UNIVERSITY OF CAMBRIDGE INTERNATIONAL EXAMINATIONS International General Certificate of Secondary Education

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0445 DESIGN AND TECHNOLOGY

0445/01

Paper 1 (Common Core), maximum raw mark 100

This mark scheme is published as an aid to teachers and students, 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.

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.

The grade thresholds for various grades are published in the report on the examination for most IGCSE, GCE Advanced Level and Advanced Subsidiary Level syllabuses.

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

CIE is publishing the mark schemes for the October/November 2006 question papers for most IGCSE, GCE Advanced Level and Advanced Subsidiary Level syllabuses and some Ordinary Level syllabuses.

Page 2		Mark Scheme	Syllabu		
		IGCSE - OCT/NOV 2006	0	445	Da
					Dana Cann To Mark
Ques			Detail	Mark	То
numl	ber		mark	on script	Mark
				Script	
1		Addition of bristles. Distinct bristles – 2, outline only – 1	2		
		Rendering	2		
		Overall quality	1	5	
2		Four specification points e.g. colourful, attract attention, no small parts, rounded shape etc. No need to qualify			
	(-)	for full marks	1x4	4	
	(a) (b)	Two hazards e.g. fumes, splash eyes, damage skin etc.	1x2	2	
	(b) (a)	Mask, goggles, gloves etc.	1x2	2	
4 ((a)	Two advantages e.g. infinite, no pollution, low running cost etc.	1x2	2	
((b)	Two disadvantages e.g. not always sunny, cannot be			
		controlled/shut off, large solar panels, expensive to set	4.0	0	
- /	(-)	up, eyesore etc.	1x2	2	
5 ((a)	Engineer's square/try square	1	0	
	/I. \	Marking/testing right angles	1	2	
((b)	Scriber	1	0	
	(a)	Marking on metal	1	2	
((c)	Spring dividers Stepping off/marking circles	1	2	
6 /	(2)		1 1x2	2	
	(a) (b)	Tension and compression labelled Rigid, flexible	1x2 1x2	2	
7	(b)	Cam/crank If not drawn on Fig. 4 – 1 only	2	2	
'		Clarity	2 1	3	
8		Won't slip, better power transfer etc.	1x2	2	
	(a)	Any sensible device e.g. cooker, washing machine,	172	2	
5 ((u)	alarm etc.	1		
		Reason e.g. control temperature	2	3	
((b)	Linked to (a) e.g. thermistor, float, LDR etc.	1	1	
10		Two examples of ergonomics e.g. comfort of handle,			
		switch easily accessible, easy adjustment etc.	2x2	4	40

age 3 Mark Scheme Syllable Question number ICCSE - OCT/NOV 2006 0445 Question number Detail Mark on soript Mark on mark To Mark 11 (a) Accept any suitable points – stable in use, keeps bottle upright, accessible handle, keeps brushes clean etc. 1x4 4 11 (b) Accept any two holding devices – elastic, clips, holes etc. Item – 1, drawing - 1 2x2 4 11 (c) Any suitable ideas. 2x2 4 11 (c) Any suitable ideas. 0-3 An appropriate approach 0-3 An appropriate approach 3-4 Good and clear approach 5-6 6 Suitability Simplistic designs 0-3 Rather more detail, sensible solutions 4-6 6 Selection justification. 2 2 11 (d) Evaluation of each of the ideas. 0-6 6 Selection justification. 2 2 11 (e) Quality of drawing Poor line quality, proportions, little detail 0-3 Good and were of colour, proportions, detail 6-6 6 Standard throughout 7-8 8	age 3		Mark Scheme	Syl	abu 🔗 🗤	ber
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11 (f)Suitable materials stated.1Reasons for choice.34			An appropriate approach	4-6		
Reasons for choice. 3 4			Good and clear approach	7-8	8	
Reasons for choice. 3 4	11	(f)	Suitable materials stated.	1		
11 (a) Suitable method stated.			Reasons for choice.	3	4	
	11	(g)	Suitable method stated.			
Good detailed description of process, including			materials (2), processes (2) and tools (2).	6	7 60	

age 4		Mark Scheme	Syl	labu .	per
•		IGCSE - OCT/NOV 2006		445 %	20
					an.
Que num	estion Iber		Detail mark	Mark on N script	a cambridge
12	(a)	Accept any suitable points – Matches most desks, name stands out, calendar visible, pencils upright etc.	1x4	4	
12	(b)	Accept any two suitable specific materials – card, plastic sheet, paper etc.	1x2		
12	(c)	Accept any two suitable joining methods – glue flaps, tabs in slots, staples etc. Any suitable ideas.	1x2	4	
	()				
		Communication	0.0		
		A simplistic approach	0-2		
		An appropriate approach	3-4	0	
		Good and clear approach	5-6	6	
		Suitability			
		Simplistic designs	0-3		
		Rather more detail, sensible solutions	4-6		
		Accurate solutions, good fitness for purpose, detailed construction	7-9	9	
12	(d)	Evaluation of each of the ideas.	0-6	6	
		Selection justification.	2	2	
12	(e)	Quality of drawing			
		Poor line quality, proportions, little detail	0-3		
		Good line work, use of colour, proportions, detail	4-6		
		High standard throughout	7-8	8	
		Dimensions	2	2	
		Construction details			
		A simplistic approach	0-3		
		An appropriate approach	4-6		
		Good and clear approach	7-8	8	
12	(f)	Changes easy to make, easy to store, use of colours, designs straight to machines (CAM). Any two explained	2x2	4	
12	(g)	Appropriate item	2		
	,	Good communication skills	3		

age 5		Mark Scheme	Syl	labu	per
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					Say.
	estion		Detail	Mark	To "Bri
nun	nber		mark	on	Mark %
				script	Dapha Cainbhi To Ann bhi Mark Hidge
13	(a)	Accept any suitable points – does not damage bicycle,			
	. ,	secure, easy to operate, minimal space etc.	1x4	4	
13	(b)	Accept any two locking devices - key lock, combination			
		lock etc. Lock – 1, Drawing – 1	2x2	4	
13	(c)	Any suitable ideas.			
		Communication			
		A simplistic approach	0-2		
		An appropriate approach	3-4		
		Good and clear approach	5-6	6	
		Suitability			
		Simplistic designs	0-3		
		Rather more detail, sensible solutions	4-6		
		Accurate solutions, good fitness for purpose, detailed construction	7-9	9	
13	(d)	Evaluation of each of the ideas.	0-6	6	
		Selection justification.	2	2	
13	(e)	Quality of drawing			
		Poor line quality, proportions, little detail	0-3		
		Good line work, use of colour, proportions, detail	4-6		
		High standard throughout	7-8	8	
		Dimensions	2	2	
		Construction details			
		A simplistic approach	0-3		
		An appropriate approach	4-6		
		Good and clear approach	7-8	8	
13	(f)	Suitable materials stated.	1		
	.,	Reasons for choice.	3	4	
13	(g)	Suitable method stated.	1		
		Good detailed description of process, including			

Page 6		Mark Scheme	Syllabu		2
		IGCSE - OCT/NOV 2006	0	445	Dac
0	uestion		Detail	Mark	TAN
	mber		mark	ON	Mark
				script	
14	(a)	Accept any suitable points – simple to use, easy to			banacann To Mark
		store, not too heavy, comfortable, easy to fold etc	1x4	4	
14	(b)	Accept any four portable items – folding chairs, laptop computer, briefcase, umbrella, rucksack etc.	1x4	4	
14	(c)	Any suitable ideas.			
		Communication			
		A simplistic approach	0-2		
		An appropriate approach	3-4		
		Good and clear approach	5-6	6	
		Suitability			
		Simplistic designs	0-3		
		Rather more detail, sensible solutions	4-6		
		Accurate solutions, good fitness for purpose, detailed construction	7-9	9	
14	(d)	Evaluation of each of the ideas.	0-6	6	
		Selection justification.	2	2	
14	(e)	Quality of drawing			
	.,	Poor line quality, proportions, little detail	0-3		
		Good line work, use of colour, proportions, detail	4-6		
		High standard throughout	7-8	8	
		Dimensions	2	2	
		Construction details			
		A simplistic approach	0-3		
		An appropriate approach	4-6		
		Good and clear approach	7-8	8	
14	(f)	Suitable materials stated.	1		
		Reasons for choice.	3	4	
14	(g)	Suitable method stated.	1		
		Good detailed description of process, including			
		materials (2), processes (2) and tools (2).		7	60