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UNIVERSITY OF CAMBRIDGE INTERNATIONAL EXAMINATIONS

GCE Advanced Subsidiary and Advanced Level

MARK SCHEME for the June 2005 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. This shows the basis on which Examiners were initially instructed to award marks. It does 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*.

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

CIE is publishing the mark schemes for the June 2005 question papers for most IGCSE and GCE Advanced Level and Advanced Subsidiary Level syllabuses and some Ordinary Level syllabuses.

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Grade thresholds taken for Syllabus 9705 (Design and Technology) in the June examination.

	maximum	minimum mark required for grade:		
	mark available	Α	В	Е
Component 3	120	91	79	48

The thresholds (minimum marks) for Grades C and D are normally set by dividing the mark range between the B and the E thresholds into three. For example, if the difference between the B and the E threshold is 24 marks, the C threshold is set 8 marks below the B threshold and the D threshold is set another 8 marks down. If dividing the interval by three results in a fraction of a mark, then the threshold is normally rounded down.

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June 2005

GCE A AND AS LEVEL

MARK SCHEME

MAXIMUM MARK: 120

SYLLABUS/COMPONENT: 9705/03

DESIGN AND TECHNOLOGY

Written 2

	Page 1	Mark Scher	ne	4	Paper
		A/AS LEVEL – JU	NE 2005	3	* P 8
		Section	A		138C
		Part A – Produc	t Design		Paper 3
1		description of process: - fully detailed - some detail	3 - 5 0 - 2		
	(quality of sketches	up to 2	7 x 2	[14]
		extrusion - consistent section - long lengths produced			
	- -	casting - complex one off shapes - little wastage/extra machining			
	-	turning - quality/accuracy of finish - small batches produced		3 x 2	[6]
					[Total: 20]
2	(a) a	appropriate material including: - aluminium - acrylic - hardwood	1		
	! - -	reasons including: - takes a good finish - easy to clean/attractive	1 x 2		[3]
	(b) o	description to include: - appropriate method - shaping, drilling - bending			
	- -	quality of description: - fully detailed - some detail	3 - 6 0 - 2		
	(quality of sketches	up to 2		[8]
	(c) 6	explanation could include: - change in process - change in materials - use of templates, jigs, formers - simplification of design			
	- -	quality of explanation: - logical, structured - limited detail	4 - 7 0 - 3		
	(quality of sketches	up to 2		[9]
					[Total: 20]

F	Page 2	Mark Scheme	Paper
		A/AS LEVEL – JUNE 2005	Paper 3
3	Discussio	n could include:	anac.
	Consume - - -	rs market pull/research fashion/trends product trialling	ambridge.com
	Manufactu -	urers producer led now materials/technologies	

3 Discussion could include:

Consumers

- market pull/research
- fashion/trends
- product trialling

Manufacturers

- producer led
- new materials/technologies

New technologies

- materials
- processes
- 'must have' gadgets

Overall comprehension and interpretation 2

examination of issues: - broad range - limited	up to 6 marks 4 - 6 0 - 3
quality of explanation: - detailed, logical - some detail - limited	up to 8 marks 6 - 8 3 - 5 0 - 2
supporting examples/evidence	up to 4 marks

Page 3	Mark Scheme	Paper
	A/AS LEVEL – JUNE 2005	20 8

Part B – Practical Design

				4
	Page 3	Mark Sche A/AS LEVEL – JU	me	Paper
		A/A3 LEVEL - J	JNE 2005	- Par
		Part B – Practio	aal Daeian	WWW. Paper 3
		I all D - I lavin	ai Desigli	My.
4	(a)	- does not resist impact	1	8
	(-)	- resists oxidation/degradation	1	·Con
	(b)	e.g.		
		- glass	1	
		- teak/aluminium	1	
	(c)	quality of description:		
		clear, logical, detailedlimited detail	3 - 5	
		- Ilfilled detail	0 - 3	
		details of samples	2	
		measurement	1	
		quality of sketches	2	[10]
	(d)	explanation could include: - selection of appropriate materials - comparisons/cost effective	for particular function	
		quality of explanation:		
		- logical, detailed	3 - 5	
		- limited detail	0 - 2	
		example/s	1	[6]
				[Total: 20]
5	(a)	e.g. Paint		[0]
		state 1 describe 2		[2]
	(b)	description of process:	4 0	
		fully detailedsome detail	4 - 6 0 - 3	
		quality of sketches	up to 2	[8]
	, , , , , , , , , , , , , , , , , , ,			1-1
	(C) (I)	key differences in process e.g.temperature required		
		 power/heat method 		
		- filler material		
		- safety precautions	3 x 2	[6]
	(ii)	advantages explained e.g strength - speed		
		quality of explanation	up to 4 marks	

	Page 4	Mark S	Scheme	Paper
		A/AS LEVEL	. – JUNE 2005	3. N. B
6	(a) (b)	anti clockwise	1 2	Paper 3 [1]
		VR = 16	1	[3]
	(b)	example description	1 x 2 2 x 3	[6]
	(d)	 e.g. <u>nylon</u> can be injection moulded lightweight good frictional qualities low noise easily damaged 	2	
		brassgood frictional qualitiesexpensivedoes not corrodenoisy	2	
		steel - can corrode - will last - heavy - noisy	2	
	(e)	advantages and disadvantage	s for each material 4	[10]

Page 5		N	lark Scheme	Paper
		A/AS L	EVEL – JUNE 2005	1. D 3
		Part C -	- Graphic Products	J. A.M. Paper
7	quality of overall sl	rcs wice full size f linework hape/proportion	3 4 2 2 6	[17]
	enhance	ment	3	[3] [Total: 20]
8	C	omplete elevation onstruction ccuracy	3 3	
	C	et roof onstruction ccuracy	4 2	
	C	et flue onstruction ccuracy	5 3	
				[Total: 20]
9		ully detailed mited, some detail	3 - 4 0 - 2	[4]
		ully detailed mited, some detail	3 - 6 0 - 2	[6]
	fu	uality of explanation: ully detailed, clear mited	5 - 8 0 - 4	
	q	uality of sketches	up to 2	[10]

Page 6	Mark Scheme	Paper
	A/AS LEVEL – JUNE 2005	10
	Section B	MANA, Paper 3
	Assessment Criteria	Cambridge.co.
Analysis	5	ale Co
Specification	5	
Range of ideas	5	

Section B

Assessment Criteria

Analysis	5
Specification	5
Range of ideas	5
Annotation related to specification	5
Marketability	5
Selection of ideas	5
Communication (ideas)	5
Development of ideas	5
Reasoning	5
Materials	3
Construction/detail	7
Communication (development)	5
Proposed solution	10
Dimensions/details	5
Evaluation	5

[Total 80]