

MARK SCHEME for the October/November 2007 question paper

0445 DESIGN AND TECHNOLOGY

0445/01

Paper 1 (Common Core), 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.

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.

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

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1 (a)	Accept any four suitable points – stable in use, lightweight, easy to move, comfortable to hold, folded for storage, etc. No repeats of question.	1 x 4	4	
(b)	Accept drawings of any two temporary fixings – bolts, spring clips, rubber straps, push-in clips, pins, etc. Name only – 1 mark	2 x 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	0–2		
	Clear drawings displaying a good standard and a range of techniques – shading /colour/annotation etc.	3–4		
	High quality drawings using a wide range of techniques with clear annotation and detail	5–6		
	Suitability			
	Simplistic designs showing outlines only	0–2		
	Rather more detail, sensible solutions that could work	3–4		
	Accurate solutions, good fitness for purpose, detailed construction	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	1		
	Good line work, use of colour, proportions, some detail	2–3		
	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		
	Construction details			
	A simplistic approach showing little or no detail of construction to be used	0–2		
	Most constructional detail may be obvious from overall views or with some annotation	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. Appropriate reasons for choice.	2 2	4	
(g)	Suitable method stated. Detailed description including: processes and tools	1 3 2	6	50

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2 (a)	Accept any four suitable points – easy to assemble, colourful, name of maker, good representation, etc. No repeats of question	1 x 4	4	
(b)	Accept drawings of any two temporary joints–tabs/slots, ‘velcro’, stationary rivets, slotted corner pieces, etc.	2 x 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 – shading /colour/annotation etc 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	0–2 3–4 5–6 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 Dimensions 2 or 3 overall dimensions only – 1 Additional detail dimensions – 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 with some annotation All constructional detail will be clear with good annotation and additional detail drawings as necessary	1 2–3 4 2 0–2 3–4 5–6	12	
(f)	Two suitable uses of computers – CAD/CAM, design and cutting of development, setting out and printing of wording graphics, etc.	2 x 2	4	
(g)	Appropriate box design. Good communication skills Appropriate assembly and opening methods	2 2 2	6	50

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3 (a)	Accept any four suitable points – lightweight, easy to control, easy to clean, easy to assemble, private, etc. No repeats of question.	1 x 4	4	
(b)	Accept any two suitable methods – overhead tank/bucket, electric/hand/wind-up pump (1 mark if pump only), pipe from high stream, etc.	2 x 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	0–2		
	Clear drawings displaying a good standard and a range of techniques – shading /colour/annotation etc	3–4		
	High quality drawings using a wide range of techniques with clear annotation and detail	5–6		
	Suitability			
	Simplistic designs showing outlines only	0–2		
	Rather more detail, sensible solutions that could work	3–4		
	Accurate solutions, good fitness for purpose, detailed construction	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	1		
	Good line work, use of colour, proportions, some detail	2–3		
	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		
	Construction details			
	A simplistic approach showing little or no detail of construction to be used	0–2		
	Most constructional detail may be obvious from overall views or with some annotation	3v4		
	All constructional detail will be clear with good annotation and additional detail drawings as necessary	5–6	12	
(f)	Suitable specific materials stated. Appropriate reasons for choice.	2 2	4	
(g)	Suitable method stated. Detailed description including: processes and tools	1 3 2	6	50