CAMBRIDGE INTERNATIONAL EXAMINATIONS

International General Certificate of Secondary Education

MARK SCHEME for the May/June 2014 series

0445 DESIGN AND TECHNOLOGY

0445/12 Paper 1 (Design), maximum raw mark 50

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 May/June 2014 series for most IGCSE, GCE Advanced Level and Advanced Subsidiary Level components and some Ordinary Level components.



	Pa	ge 2	Mark Scheme	Syllabus	Paper	,
			IGCSE – May/June 2014	0445	12	
1	(a)	•	any four additional suitable points – waterproof access to batteries/mechanism, suit garden enviror		•	[4]
	(b)	-	drawings of any two suitable methods – keyhole rire/cord and screw/nail, etc.	plate, batten syst	em, (2 × 2)	[4]
	(c)	Any suita fewer.	able ideas. At least three different ideas for maxim	um marks. Pro ra	ta if	
		Clear dra	nication rawings displaying a low standard or limited range of awings displaying a good standard and a range of the notation etc. Ality drawings using a wide range of techniques with	echniques – shadi	(3-4)	
		Rather m	ty c designs showing outlines only nore detail, sensible solutions that could work e solutions, good fitness for purpose, detailed constr	uction	(0-2) (3-4) (5-6)	[12]
	(d)		on of each of the ideas. At least 3 evaluations up to and justification (1 + 1)	2 marks each	(0 - 6) (2)	[8]
	(e)	Poor line Good line High star	of drawing equality, proportions, little detail e work, use of colour, proportions, some detail endard throughout with a range of techniques that sh ons 2 or 3 overall dimensions only – 1	ow clearly all deta	(1) (2–3) il (4)	
		Dilliciisi	Additional detail dimensions – 2		(2)	
		A simplis Most co annotation	ction details stic approach showing little or no detail of construction structional detail may be obvious from overall on cructional detail will be clear with good annotation as as necessary	views or with so	(3–4)	[12]
	(f)	Suitable	specific materials stated (1 + 1) ate reasons for choice (1 + 1)		(2) (2)	[4]
	(g)		method stated tailed description of: processes tools		(1) (3) (2)	[6]

[Total: 50]

	1000 ma y ,00m0 2011					
(a)	Accept any four additional suitable points – suitable size for handling interesting, theme, colour, hours/minutes/seconds feature, safe for child under the colour of th		[4]			
(b)	Accept drawings of any two methods – nut and bolt, spigot, screw, rivet,	etc. (2 × 2)	[4]			
(c)	Any suitable ideas. At least three different ideas for maximum marks. Pro rata if fewer.					
	Communication Simple drawings displaying a low standard or limited range of techniques Clear drawings displaying a good standard and a range of techniques – colour/annotation etc. High quality drawings using a wide range of techniques with clear annotated	shading/ (3-4)				
	Suitability Simplistic designs showing outlines only Rather more detail, sensible solutions that could work Accurate solutions, good fitness for purpose, detailed construction	(0-2) (3-4) (5-6)	[12]			
(d)	Evaluation of each of the ideas. At least 3 evaluations up to 2 marks each Selection and justification (1 + 1)	ch (0–6) (2)	[8]			
(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	(1) (2–3) I detail (4)				
	Dimensions 2 or 3 overall dimensions only – 1 Additional detail dimensions – 2	(2)				
	Construction details A simplistic approach showing little or no detail of construction to be used Most constructional detail may be obvious from overall views or will annotation All constructional detail will be clear with good annotation and addition drawings as necessary	ith some (3–4)	[12]			
(f)	Suitable specific materials stated (1 + 1) Appropriate reasons for choice (1 + 1)	(2) (2)	[4]			
(g)	Suitable method stated Good detailed description of: processes tools	(1) (3) (2)	[6]			
		[Total: 50]				

Mark Scheme IGCSE – May/June 2014

Page 3

2

Syllabus 0445 Paper 12

(a)	Accept any four additional suitable points – eye catching, interesting to view, safe for public, fenced off, correct height, move on hour, etc.	1 × 4)	[4]		
(b)	Accept any two methods – crank/slider, cam/follower, rack/pinion, etc. (2	2 × 2)	[4]		
(c)	Any suitable ideas. At least three different ideas for maximum marks. Pro rata if fewer.				
	Clear drawings displaying a good standard and a range of techniques – shading/colour/annotation etc. High quality drawings using a wide range of techniques with clear annotation and	(0–2) (3–4) (5–6)			
	Rather more detail, sensible solutions that could work	(0–2) (3–4) (5–6)	[12]		
(d)	Evaluation of each of the ideas. At least 3 evaluations up to 2 marks each Selection and justification (1 + 1)	(0–6) (2)	[8]		
(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 (4)				
	Dimensions 2 or 3 overall dimensions only – 1 Additional detail dimensions – 2	(2)			
	Most constructional detail may be obvious from overall views or with some	(0–2) (3–4)			
	All constructional detail will be clear with good annotation and additional detail drawings as necessary	(5–6)	[12]		
(f)	Suitable specific materials stated (1 + 1) Appropriate reasons for choice (1 + 1)	(2) (2)	[4]		
(g)	Suitable method stated Good detailed description of: processes tools	(1) (3) (2)	[6]		
		[Total	: 50]		

Mark Scheme IGCSE – May/June 2014

Page 4

3

Syllabus 0445 Paper 12