



Design & Technology (Graphic Products)

General Certificate of Secondary Education GCSE 1955

General Certificate of Secondary Education (Short Course) GCSE 1055

Mark Schemes on the Components

June 2006

1955/1055/MS/R/06

OCR (Oxford, Cambridge and RSA Examinations) is a unitary awarding body, established by the University of Cambridge Local Examinations Syndicate and the RSA Examinations Board in January 1998. OCR provides a full range of GCSE, A level, GNVQ, Key Skills and other qualifications for schools and colleges in the United Kingdom, including those previously provided by MEG and OCEAC. It is also responsible for developing new syllabuses to meet national requirements and the needs of students and teachers.

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 marks were awarded by Examiners. It does not indicate the details of the discussions which took place at an Examiners' meeting before marking commenced.

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 should be read in conjunction with the published question papers and the Report on the Examination.

OCR will not enter into any discussion or correspondence in connection with this mark scheme.

© OCR 2006

Any enquiries about publications should be addressed to:

OCR Publications PO Box 5050 Annersley NOTTINGHAM NG15 0DL

Telephone: 0870 870 6622 Facsimile: 0870 870 6621 E-mail: publications@ocr.org.uk

CONTENTS

General Certificate of Secondary Education

GCSE Design & Technology (Graphic Products) – 1955

GCSE Design & Technology (Graphic Products) (Short Course) - 1055

MARK SCHEMES FOR THE COMPONENTS

Component	Content	Page
1955/01, 1055/01	Paper 1 (Foundation)	1
1955/02, 1055/02	Paper 2 (Higher)	7
1955/03	Paper 3 (Foundation)	13
1955/04	Paper 4 (Higher)	19
*	Grade Thresholds	25

Mark Scheme 1955/01, 1055/01 June 2006

Tolerance + or - 2mm on all questions

1	(a)	(i)	Letter E complet	ed	(1)			
			-	ely completed within tol	erance	(2)	(2)	
			Letter P complet OR	ed		(1)		
			-	ely completed within tol	erance	(2)	(2)	[4]
		(ii)		awn within tolerance, eehand in (a) (i) and (a	a) (ii)		(1)	[1]
	(b)			Can copy drawing Star only needs to be (1 x 2)	drawn or	ice	(1) (1)	[2]
	(c)			orm of perforation - a br			(1)	
			g the line to be tor	erforation - a series of s n	small cuts	s of noies	(1)	[2]
	(d)	Offse	et litho ticked, No	mark if more than one l	box ticked	b	(1)	[1]
							Total:	[10]

(i)	Two vertical fold lines correctly added (1 x 2) Two horizontal fold lines correctly added (1 x 2) Lines must be full length. Both solid lines only 1 mark	(2) (2)	[4]
(ii)	OR	, , ,	
	If three glue tabs in correct position but not wide enough or no angled end No credit for 'double tabs'	(1)	[2]
Die	cutting, stamping or press knives	(1)	[1]
Can Asse	be attached to box by manufacturer embly requires no extra materials	(1)	[1]
Cost Less Che Easi	ts less to send s likely to be damaged aper for manufacturer to produce ier to transport	(1) (1)	[2]
	(ii) Die Not Can Asse Not Take Cos Less Che Eas	 Two horizontal fold lines correctly added (1 x 2) Lines must be full length. Both solid lines only 1 mark (ii) Two glue tabs correctly added (at least 5mm wide & angled end OR Three glue tabs correctly added (at least 5mm wide & angled e If three glue tabs in correct position but not wide enough or no angled end No credit for 'double tabs' Die cutting, stamping or press knives Not as messy as glue Can be attached to box by manufacturer Assembly requires no extra materials Not quicker or easier unless qualified eg quicker to assemble 	Two horizontal fold lines correctly added (1 x 2) (2) Lines must be full length. Both solid lines only 1 mark (ii) Two glue tabs correctly added (at least 5mm wide & angled ends) (1) OR Three glue tabs correctly added (at least 5mm wide & angled ends) (2) If three glue tabs in correct position but not wide enough or no angled end (1) (1) No credit for 'double tabs' (1) Die cutting, stamping or press knives (1) Not as messy as glue (1) Can be attached to box by manufacturer (1) Not quicker or easier unless qualified eg quicker to assemble (1) Takes up less space (2) Costs less to send Less likely to be damaged Cheaper for manufacturer to produce (1) Easier to transport (1)

Total: [10]

3

(a)	Hold Sou Mov Mat	antage ds a lot of information nd can be used ring images can be used erial can be made interactive or as a presentation y to access specific information	(1)	
	Use Use	advantage r may not have appropriate hardware to run CD ROM r may not know how to use a CD ROM computer available (1)	(1)	[2]
(b)	(i)	Any octagon drawn Any regular octagon Regular octagon of correct size	(1) (1) (1)	
		Eight triangles drawn as a net Triangles show a degree of accuracy (Mark to candidate's drawing of octagon).	(1) (1)	
		Only one mark can be awarded if candidate has drawn a hexagon and triangles are accurate to this solution. Do not accept any other shape.		
		Triangles accurate within tolerance	(1)	[6]
	(ii)	Sketch of appropriate component - sticky label or self adhesive sticker (accept sticky tape or something being glued on but not triangles glued down)	(1)	
		Use of sticker clearly explained - placed over the apex of each of the eight triangles Accept a workable solution which uses locking tab(s)	(1)	[2]
			-	

Total: [10]

4 (a) Photograph of car

()	Use of digital camera Use of disc, DVD, memory card or cable, USB port to transfer image Use of program to manipulate/crop/enhance/re-size image	(1) (1) (1)	[3]
	Invitation Text style chosen - Helvetica Text size chosen - 18 pts. Text justification - Centred Use of bold text	(1) (1) (1) (1)	
	Car showroom address Text justification - Right justification or aligned	(1)	[5]
	Note Marks for text style and size can be awarded if they are given in car showroom address section Tick where each of the five marks is awarded		
(b)	Understanding that thermochromic inks change with temperature Appropriate modification explained using a sketch Eg. Colour of car could change Lucky number could appear	(1) (1)	[2]

Total: [10]

1955/01, 1055/01

Mark Scheme

			Total:	[10]
	(d)	More expensive/difficult/harder to produce because it is a more complex design	(1) (1)	[2]
	(c)	Any slot shown Any form of tab shown Locking tab shown Slot is shorter than locking tab	(1) (1) (1) (1)	[4]
	(b)	Product/material contains 40% of recycled material	(1) (1)	[2]
5	(a)	Easier to get catalogues out of tray because of cut away sections	(1) (1)	[2]

Mark Scheme 1955/02, 1055/02 June 2006

Tolerance + or - 2mm on all questions

1	(a)	Photograph of car Use of digital camera Use of disc, DVD, memory card or cable, USB port to transfer image Use of program to manipulate/crop/enhance/re-size image	(1) (1) (1)	[3]
		Invitation Text style chosen - Helvetica Text size chosen - 18 pts. Text justification - Centred Use of bold text	(1) (1) (1) (1)	
		Car showroom address Text justification - Right justification or aligned	(1)	[5]
		Note Marks for text style and size can be awarded if they are given in car showroom address section Tick where each of the five marks is awarded		
	(b)	Understanding that thermochromic inks change with temperature Appropriate modification explained using a sketch Eg. Colour of car could change Lucky number could appear	(1) (1)	[2]
			Total:	[10]

1955/02, 1055/02

Mark Scheme

			Total:	[10]
	(d)	More expensive/difficult/harder to produce because it is a more complex design	(1) (1)	[2]
	(c)	Any slot shown Any form of tab shown Locking tab shown Slot is shorter than locking tab	(1) (1) (1) (1)	[4]
	(b)	Product/material contains 40% of recycled material	(1) (1)	[2]
2	(a)	Easier to get catalogues out of tray because of cut away sections	(1) (1)	[2]

3

		Tota	al: [10]
	(Mark to candidate solution for ellipse)	(1)	[5]
	Rectangular tab, 60mm wide, centrally located 10mm measured from ellipse not along minor axis	(1)	
	(Mark can be given without evidence of construction)	(1)	
	Correct construction (2) Good quality curve within tolerance	(2) (1)	
	OR		
(d)	Some construction shown (at least 2 circles & 2 angled lines or equivalent (1))		
(c)	Die cutting, stamping or press knives	(1)	[1]
(b)	Attracts people's attention Makes product more interesting More space is available for printing information	(1) (1)	[2]
(a)	More material is used More processes involved Takes longer to make	(1) (1)	[2]

4	(a)	Corrugated flutes shown Two outer flat sheets shown (Accept 2D or 3D sketch/drawing)	(1) (1)	[2]
	(b)	Difficult to bend across the corrugations	(1)	[1]
	(c)	Reversed letter E drawn within tolerance Fold over section added (either side) Glue flap added	(1) (1) (1)	[3]
	(d)	Any letter P sketched/drawn in isometric form Depth added to letter Proportions are appropriate Appropriate joining pieces shown (must be two, front & bottom)	(1) (1) (1) (1)	[4]
			Tota	al: [10]

1955/02, 1055/02

5	(a)	Suitable one piece net shown Appropriate window large enough to show most of car Appropriate method to allow packaging to hang from hook Box that can open and close	(1) (1) (1) (1)	[4]
	(b)	Suitable net (6 surfaces) All fold lines shown Appropriate fold in tabs shown (min. of 3 – 2 large and one small) Appropriate glue tabs shown Window drawn in appropriate position and to	(1) (1) (1) (1)	
		an appropriate size Appropriate hanging method (no additional material used)	(1) (1)	[6]
			_	al: [10]

Mark Scheme 1955/03 June 2006

1	(a)		led figure joined up (not necessarily using AB) ular hexagon correct to overlay	(1) (1)	
		Any	thickness all way round inside or out	(1)	[3]
	(b)	Corr	ect tick for HEXAGON (more than 1 box ticked NO mark	x) (1)	[1]
	(c)	(i)	Remaining 4 sides shown to the right Correct overall length +/- 5mm Any additional correct use of fold line convention (accept dash line)	(1) (1) (1)	[3]
	(c)	(ii)	Suitable method of joining sides together i.e. glue flap (double sided tape needs a flap)	(1)	[1]
					Need slot as well as tab

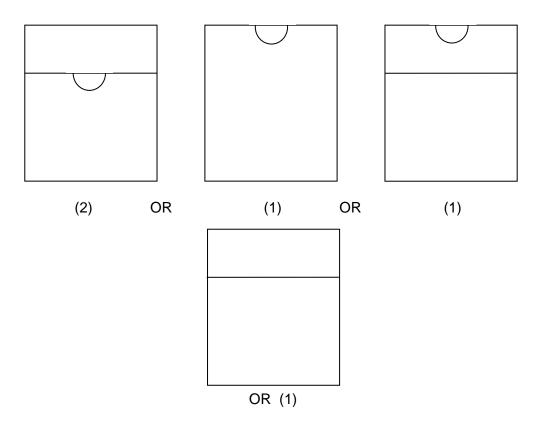
(c) (iii) Cut out hole shown on the correct side as per overlay (1)
 Cut out - correct size and position to overlay +/- 2mm on any side (1) [2]

TOTAL 10

2	(a)	Corr	ect tick for EMBOSSING (more than 1 tick NO mark)	(1)	[1]
	(b)		e attempt to show depth h correct on consistent surfaces of the best ray	(1) (1)	[2]
	(c)	(i)	Circle diameter shown as 50 mm diameter +/- 2mm	(1)	[1]
		(ii)	LINE TOOL given (not ruler) Draw a horizontal	(1) (1)	
			Diameter or Line through centre point or 50mm line or Full width line or maximum width	(1)	[3]
		(iii)	Circle diameter correct (50 mm +/- 2mm) Horizontal diameter Top semi-circle darker or No bottom semi-circle shown	(1) (1) (1)	[3]
				. /	TOTAL 10

3	(a)	(i)	Overall height of 130 mm shown Major axis of ellipse shown at a height of 100mm Some evidence of Ellipse construction (two circles and two angled lines or equivalent) Correct ellipse construction Ellipse accuracy to overlay within 2mm	(1) (1) (1) (1) (1)	[5]
		(ii)	Horizontal line projected from front view in line with major axis or to candidate solution Tab to solution below (ignore size)	(1) (1)	[2]

[2]

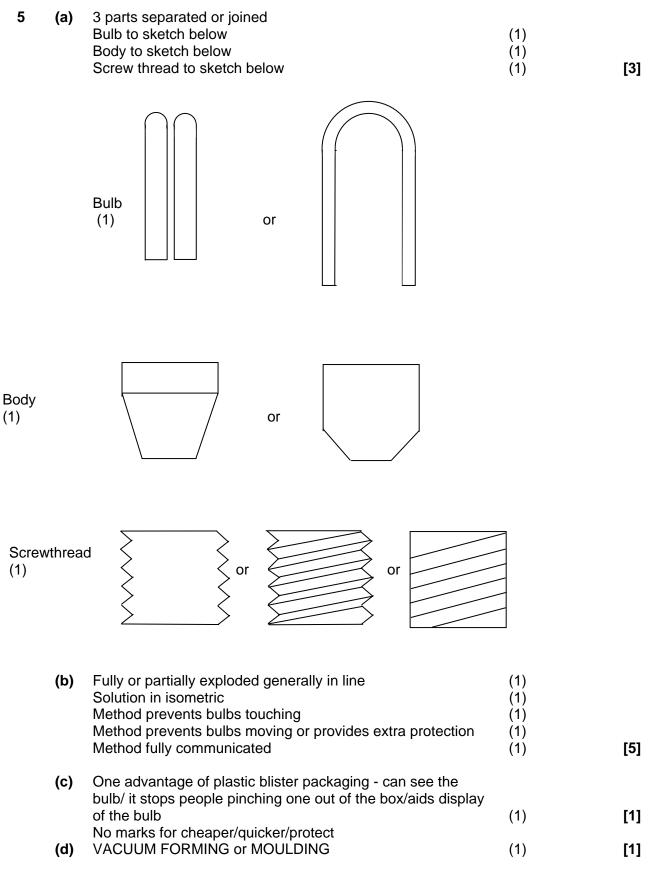


(b)	Corr	ect tick for 300 microns (more than 1 box ticked NO mark)	(1)	[1]
(c)	(i)	Correct tick for OFFSET LITHOGRAPHY (more than 1 box ticked NO mark)	(1)	[1]
	(ii)	Correct tick for COLOUR PHOTOCOPYING or SCREEN PRINTING Or Colour photocopying AND screen printing	(1)	[1]
				TOTAL 10

1955/03

4	(a)	Correct alignment of CENTRE or CENTRED, CENTRAL No mark for MIDDLE	(1)	[1]
	(b)	Any drawn Rectangular frame Rectangular frame shown to just contain the farmyard 4-8 grips shown (as below or on line/inside/outside). No marks for arrows, circles	(1) (1) (1)	[3]

(c)	2 reasons 1 mark each accept alter size/change colour or tone/remove any unwanted detail such as background, add features, contrast, sharpness NOT enhance or edit or improve quality	(2x1)	[2]
(d)	HAND WRITTEN METHOD 45/45 Accept 60/30, 30/60, 45 Suitable colouring media i.e. pencils/markers/air brush Watercolours, paint, felt tips, pastels	(1) (1)	
	3D CAD METHOD Suitable 3D software - Autocad/Inventor/Solid works/ Prodesktop/2D Design/Drawplus/Rhino/Autosketch/ProEng. Mechanical Desktop NOT DTP, Paint, Photoshop, Word Suitable rendering words such as detail/colour/tone/shading Texture/Features/Background	(1) (1)	[4]
			TOTAL 10



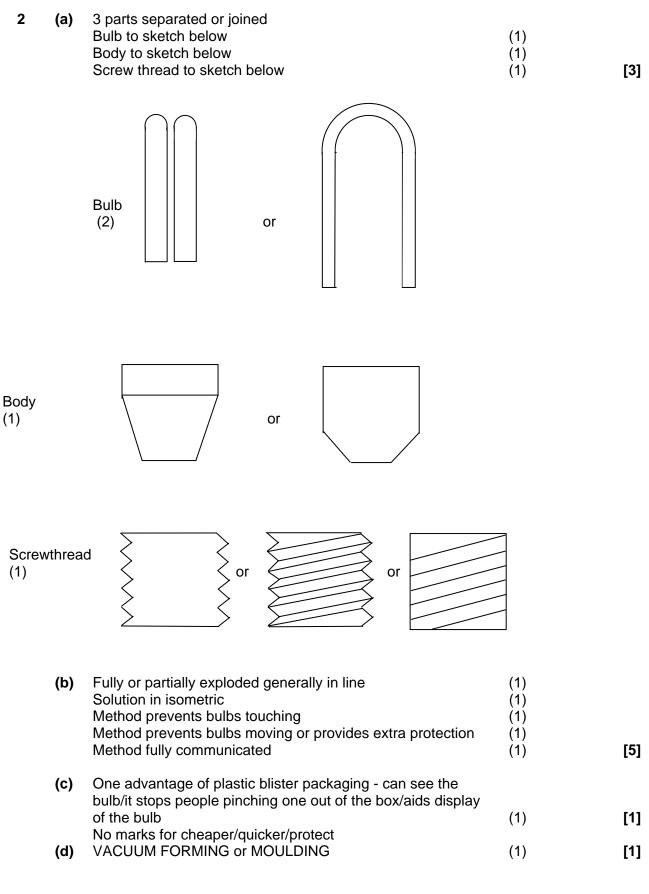
TOTAL 10

Mark Scheme 1955/04 June 2006

1955/04

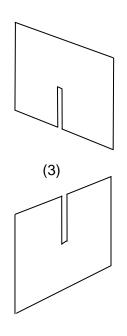
1	(a)	Correct alignment of CENTRE or CENTRED, CENTRAL No mark for MIDDLE	(1)	[1]
	(b)	Any drawn Rectangular frame Rectangular frame shown to just contain the farmyard 4-8 grips shown (as below or on line/inside/outside). No marks for arrows, circles	(1) (1) (1)	[3]

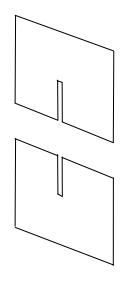
(c)	2 reasons 1 mark each accept alter size/change colour or tone/remove any unwanted detail such as background, add features, contrast, sharpness NOT enhance or edit or improve quality	(2x1)	[2]
(e)	HAND WRITTEN METHOD 45/45 Accept 60/30, 30/60, 45 Suitable colouring media i.e. pencils/markers/air brush Watercolours, paint, felt tips, pastels	(1) (1)	
	3D CAD METHOD Suitable 3D software - Autocad/Inventor/Solid works/ Prodesktop/2D Design/Drawplus/Rhino/Autosketch/ProEng. Mechanical desktop NOT DTP, Paint, Photoshop, Word Suitable rendering words such as detail/colour/tone/shading Texture/Features/Background	(1) (1)	[4]
			TOTAL 10



TOTAL 10

3 ((a)	Cuboid in isometric form Upstand curve drawn anywhere (not horizontal)	(1)	
		- in isometric form	(1)	
		Cutout curve drawn anywhere – in isometric form	(1)	
		Orientation ie Upstand to right, cutout opposite	(1)	
		Correct measurements to overlay +/- 2mm	(1)	[5]
((b)	CARD THICKNESS 200-500 microns CUTTING AND CREASING METHOD - Die Cutting/	(1)	
		Die stamping /Die forming No marks for - CAD/CAM plotter/die cutter/laser cutter	(1)	[2]
((c)	Exploded sketch shown (correct orientation needed) 2 pieces of card used to give 4 compartments 2 pieces slot together to give 4 compartments (slot any length	(1) (1)	
		single line acceptable)	(1)	[3]
				TOTAL 10





(2) exploded mark not given due to orientation

1955/04

4	(a)	(i)	Workable net (all elements present, fits together)		
	.,	.,	No glue flaps needed	(1)	
			Front to overlay +/- 2mm	(1)	
			Both sides correct to overlay +/- 2mm	(1)	
			Some evidence of ellipse construction		
			Min 2 circles, 2 angled lines or equivalent	(1)	
			Complete ellipse construction	(1)	
			Ellipse and top shoulders accurate to overlay +/- 2mm	(1)	[6]
		(ii)	Slot and tab which pull out	(1)	
			Slot and tab which will NOT pull out (slot is narrower		
			than tab) accept double folded over sides	(1)	[2]
		(iii)	Correct fold lines identified - label, broken line, dotted,	(1)	
		()	thin line, coloured line, construction line. Ignore Tabs		
			Correct convention	(1)	[2]
				()	
					TOTAL 10

5	(a)	(i)	Suitable material for see through window, thin styrene, acetate, cellophane No marks for acrylic, Perspex, polythene, cling film, plast	(1) ic	[1]
		(ii)	Hexagon shown on given centre to general proportions of window (accept straight sides) Any evidence of curved surface taken into account in	f (1)	
			the drawing of the hexagon (curved construction lines or curved sides)	(1)	[2]
	(b)		IS SQUASHED DOWN AND THE TWO SIDES PUSH WARDS		
		Тор і	is shown squashed down ie lower down	(1)	
		Two	sides shown pushed outwards	(1)	
		Arro	ws pushing down AND outwards (need both)	(1)	[3]
	(c)	Meth	od shown which connects or strengthens two sides	(1)	
			od should provide some support for the top ving should show how the method is fixed to	(1)	
		exist	ing package	(1)	
			r and unambiguous communication – can you see how	()	
		it wo	rks	(1)	[4]
					TOTAL 10

General Certificate of Secondary Education Design & Technology: Graphic Products (Short Course) 1055 June 2006 Assessment Session

Component Threshold Marks

Component	Max Mark	Α	В	С	D	Е	F	G
01 Paper 1	50			26	22	18	15	12
02 Paper 2	50	32	28	24	19			
03 Coursework	105	82	69	57	45	33	22	11

Syllabus Options

Foundation Tier

	Max Mark	A*	Α	В	С	D	Е	F	G
Overall Threshold Marks	175				85	71	57	43	29
Percentage in Grade					19.7	22.6	16. 7	16. 7	14.7
Cumulative Percentage in Grade					19.7	42.3	59. 1	75. 8	90.6

The total entry for the examination was 217

Higher Tier

	Max Mark	A*	A	В	С	D	Е	F	G
Overall Threshold Marks	175	142	125	108	91	72	62		
Percentage in Grade		7.1	25	29. 1	17.8	10.9	4.9		
Cumulative Percentage in Grade		7.1	32.1	61. 2	79.1	90.1	95		

The total entry for the examination was 376

Overall

	A *	Α	В	С	D	Е	F	G
Percentage in Grade	4.5	16	18.6	18.5	15.1	9.1	6	5.2
Cumulative Percentage in Grade	4.5	20.6	39.3	57.8	73	82.1	88.1	93.4

The total entry for the examination was 593

General Certificate of Secondary Education Design & Technology: Graphic Products (Full Course) 1955 June 2005 Assessment Session

Component Threshold Marks

Component	Max Mark	Α	В	С	D	E	F	G
01 Paper 1	50			26	22	18	15	12
02 Paper 2	50	32	28	24	19			
03 Paper 3	50			28	23	19	15	11
04 Paper 4	50	30	25	21	16			
05 Coursework	105	82	69	57	45	33	22	11

Syllabus Options

Foundation Tier

	Max Mark	A*	Α	В	С	D	Ε	F	G
Overall Threshold Marks	175				91	75	59	43	27
Percentage in Grade					25.4	23.7	20. 6	15. 4	8.8
Cumulative Percentage in Grade					25.4	49.3	69. 8	85. 2	94.1

The total entry for the examination was 10006

Higher Tier

	Max Mark	A*	Α	В	С	D	Ε	F	G
Overall Threshold Marks	175	139	122	105	89	70	60		
Percentage in Grade		8.1	22.4	29. 9	22.3	12.0	2.1		
Cumulative Percentage in Grade		8.1	30.6	60. 5	82.9	94.9	97. 1		

The total entry for the examination was 12679

Overall

	A *	Α	В	С	D	Е	F	G
Percentage in Grade	4.5	12.6	16.7	23.7	17.2	10.2	6.7	3.8
Cumulative Percentage in Grade	4.5	17.1	33.9	57.6	74.8	85.1	91.9	95.8

The total entry for the examination was 22685

OCR (Oxford Cambridge and RSA Examinations) 1 Hills Road Cambridge CB1 2EU

OCR Information Bureau

(General Qualifications)

Telephone: 01223 553998 Facsimile: 01223 552627 Email: helpdesk@ocr.org.uk

www.ocr.org.uk

For staff training purposes and as part of our quality assurance programme your call may be recorded or monitored

Oxford Cambridge and RSA Examinations is a Company Limited by Guarantee Registered in England Registered Office; 1 Hills Road, Cambridge, CB1 2EU Registered Company Number: 3484466 OCR is an exempt Charity

OCR (Oxford Cambridge and RSA Examinations) Head office Telephone: 01223 552552 Facsimile: 01223 552553

