

## UNIVERSITY OF CAMBRIDGE INTERNATIONAL EXAMINATIONS

GCE Advanced Subsidiary Level and GCE Advanced Level

### MARK SCHEME for the June 2005 question paper

#### 9705 DESIGN AND TECHNOLOGY

9705/01

Paper 1 (Written 1), maximum raw mark 120

This mark scheme is published as an aid to teachers and students, to indicate the requirements of the examination. They show the basis on which Examiners were initially instructed to award marks. They do not indicate the details of the discussions that took place at an Examiners' meeting before marking began. Any substantial changes to the mark scheme that arose from these discussions will be recorded in the published *Report on the Examination*.

All Examiners are instructed that alternative correct answers and unexpected approaches in candidates' scripts must be given marks that fairly reflect the relevant knowledge and skills demonstrated.

Mark schemes must be read in conjunction with the question papers and the *Report on the Examination*.

- CIE will not enter into discussion or correspondence in connection with these mark schemes.

CIE is publishing the mark schemes for the June 2005 question papers for most IGCSE and GCE Advanced Level and Advanced Subsidiary Level syllabuses and some Ordinary Level syllabuses.

**Grade thresholds** taken for Syllabus 9705 (Design and Technology) in the June 2005 examination.

	maximum mark available	minimum mark required for grade:		
		A	B	E
Component 1	120	72	66	38

The thresholds (minimum marks) for Grades C and D are normally set by dividing the mark range between the B and the E thresholds into three. For example, if the difference between the B and the E threshold is 24 marks, the C threshold is set 8 marks below the B threshold and the D threshold is set another 8 marks down. If dividing the interval by three results in a fraction of a mark, then the threshold is normally rounded down.

June 2005

GCE A/AS LEVEL

MARK SCHEME

MAXIMUM MARK: 120

SYLLABUS/COMPONENT: 9705/01

DESIGN AND TECHNOLOGY

Written 1

### Section A

<b>1</b>	<p><b>(a)</b> Three pieces of appropriate data identified 3 x 1 e.g. related to height and depth of wheelchair distance from foot to knee and knee to hip</p> <p><b>(b)</b> Three features identified 3 x 1 e.g. height of seat, depth of seat, height of table</p>	3 3	6
<b>2</b>	<p><b>(a)</b> Three dangers identified 3 x 1 Clear explanation of each 3 x 1</p> <p><b>(b)</b> Four appropriate safety rules given 4 x 1</p>	6 4	10
<b>3</b>	<p><b>(a)</b> Correct production method given i.e. lamination</p> <p><b>(b)</b> Quality of explanation related to producing curved shape 0-3 marks</p> <p><b>(c)</b> Basic sketching showing some understanding of a former and its use 0-2 marks</p> <p>Good sketching showing a clear understanding of a former and its use 3-4 marks</p>	1 3 4	8
<b>4</b>	<p><b>(a)</b> Suitable change made i.e. making slots deeper 0-2 marks Clear explanation of change 0-2 marks</p> <p><b>(b)</b> Appropriate explanation related to the base being too small 0-2 marks</p> <p><b>(c)</b> Clear explanation showing an enlarged base</p>	4 2 2	8
<b>5</b>	<p><b>(a)</b> Correct motion stated i.e. rotary</p> <p><b>(b)</b> Sketch showing an appropriate mechanism 0-3 marks Clear explanation of mechanism and indication of moving parts 0-3 marks</p> <p><b>(c)</b> Mechanism correctly named i.e. bevel gears, worm gear</p>	1 6 1	8

### Section B

<b>6</b>	<p><b>(a)</b> Explanation related to it being a brittle material which is easily broken 0-2 marks</p> <p><b>(b)</b> Suitable material named e.g. polystyrene 1 Appropriate reason 1 mark</p> <p><b>(c)</b> Marking out described 0-2 marks Cutting and shaping described 0-3 marks Appropriate tools and equipment explained 0-3 marks</p> <p><b>(d)</b> Some level of understanding the process shown 0-4 marks Good level of understanding the process shown 5-8 marks</p>	2 2 8 8	20
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<b>7</b>	<p><b>(a)</b> Suitable metal identified 1 mark Two appropriate reasons for choice given 2 x 1</p> <p><b>(b)</b> Suitable cross section for rail drawn 0-2 marks Suitable cross section for leg drawn 0-2 marks</p> <p><b>(c)</b> Appropriate method given 0-2 marks Quality/clarity of description 0-3 marks</p> <p><b>(d)</b> Suitable material identified 1 mark Two appropriate reasons for choice given 2 x 1</p> <p><b>(e)</b> Appropriate method given 0-2 marks Quality/clarity of description 0-3 marks</p>	<p>3</p> <p>4</p> <p>5</p> <p>3</p> <p>5</p>	<p></p> <p></p> <p></p> <p></p> <p><b>20</b></p>
<b>8</b>	<p><b>(a)</b> Suitable wood identified 1 mark Two appropriate reasons for choice given 2 x 1</p> <p><b>(b)</b> Appropriate method given 0-2 marks Quality/clarity of communication 0-2 marks</p> <p><b>(c)</b> Layout of information 0-2 marks Correct sizes 0-4 marks</p> <p><b>(d)</b> Suitable finish identified</p> <p><b>(e)</b> Details about application of finish 0-2 marks Details about the working environment 0-2 marks Details about cleaning the equipment 0-2 marks</p>	<p>3</p> <p>4</p> <p>6</p> <p>1</p> <p>6</p>	<p></p> <p></p> <p></p> <p></p> <p><b>20</b></p>
<b>Section C</b>			
<b>9</b>	<p><b>(a)</b> Four appropriate features identified 4 x 1</p> <p><b>(b) (i)</b> Feature described 0-4 marks Quality/clarity of communication 0-2 marks</p> <p><b>(ii)</b> As for part <b>(i)</b></p> <p><b>(c)</b> Quality and depth of discussion 0-4 marks</p>	<p>4</p> <p>6</p> <p>6</p> <p>4</p>	<p></p> <p></p> <p></p> <p><b>20</b></p>
<b>10</b>	<p><b>(a)</b> Appropriate disadvantage explained 0-2 marks</p> <p><b>(b)</b> Appropriate properties identified 3 x 1 Explanation of properties 3 x 1</p> <p><b>(c)</b> Design features identified 3 x 1 Quality/clarity of communication 0-3 marks</p> <p><b>(d)</b> Quality and depth of discussion 0-6 marks</p>	<p>2</p> <p>6</p> <p>6</p> <p>6</p>	<p></p> <p></p> <p></p> <p><b>20</b></p>
<b>11</b>	<p><b>(a)</b> Appropriate materials identified A wood      B plastic      C metal 3 x 1</p> <p><b>(b) (i)</b> Appropriate explanation 0-2 marks</p>	<p>3</p> <p>2</p>	<p></p> <p></p>

(ii)	Appropriate age ranges given 3 x 1 Appropriate explanations 3 x 1	6	
(c) (i)	Correct methods identified 3 x 1	3	
(ii)	Features identified 3 x 1 Quality/clarity of communication 0-3 marks	6	<b>20</b>