MARK SCHEME for the October/November 2006 question paper

9705 DESIGN AND TECHNOLOGY

9705/03 Paper 3 (Written 2), maximum raw mark 120

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	Syllabus	Paper
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Section A

Part A – Product Design

1	(a)	 appropriate material including: Aluminium / mild steel / other suitable metal Acrylic / other suitable plastic hardwood 	1	
		Reasons including: - takes a good finish / easy to form - attractive	2	[3]
	(b)	 description to include where appropriate: marking; shaping; joining; assembly; finish. quality of description: fully detailed some detail, quality of sketches 	3 - 6 0 - 2 up to 2	[8]
	(c)	 explanation could include: change in process; change in materials; use of moulds, formers, stamping tools; simplification of design. quality of explanation: logical, structured limited detail, quality of sketches 	4 - 7 0 - 3 up to 2	[9]
				[Total: 20]

GCE AAS LEVEL - OCT/NOV 2006 9705 3 1 Discussion should include: (a) and (b) material choice /cost functional / aesthetic requirements suitability for environment 2 overall comprehension and interpretation 2 examination of issues up to 6 marks - broad range 4 - 6 - limited 0 - 3 quality of explanation up to 8 marks - detailed, logical 6 - 8 - some detail 3 - 5 - limited, 0 - 2 supporting examples / evidence up to 4 marks - fimited, 0 - 2 supporting examples / evidence up to 4 marks - fimited, 0 - 2 supporting examples / evidence up to 4 marks - some detail 3 - 5 - imited, 0 - 2 - gradity of sheat. Pressing: male/female formers, locating steel, high speed, huge force, - fully detailed 3 - 5 - some detail, 0 - 2 - gradity of sketches up to 2 - fully detailed 3 - 5 - some detail, 0 - 2 - fully detailed 3 - 5	Page 3			Mark	Scheme	Syllabus	Pap	er
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Page 4	Mark Sche	me	Syllabus	Рар	er
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	Part B – P	ractical Design			
4 (a)	three examples, one from each MA well explained	of three classes of lever		3 x 3	[9]
(b)	energy efficiency calculation example			2 1	[3]
(c)	(i) well explained clear sketches			3 2	[5]
	(ii) product	eg. train door closing de	vice		
	clear description	industrial clamp		1 2	[3]
				l	[Total: 20]
(a)	for four materials	properties applications		4 x 2 4 x 1	[12]
(b)	understanding of new materials examples explanation of effect on produc	s t design / manufacture		2 2 4	[8]
				ļ	[Total: 20]

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6 (a)	V AND		-)—•
	W OR			\succ
	X Exclusive OR (XOR)			— •
	Y NAND		-)0
	Z NOR			×>
	Name of gate Symbol	1 mark 1 mark		1 x 5 1 x 5 [10]
(b)	appropriate examples (accept analogu e.g. vdu / TV screen (CRT) video – digital recordings sound (crystal microphone) – dig	e to digital conve ital	rtors)	
	examples understanding of purpose / function quality of explanation	1 x 2 6 2		[10]
				[Total: 20]

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Part C – Graphic Products

7	(a)	scale corre base colur table line c	ct two point perspective position nn juality	2 3 2 2 3 3	[15]
	(b)	wood polisi	l rendering ned steel	3 2	[5]
					[Total: 20]
8	(a)	appro net n true s	opriate scale nain body shape	2 5 3	[10]
	(b)	appro work quali	4 4 2	[10]	
					[Total: 20]
9	(a)	(i)	correct View A correct view B scale symbol	3 2 1 1	[7]
		(ii)	fully dimensioned	3	[3]
	(b)	(i)	detailed explanation example	4 1	[5]
		(ii)	detailed explanation example	4 1	[5]
					[Total: 20]



Questions 8 and 9 not to scale (hard copy provided)