropriate colour and labels.
- (c) Almost all candidates attempted the flow chart but far fewer arranged the stages in the correct order. Very few placed the decision box after 'count coins' and an even smaller number of candidates put in 'yes and no' links correctly.
- (d) The standard of drawing for this question proved to be very high, with many candidates scoring full marks. A small number of candidates incorrectly spaced the circles or the lower 'centre'.



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Paper 7048/02

Coursework

General comments

Many candidates should be congratulated on the clear presentation of their design folders. However, as was reported last year, some candidates still tend to spend too much time on the Research and Analysis section at the expense of other considerations. The mark allocation in the assessment criteria should give some indication of the amount of time to be given to each section of the Project.

Comments on specific assessment headings

Problem Identification

Candidates had obviously been able to select a design problem, from those offered in the question paper, that was of interest to them. This is the stage at which the intention of the project is identified and set out clearly and many candidates gained full marks for this.

Research and Analysis

This section provides candidates with the opportunity to consider all aspects of the design problem and to gather relevant information. Most candidates looked in a sensible way at existing situations or solutions so that they could draw on this experience when formulating their own solutions to the design problem. Candidates should be encouraged to ask themselves the question: 'What do I need to know?' and then go on to seek this information.

Again, as has been reported in previous years, many candidates gathered information on materials, constructions and other aspects, often taken directly from textbooks, which had no relevance to this stage of a design process. This approach simply wastes time and cannot be awarded marks.

Specification for a Possible Solution

The Specification is awarded 10% of the total marks available and, as such, should not be considered lightly. Successful candidates drew on the results of their research and analysis to formulate a list of specific requirements for their design solution. A meaningful Specification can then form a useful tool for the evaluation of the final outcome.

Proposals for a Solution

This is the opportunity for candidates to be really creative and to record and consider a whole range of different approaches to the solution to their design problem. Successful candidates did not become too tied down by one basic idea but communicated a range however appropriate they were at the time.

It is important that candidates annotate design drawings and record their thoughts on each idea for possible subsequent development. It is these notes that indicate to the reader how the candidate's ideas have been formulated.

Many candidates should be congratulated on the high quality of communication skills in this section of their design folders.



Realisation

Photographic evidence only of design solutions was seen by the Moderator so it is difficult to comment in detail about made products. However, work appeared to cover the intended range of appropriate materials and many artefacts were finished to a very high standard.

Evaluation

There has, generally, been an improvement to this section of the design process and many folders gave the feeling that candidates had carried out meaningful testing of their product solutions and considered them against the original specification.

Although some candidates continue to use ticked boxes against specification points, many others gave sound objective comment to indicate the success, or failure, of their solution. As a result of this objective testing recommendations for improvement and modification could then be made.

