## UNIVERSITY OF CAMBRIDGE INTERNATIONAL EXAMINATIONS

International General Certificate of Secondary Education

## MARK SCHEME for the May/June 2006 question paper

## 0445 DESIGN AND TECHNOLOGY

0445/01

Paper 1, maximum raw mark 100

These mark schemes are 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.

The minimum marks in these components needed for various grades were previously published with these mark schemes, but are now instead included in the Report on the Examination for this session.

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

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

Page 1	Mark Scheme	Syllabu
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				7	www.	xtrapapers.com
	Page 1	Mark So		Sylla	abu A.A.	2
		IGCSE – May	/June 2006	04	45	OSC.
Question number				Detail mark	Mark on script	Tanapers.com
1	Half ca	lete car ar vertical cut -2 horizontal cu y of shading	ut -1	1 2 1	4	No.
2		cations to leg to ground		2 2	4	L
3	Markir Coping	saw (or similar) ng across g/ fret saw eg calipers		1 1 1 1	5	
4	Select Plane Mark v	e material datum edge or file datum edge vidth or file to width		1x4	4	
5	Perma Screw Metal Perma Staple	s/Bolts inent		1 1 1 1	5	
6	Plywo End gi	od veneers - 2 or 1 rain - 2 or 1		2 2	4	
7	Level	over edge for 90° up to level of start		1 1 2	4	
8		ation for first support A or B er for second	A = 45 B = 75	2 1	3	
9		ulleys, chain/sprockets, gear ct direction	rs .	2 1	3	
10		ood reasons explained ons only without explanation		2x2 1x2	4	40

Page 2	Mark Scheme	Syllabu
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Pac	je 2	Mark Scheme	Sylla	bu ·Q	
	,	IGCSE – May/June 2006	044	15	day
			Detail mark	Mark on script	Tannahide
(a)	•	· · · · · · · · · · · · · · · · · · ·	1x4	4	
(b)			2x2	4	
(c)					
	Simple of tech	e drawings displaying low standard or limited range iniques	0-2		
	of tech	niques – shading/colour/annotation	3-4		
	•		5-6	6	
		<del>.</del>	0-3		
	Rathe	more detail, sensible solutions that could work	4-6		
			7-9	9	
(d)					
				6 2	
(2)		,	_	_	
(e)		•	0-3		
		· · · ·	4-6		
	show	clearly all detail	7-8	8	
			2	2	
	A simp	olistic approach showing little or no detail of			
			0-3		
	views	or with some annotation	4-6		
		<del>_</del>	7-8	8	
(f)			1	_	
	Reaso	ns for choice.	3	4	
(g)			1		
	Good	detailed description of process, including materials ocesses (2) and tools (2).	6		
	(b) (c) (d) (e)	(a) Acception angle,  (b) Acception bolt etc.  (c) Any sucception of technology of tec	(a) Accept any suitable points – little space, stable, correct angle, adjustable angle, folds up, lightweight etc.  (b) Accept any suitable flexible joints – hinges, fabric, screw, bolt etc.  (c) Any suitable ideas.  Communication  Simple drawings displaying low standard or limited range of techniques  Clear drawings displaying a good standard and a range of techniques – shading/colour/annotation  High quality drawings using a wide range of techniques with clear annotation and detail  Suitability  Simplistic designs showing outlines only Rather more detail, sensible solutions that could work Accurate solutions, good fitness for purpose, detailed construction  (d) Evaluation of each of the ideas. At least 3 evaluations up to 2marks each. Selection and justification. (1+1)  (e) Quality of drawing Poor line quality, proportions, little detail Good line work, use of colour, proportions, some detail High standard throughout with a range of techniques that show clearly all detail Dimensions  Construction details  A simplistic approach showing little or no detail of constructions to be used Most constructional detail may be obvious from overall views or with some annotation  All constructional detail will be clear with good annotation and additional detail drawings as necessary  (f) Suitable materials stated. Reasons for choice.	(b) Accept any suitable flexible joints – hinges, fabric, screw, bolt etc. 2x2  (c) Any suitable ideas.  Communication  Simple drawings displaying low standard or limited range of techniques  Clear drawings displaying a good standard and a range of techniques – shading/colour/annotation  High quality drawings using a wide range of techniques with clear annotation and detail  Suitability  Simplistic designs showing outlines only  Rather more detail, sensible solutions that could work  Accurate solutions, good fitness for purpose, detailed construction  (d) Evaluation of each of the ideas. At least 3 evaluations up to 2marks each.  Selection and justification. (1+1)  (e) Quality of drawing  Poor line quality, proportions, little detail  Good line work, use of colour, proportions, some detail  High standard throughout with a range of techniques that show clearly all detail  Dimensions  Construction details  A simplistic approach showing little or no detail of constructions to be used  Most constructional detail may be obvious from overall views or with some annotation  All constructional detail drawings as necessary  (f) Suitable materials stated.  Reasons for choice.  1 to suitable method stated.  1 construction detailed in the clear with good annotation and additional detail drawings as necessary  2x2  2x2  2x2  2x2  2x2  4-2  Communication  All constructional detail drawings as necessary  A simplistic approach showing little or no detail of constructional detail drawings as necessary  7-8  (f) Suitable materials stated.  Reasons for choice.  1 constructional detail drawings as necessary	(a) Accept any suitable points – little space, stable, correct angle, adjustable angle, folds up, lightweight etc.  (b) Accept any suitable flexible joints – hinges, fabric, screw, bolt etc.  (c) Any suitable ideas.  Communication Simple drawings displaying low standard or limited range of techniques Clear drawings displaying a good standard and a range of techniques — shading/colour/annotation High quality drawings using a wide range of techniques with clear annotation and detail  Suitability Simplistic designs showing outlines only Rather more detail, sensible solutions that could work Accurate solutions, good fitness for purpose, detailed construction  (d) Evaluation of each of the ideas. At least 3 evaluations up to 2marks each. Selection and justification. (1+1)  2 (e) Quality of drawing Poor line quality, proportions, little detail Good line work, use of colour, proportions, some detail High standard throughout with a range of techniques that show clearly all detail Dimensions Construction details A simplistic approach showing little or no detail of constructions to be used Most constructional detail may be obvious from overall views or with some annotation All constructional detail drawings as necessary  (f) Suitable materials stated. Reasons for choice.  3 4   Mark  4  4  4  4  4  4  4  4  4  4  4  4  4

Page 3	Mark Scheme	Syllabu
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Pag	je 3	Mark Scheme	Sylla 044	bu A
		IGCSE – May/June 2006	044	15
estion mber			Detail mark	Mark on script
(a)	area/c	t any suitable points – Attract attention, represent ountry, looks modern, impression of /movement etc.	1x4	4
(b)	•	t any suitable methods – tabs and slots, slide into d joining pieces, 'velcro', adhesive tape etc.	1x4	4
(c)	Comm Simple of tech Clear of of tech High q with cl Suitak		0-2 3-4 5-6	6
	Rathe	stic designs showing outlines only r more detail, sensible solutions that could work ate solutions, good fitness for purpose, detailed uction	0-3 4-6 7-9	9
(d)	to 2ma	ation of each of the ideas. At least 3 evaluations up arks each. ion and justification. (1+1)	0-6 2	6 2
(e)	Poor li Good High s	ry of drawing ine quality, proportions, little detail line work, use of colour, proportions, some detail standard throughout with a range of techniques that	0-3 4-6	
	Dimer Const	clearly all detail nsions ruction details blistic approach showing little or no detail of	7-8 2	8 2
	Most o	uctions to be used constructional detail may be obvious from overall or with some annotation astructional detail will be clear with good annotation	0-3 4-6	
(f)	and ad	dditional detail drawings as necessary nethods with materials	7-8 2x2	8 4
(g)	Good	priate item communication skills clear detail	2 3 2	7

Page 4	Mark Scheme	Syllabu
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	Pag	ge 4	Mark Scheme	Sylla	bu
ļ		, -	IGCSE – May/June 2006	044	45
-	estion mber			Detail mark	Mark on script
	(a)		t any suitable points - little maintenance, safe in djustable, transportable, not damaged by elements	1x4	4
	(b)	•	t any two suitable systems – screw, bolts/nuts, entre device, wedge etc.	2x2	4
	(c)	Comm Simple	uitable ideas.  nunication e drawings displaying low standard or limited range nniques	0-2	
		of tech	drawings displaying a good standard and a range nniques – shading/colour/annotation	3-4	
		with cl	uality drawings using a wide range of techniques ear annotation and detail	5-6	6
		Rathe	stic designs showing outlines only r more detail, sensible solutions that could work	0-3 4-6	
		constr	ate solutions, good fitness for purpose, detailed uction	7-9	9
	(d)	to 2ma	ation of each of the ideas. At least 3 evaluations up arks each. ion and justification. (1+1)	0-6 2	6 2
	(e)	Poor li Good	y of drawing ne quality, proportions, little detail line work, use of colour, proportions, some detail	0-3 4-6	
		show o	tandard throughout with a range of techniques that clearly all detail usions ruction details	7-8 2	8 2
		constr	olistic approach showing little or no detail of uctions to be used	0-3	
		views	constructional detail may be obvious from overall or with some annotation astructional detail will be clear with good annotation	4-6	
			ditional detail drawings as necessary	7-8	8
	(f)		le materials stated. ons for choice.	1 3	4
	(g)		le method stated. detailed description of process, including materials	1	
			ocesses (2) and tools (2).	6	7

Page 5	Mark Scheme	Syllabu
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Pa	ige 5	Mark Scheme	Sylla	ibu A	1
		IGCSE – May/June 2006	044	45	Day
uestion umber			Detail mark	Mark on script	trapape Randhit Mari
(a)	to clea	t any suitable points – stores water and food, easy an, good access for birds, does not scare birds, ls cannot climb/get to etc.	1x4	4	
(b)	from h	t any two suitable points – height, overhang, away igh walls/trees, small access to food, materials that ls cannot climb etc.	2x2	4	
(c)	Comm Simple of tech	uitable ideas.  nunication e drawings displaying low standard or limited range nniques drawings displaying a good standard and a range	0-2		
	of tech	nniques – shading/colour/annotation quality drawings using a wide range of techniques	3-4		
		ear annotation and detail	5-6	6	
	Simpli Rathe	stic designs showing outlines only r more detail, sensible solutions that could work ate solutions, good fitness for purpose, detailed	0-3 4-6		
	constr	• • •	7-9	9	
(d)	to 2ma	ation of each of the ideas. At least 3 evaluations up arks each. ion and justification. (1+1)	0-6 2	6 2	
(e)	Poor li Good	by of drawing ine quality, proportions, little detail line work, use of colour, proportions, some detail standard throughout with a range of techniques that	0-3 4-6		
	show of Dimer Const	clearly all detail nsions truction details	7-8 2	8 2	
	constr	olistic approach showing little or no detail of uctions to be used	0-3		
	views	constructional detail may be obvious from overall or with some annotation	4-6		
		nstructional detail will be clear with good annotation dditional detail drawings as necessary	7-8	8	
(f)		ole materials stated. ons for choice.	1 3	4	
(g)		elle method stated.	1		
		detailed description of process, including materials ocesses (2) and tools (2).	6	7	60