UNIVERSITY OF CAMBRIDGE INTERNATIONAL EXAMINATIONS

GCE Advanced Subsidiary Level and GCE Advanced Level

MARK SCHEME for the October/November 2011 question paper for the guidance of teachers

9705 DESIGN AND TECHNOLOGY

9705/13 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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1 **(a)** Suitable finish named
e.g. Paint, varnish
Suitable reason for choice given (1)
e.g. To enhance appearance, to protect surface [

(b) **(i)** Cutting out of material described (0–2)
Smoothing edges of material described (0–2)
Details of tools, equipment and safety precautions (if necessary) (0–2) [6]

(ii) Method of joining described (0–3)
Details of tools, equipment and safety precautions (if necessary) (0–3) [6]

(iii) Method of joining described (0–3)
Details of tools, equipment and safety precautions (if necessary) (0–3) [6]

[Total: 20]

2 **(a)** Suitable thickness of card stated (1)
e.g. 1–2mm, 1000–2000 microns
Suitable reason for choice given (1)
e.g. related to strength/stability of material and its ability to support weight of leaflets [2]

(b) Correct assembly shown as pictorial view (1)
Front and back (0–2)
Struts (0–2)
'Locking' pieces (1) [6]

(c) Cutting out and folding process described (0–3)
Details of tools, equipment and safety precautions (if necessary) (0–3) [6]

(d) Die cutting process described (0–3)
Details of tools, equipment and safety precautions (if necessary) (0–3)

[Total: 20]

3 **(a)** Suitable material named
e.g. acrylic, polystyrene, aluminium, stainless steel
Suitable reason for choice given (1)
e.g. Surface finish is not required [1]

(b) **(i)** Process of bending described (0–3)
Details of tools, equipment and safety precautions (if necessary) (0–3) [6]

(ii) Cutting out material described (0–2)
Smoothing edges of material described (0–2)
Details of tools, equipment and safety precautions (if necessary) (0–2) [6]

(iii) Marking out of holes described (0–2)
Drilling holes described (0–2)
Details of tools, equipment and safety precautions (if necessary) (0–2) [6]

[Total: 20]

4 **(a)** Reference to recycling (1)
Made from 40% recycled material (1) [2]

(b) Problem 1 described (0–2)
Problem 2 described (0–2)
e.g. Problems related to egg moving about. no side fold over flaps, 'windows' and/or tuck in flap too big, poor security [4]

(c) Explanation of how problem 1 could be overcome (0–3)
Explanation of how problem 2 could be overcome (0–3)
e.g. Inner packaging added to prevent egg moving, additional flaps added, sizes of 'windows' and tuck in flap changed, security sticker added [6]

(d) Situation has been analysed and relevant issues/points identified. (0–3)
Explanation of why issues/points are considered relevant (0–3)
Specific examples/evidence used to support conclusions (0–2) [8]

[Total: 20]

5 **(a)** Appropriate explanation (
e.g. Acts as handle to pull out drawer, provides space for slot in label which identifies contents of drawer

(b) Problem 1 described (0–2)
Problem 2 described (0–2)
e.g. Problems related to poor stability and CDs falling out of slots 4

(c) Explanation of how problem 1 could be overcome (0–3)
Explanation of how problem 2 could be overcome (0–3)
e.g. Increasing size of base, adding weight to base, making slots deeper, making slots at an angle [6]

(d) Situation has been analysed and relevant issues/points identified. (0–3)
Explanation of why issues/points are considered relevant (0–3)
Specific examples/evidence used to support conclusions (0–2) [8]

[Total: 20]

6 **(a)** Appropriate explanation (0–2)
e.g. spring, allows board to bend in wind, makes it harder to knock board over [4]

(b) Problem 1 described (0–2)
Problem 2 described (0–2)
e.g. Nothing to hold two frames together, poor stability, two frames can slide apart, board can easily collapse [4]

(c) Explanation of how problem 1 could be overcome (0–3)
Explanation of how problem 2 could be overcome (0–3)
e.g. join two frames together with hinges or something similar, connect bottom of frames together chain or something similar [6]

(d) Situation has been analysed and relevant issues/points identified. (0–3)
Explanation of why issues/points are considered relevant (0–3)
Specific examples/evidence used to support conclusions (0–2) [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 (4–7)
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 (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 (0–3)
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 (4–7)
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 (8–10)

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

[Total: 80]

Questions **8** and **9** as for Question **7**