MARK SCHEME for the October/November 2010 question paper
for the guidance of teachers

9705 DESIGN AND TECHNOLOGY
9705/11 Paper 1, maximum raw mark 120

This mark scheme is published as an aid to teachers and candidates, to indicate the requirements of the examination. It shows the basis on which Examiners were instructed to award marks. It does not indicate the details of the discussions that took place at an Examiners’ meeting before marking began, which would have considered the acceptability of alternative answers.

Mark schemes must be read in conjunction with the question papers and the report on the examination.

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CIE is publishing the mark schemes for the October/November 2010 question papers for most IGCSE, GCE Advanced Level and Advanced Subsidiary Level syllabuses and some Ordinary Level syllabuses.
1 (a) Suitable sheet material named  
   e.g. mild steel, stainless steel, aluminium  
   Suitable reason related to strength and/or ease of maintenance/cleaning/finishing  
   (1) [2]

   (b)  
   (i) Making of template described  
       Using template described  
       Details of tools, equipment and safety precautions (if necessary)  
       (0–2) [6]

   (ii) Cutting out shape and smoothing edges  
        Bending shape  
        Details of tools equipment and safety precautions (if necessary)  
        (0–2) [6]

   (iii) Appropriate method of joining identified  
        e.g. riveting, soldering, welding  
        Joining method described  
        Details of tools, equipment and safety precautions (if necessary)  
        (0–3) [6]

   [Total: 20]

2 (a)  
   (i) Suitable sheet plastic named  
       e.g. acrylic, perspex, polystyrene  
       (1) [2]

   (ii) Suitable softwood named  
        e.g. pine, spruce, cedar, parana pine, douglas fir  
        (1)

   (b)  
   (i) Making jig described  
       Using jig described  
       Details of tools, equipment and safety precautions (if necessary)  
       (0–2) [6]

   (ii) Appropriate method of making grooves identified  
        e.g. router, plough plane  
        Appropriate method of making grooves described  
        Details of tools, equipment and safety precautions (if necessary)  
        (0–3) [6]

   (iii) Appropriate joining method identified  
        e.g. mortise and tenon, dowel joint, screws  
        Appropriate joining method described  
        Details of tools, equipment and safety precautions  
        (0–3) [6]

   [Total: 20]
3 (a) Appropriate scale used
  Bottom and back  (1)
  Sides  (1)
  Front  (1)
  Top and fold over flap  (1)
  Glue tabs (at least 2 correct tabs)  (1) [6]
(b) Suitable sheet plastic named
  e. g. polystyrene  (1)
  Suitable reason for choice given
  e.g. flexible, ready coloured  (1) [2]
(c) (i) Appropriate method described
  Some details given about tools/equipment  (0–2) [3]
(ii) Appropriate method described
  Some details given about tools/equipment  (0–2) [3]
(iii) Appropriate method of securing top/flap identified
  Making/attaching securing method described  (0–3)
  Details of tools, equipment and safety precautions (if necessary)  (0–2) [6]

[Total: 20]

4 (a) Sketch and notes explain how board slots in the back of container  (0–2) [2]
(b) Problem 1 described
  Problem 2 described  (0–2) [4]
  e.g. Problems related to bags falling/blowing out of container, container being low down on ground
(c) Explanation of how problem 1 could be overcome  (0–3)
  Explanation of how problem 2 could be overcome  (0–3) [6]
  e.g. add a lid/top, make sides higher, put container on a stand.
(d) Situation has been analysed and relevant issues/points identified
  Explanation of why issues/points are considered relevant  (0–3)
  Specific examples/evidence used to support conclusions  (0–3) [8]

[Total: 20]
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<tr>
<td>5</td>
<td><strong>a)</strong> Sketches and notes explain what the male and female formers look like</td>
<td>(0–2)</td>
<td>[2]</td>
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|   | **b)** Problem 1 described  
|   | Problem 2 described | (0–2) | [4] |
|   | e.g. Problems related to the tray being hard to pick up and things being able to slide off the ends |
|   | **c)** Explanation of how problem 1 could be solved  
|   | Explanation of how problem 2 could be solved | (0–3) | [6] |
|   | e.g. hand holes made more accessible, lip goes all the way round the tray. |
|   | **d)** Situation has been analysed and relevant issues/points identified  
|   | Explanation of why issues/points are considered relevant  
|   | Specific examples/evidence used to support conclusions | (0–3) | [8] |
|   | **Total:** 20 |
| 6 | **a)** Appropriate explanation of function of feature X  
|   | e.g. Related to helping to prevent steps slipping or damaging surfaces or people. | (0–2) | [2] |
|   | **b)** Problem 1 described  
|   | Problem 2 described | (0–2) | [4] |
|   | e.g. Problems related to stability, safety, steps collapsing. |
|   | **c)** Explanation of how problem 1 could be overcome  
|   | Explanation of how problem 2 could be overcome | (0–3) | [6] |
|   | e.g. Extra bracing pieces need to be added to both sides and back legs. |
|   | **d)** Situation has been analysed and relevant issues/points identified  
|   | Explanation of why issues/points are considered relevant  
|   | Specific examples/evidence used to support conclusions | (0–3) | [8] |
|   | **Total:** 20 |
7 (a) One pre-conceived idea presented
   OR
   The development and selection of a range of ideas into a single design proposal
   which would appear to work but lacks some technical detail
   OR
   The development and selection of a range of ideas into a single design proposal
   that includes sufficient technical detail to show that the proposed solution would
   clearly work
   (0–3)  (4–7)  (8–10)

   Clarity and quality of sketching and explanatory notes
   (0–3)

   Evaluation (reasons for selection)
   (0–3) [16]

(b) As for part (a) [16]

(c) As for part (a) [16]

(d) As for part (a) [16]

(e) The drawing will exhibit a reasonable standard of outcome and show some of the
    required design features
    OR
    The drawing will exhibit a good standard of outcome and show, most of the
    design features required to make the product function as intended
    OR
    The drawing will be completed to a high standard of outcome and fully show the
    design features required to make the product function as intended
    (0–3)  (4–7)  (8–10)

   Some use made of colour and tone to enhance the visual impact of the drawing
   OR
   Good use has been made of colour and tone to enhance the visual impact of the
   drawing
   OR
   Very good use has been made of colour, tone and material representation to
   enhance the visual impact of the drawing
   (0–2)  (3–4)  (5–6) [16]

[Total: 80]

Questions 8 and 9 as for Question 7