

**Oxford Cambridge and RSA Examinations**

**General Certificate of Secondary Education**

**DESIGN AND TECHNOLOGY (RESISTANT MATERIALS)**

PAPER 3

FOUNDATION TIER

MARK SCHEME

**Specimen Paper 2003**

**1956/3**

Question	Answer	Total Marks Available
1(a) (i)	marking out- scribe, set square or try square <b>with</b> scribe.	1
(ii)	sawing - hacksaw	1
(iii)	smooth edge - file	1
1(b) (i)	permanent - soldering, brazing, riveting, welding.	1
(ii)	temporary - screws, nuts and bolts.	1
1(c) (i)	unprotected steel will rust or corrode	1
(ii)	protection - use of paint, coating plating.	1
1(d)	label attached to nameplate: allow modifications to the label and/or the nameplate <i>1 mark for each</i> basic idea securely ease of removal/attachment	3
		<b>Total 10</b>

2(a)	type of equipment to be stored numbers and sizes of equipment to be stored location of desk tidy	2
2(b) (i)	holes all the same size, short pencils fall through, sloping top does not help storage.	2
(ii)	two modifications to relate to the reasons given in (i) <i>0-2 for each sensible modification</i>	4
2(c)	evaluation carried out by carrying out a survey of user views or try the items of equipment in the desk tidy.	2
		<b>Total 10</b>

Question	Answer	Total Marks Available
<b>3(a) (i)</b>	appropriate cam shown in position against the driver or crank shown in correct position	<b>3</b>
<b>(ii)</b>	cam or crank	<b>1</b>
<b>(iii)</b>	drawing of snail cam	<b>1</b>
<b>(iv)</b>	snail cam named	<b>1</b>
<b>(v)</b>	only able to move in on one direction – no reverse	<b>1</b>
<b>3(b)</b>	jig to include: four holes, located/secured against two edges, repetitive accuracy.	<b>3</b>
		<b>Total 10</b>

<b>4(a)</b>	advantages - consistency of finish, quality assured, speed etc.	<b>2</b>
<b>4(b)</b>	manufactured boards may use recycled materials and therefore place reduced demands on the world's resources.	<b>2</b>
<b>4(c)</b>	appropriate K-D fitting –modesty bloc, corner fitting named. <i>(1 mark)</i> sketch of fitting <i>(2 marks)</i>	<b>3</b>
<b>4(d)</b>	<i>1 mark for each</i> stage 2 – clean up edges stage 3 – spray paint stage 4 – assemble <i>Accept other relevant stages</i>	<b>3</b>
		<b>Total 10</b>

<b>Question</b>	<b>Answer</b>	<b>Total Marks Available</b>
<b>5(a) (i)</b>	variety of solid woods suitable for outdoor use e.g. teak, oak, elm, iroko. <i>Only accept those with specific outdoor properties</i>	<b>1</b>
<b>(ii)</b>	dowel, mortise and tenon.	<b>1</b>
<b>5(b) (i)</b>	reasons for wooden chair – traditional material, durable heavier weight could be an advantage, blends with garden environment.	<b>2</b>
<b>(ii)</b>	reasons for plastic chair – maintenance free, lighter to move around, easy to wipe clean, resists weather.	<b>2</b>
<b>5(c)</b>	anthropometric data would have been used to determine the main sizes for the chair by applying specific human body dimensions. <i>For maximum mark there must be a reference to human body dimensions</i>	<b>2</b>
<b>5(d)</b>	accept any sensible/ relevant improvement carried out to the design of either chair.	<b>2</b>
		<b>Total 10</b>

**Total mark available: 50**