MARK SCHEME for the October/November 2013 series

9705 DESIGN AND TECHNOLOGY

9705/12

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 should be read in conjunction with the question paper and the Principal Examiner Report for Teachers.

Cambridge will not enter into discussions about these mark schemes.

Cambridge is publishing the mark schemes for the October/November 2013 series for most IGCSE, GCE Advanced Level and Advanced Subsidiary Level components and some Ordinary Level components.



Section A 1 (a) (i) Suitable softwood named e.g. pine, parana pine, spruce, western red cedar (1) (ii) suitable glue named e.g. aradite, epoxy resin (1) (b) (i) Cutting out of part A described Smoothing edges described (0-2) Details of tools, equipment and safety precautions (if necessary) (0-2) (ii) Describing how part B could be made and attached to part A (0-4) Details of tools, equipment and safety precautions (if necessary) (0-2) (iii) Describing how the rotor blades could be made and attached to part A (0-4) Details of tools, equipment and safety precautions (if necessary) (0-2) (iii) Describing how the rotor blades could be made and attached to part A (0-4) Details of tools, equipment and safety precautions (if necessary) (0-2) [6] 2 (a) Explanation of mallable e.g. material that can undergo a degree of deformation/bending without rupture or cracking (0-2) [2] 2 (a) Explanation of mallable e.g. material that can undergo a degree of deformation/bending without rupture or cracking (0-4) Details of tools, equipment and safety precautions (if necessary) (0-2) [6] (b) (i) Describing how jig could be made and used (if necessary) (0-2) [6]	Page 2	2	Mark Scheme	Syllabus	Paper	•
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 e.g. material that can undergo a degree of deformation/bending without rupture or cracking (b) (i) Describing how jig could be made and used (0–4) Details of tools, equipment and safety precautions (if necessary) (0–2) [6] 					[Total:	: 20]
Details of tools, equipment and safety precautions (if necessary) (0–2) [6	()			without rupture	· · ·	[2] Ig
(if necessary) (0–2) [6	(b) (i)		• • • •		(0–4)	
					(0–2)	[6]
 (ii) Describing how the base could be marked out and made (0–4) Details of tools, equipment and safety precautions 	(ii)		-		(0–4)	
(if necessary) (0–2) [6		(if ne	ecessary)		(0–2)	[6]
(iii) Describing how the holes could be marked out and drilled (0–4) Details of tools, equipment and safety precautions	(iii)		-		(0–4)	
					(0–2)	[6]
[Total: 20					[Total:	: 20]

	Page 3 Mark Scheme Syllabus					Paper	,
		0		GCE AS/A LEVEL – October/November 2013	9705	12	
3	(a)	Ske	tch a	and notes to explain that 8 cards could be cut from an A2 sh	eet	(0–2)	[2]
	(b)	(i)		cess described ails of computer equipment/software		(0–4) (0–2)	[6]
		(ii)		nination process described		(0–4)	
	Details of tools, equipment and safety precautions (if necessary)						[6]
		(iii)	Glui	ing and folding described ng in correct position described east 2 appropriate tools/safety precautions named		(0–2) (0–3) (1)	[6]
						[Total:	: 20]
				Section B			
4	(a)			tion of symbol e mark indicates that the contents (in grams or litres) is an a	average qua	(0–2) antity	[2]
	(b)	Prol e.g.	blem bottl	one identified and described two identified and described les will move around in box s can be seen through plastic window		(0–2) (0–2)	[4]
	(c)	Exp e.g.	lanat mak	tion of how problem one could be overcome tion of how problem two could be overcome te box smaller, add inserts size of side flaps or size of plastic window		(0–3) (0–3)	[6]
	(d)	Exp	lanat	has been analysed and relevant issues/points identified tion of why issues/points are considered relevant examples/evidence used to support conclusions		(0–3) (0–3) (0–2)	[8]
						[Total:	20]

	Ра	ge 4	Mark Scheme	Syllabus	Paper			
		GCE AS/A LEVEL – October/November 2013 9705						
5	(a)	Explanat e.g. Reg national	(0–2) jistered wi	[2] th a				
	(b)	Problem e.g. not a	one identified and described two identified and described a rigid/stable structure, shape of gate will distort ot fixed to gate posts		(0–2) (0–2)	[4]		
	(c)	Explanat e.g. add	ion of how problem one could be overcome ion of how problem two could be overcome one or two diagonal members to the gate able hinges and/or catch to gate		(0–3) (0–3)	[6]		
	(d)	Explanat	has been analysed and relevant issue/points identified ion of why issues/points are considered relevant examples/evidence used to support conclusions		(0–3) (0–3) (0–2)	[8]		
					[Total:	20]		
6	(a)	e.g. Trac	ion of symbol le Mark, a trade mark is a name or symbol that allows a ess from its competitors. It cannot be used in any form w		•	[2] bany		
	(b)	Problem e.g. wea	one identified and described two identified and described k structure, roof does not have enough support es for public such as seats of more protection from winc	l, rain etc.	(0–2) (0–2)	[4]		
	(c)	Explanat	ion of how problem one could be overcome ion of how problem two could be overcome ng more support for roof, adding sides, adding seats, ac	lding timetable	(0–3) (0–3) board	[6]		
	(d)	Explanat	has been analysed and relevant issues/points identified ion of why issues/points are considered relevant examples/evidence used to support conclusions	1	(0–3) (0–3) (0–2)	[8]		
					[Total:	20]		

Pa	ge 5	Mark Scheme	Syllabus	Paper				
		GCE AS/A LEVEL – October/November 2013	3 9705	12				
(a)	One pre- OR	-conceived idea presented		(0-4)				
	The development and selection of a range of ideas into a single design proposal which woul appear to work but lacks some technical detail (5–8)							
	OR The development and selection of a range of ideas into a single design proposal includes sufficient technical detail to show that the proposed solution would clearly work (9–12)							
	Clarity and quality of sketching and explanatory notes Evaluation (reasons for selection)							
(b)	As for pa	art (a)		[20]				
(c)	As for pa	art (a)		[20]				
(d)	The drav design fe OR	wing will exhibit a reasonable standard of outcome eatures	e and show some	of the required (0–5)				
	The draw	wing will exhibit a good standard of outcome and s to make the product function as intended	show most of the c	lesign features (6–9)				
		wing will be completed to a high standard of out	come and fully sh	ow the design				

features required to make the product function as intended (10-14)

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) [20]

[Total: 80]

Pa	ge 6			Mark	Scheme		Syllabus	Pape	r
	U		GCE AS/	A LEVEL – C	October/Nove	mber 2013	9705	12	
(a)								(0-4)	
		ear to		selection of a ks some tech		as into a single	e design propos	sal which v (5–8)	woul
	The	e deve					a single design plution would cle		
		•	d quality of s n (reasons fo	-	explanatory n	otes		(0-4) (0-4)	[20
(b)	As f	for par	t (a)						[20
(c)) As for part (a) [20								
(d)	(i)	requir	lrawing will e ed design fe		onable to goo	d standard of	outcome and v	will some o (0–5)	of th
			-	•	d to a good to o make the pr	-	rd of outcome as intended	and fully (6–10)	sho
		Some drawi OR		een made o	f colour and	tone to enha	ance the visual	impact o (0–2)	of th
		Good		od use has b al impact of th		colour, tone a	and material re	presentati (3–4)	
	(ii)		-	exhibit a reas sign features	-	d standard of	f outcome and	will show s (0–2)	som
		The d	-		to a good to h ke the product	•	of outcome and ntended	d fully shov (3–4)	w th
		Some drawi OR		een made o	f colour and	tone to enha	ance the visual	impact o (0–1)	of th
		Good		od use has b al impact of th		colour, tone a	and material re	presentati (2)	on [
									l: 8