

Design & Technology (Textiles Technology)

General Certificate of Secondary Education **1958/02**

General Certificate of Secondary Education (Short Course) **1058/02**

Mark Scheme for June 2010

OCR (Oxford Cambridge and RSA) is a leading UK awarding body, providing a wide range of qualifications to meet the needs of pupils of all ages and abilities. OCR qualifications include AS/A Levels, Diplomas, GCSEs, OCR Nationals, Functional Skills, Key Skills, Entry Level qualifications, NVQs and vocational qualifications in areas such as IT, business, languages, teaching/training, administration and secretarial skills.

It is also responsible for developing new specifications to meet national requirements and the needs of students and teachers. OCR is a not-for-profit organisation; any surplus made is invested back into the establishment to help towards the development of qualifications and support which keep pace with the changing needs of today's society.

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 2010

Any enquiries about publications should be addressed to:

OCR Publications
PO Box 5050
Annesley
NOTTINGHAM
NG15 0DL

Telephone: 0870 770 6622
Facsimile: 01223 552610
E-mail: publications@ocr.org.uk

Question			Expected Answers	Marks	Additional Guidance
1	(a)		<p>One mark for a valid answer in each section for each production method. Six available. Do not credit reversal of answers for alternative methods, or repeats.</p> <p><u>Making the pattern</u> Job – pattern made to individual customer's measurement / adapted to fit individual / made of paper rather than card /made by hand or manually / drawn Batch – made to standard size / anthropometric / made using ICT, computer / graded up and down on the computer / made from card / stored on computer and down loaded to cutting equipment. Do not credit 'made by machine'.</p> <p><u>Cutting the Fabric</u> Job – cut by hand / scissors / one garment at a time Do not credit one person cuts the fabric Batch – may be cut by laser / computer controlled cutter / water jet / die cutter / circular cutters / power shears / straight knife cutter / band knife / rough cut first then accurate cut / more than one garment cut at once / different sizes cut in one session / cut by machine / automated cutter / lots of layers cut</p> <p><u>Marking the Fabric</u> Job – tailor tacks / tailors chalk / tailors pencil / pins / water soluble or air soluble pen or pencil / carbon paper Do not credit one person marks the fabric Batch – drill marker / ink or dye marker / hot notcher Do not credit mention of notches or just 'done by machine'.</p>	<p>[1+1]</p> <p>[1+1]</p> <p>[1+1]</p>	<p>Answers must refer to the process – the way it is done – not the person doing the job.</p> <p>Job production pattern making must be linked to the customer.</p> <p>Batch production pattern making must refer to standard sizes – can refer to CAM, but not just machine made.</p>

Question			Expected Answers	Marks	Additional Guidance
1	(b)		<p>Any two reasons, one mark each.</p> <ul style="list-style-type: none"> • Fabric and components (bought in bulk so) cheaper • Skilled in process so quicker – more garments produced in less time / products made quickly / quicker / less time consuming • Workers paid less for batch production than job production as less skilled • Efficient use of fabric – more than one garment / size cut at once / less waste fabric • Specialist machines save time / automated machinery for some processes <p>Do not credit: Opposites of job compared to batch fewer workers</p> <ul style="list-style-type: none"> • batch all done by machine / job done by hand 	[1+1]	No explanation of point needed – just a reason.

Question		Expected Answers	Marks	Additional Guidance
1	(c)	<p>Any two, one mark each.</p> <ul style="list-style-type: none"> • Reduces production costs / it is cheaper / cheaper labour / paid less • Increases profits / increases income for the company or the workers • Provides employment in developing countries • Improved working conditions in developing countries (Fairtrade) • Provides higher standards of living in developing countries (Fairtrade) • Environmental protection in developing and third world countries is encouraged (Fairtrade) • May improve the skills of the workforce in developing countries / training • Brings foreign currency into developing countries / improves balance of payments / economy boosted • Raises the profile of the country of manufacture / company • Introduces new technologies to the developing country • 'Fair Trade' has increased – products meet international Fairtrade Standards • Traditional techniques maintained, eg beadwork, batik • Sharing ideas / fashion / culture <p>Do not credit: Any reference to quality Increased sales No reference to transport cost, sourcing raw materials, equipment or machinery No reference to exchange rates</p>	[1+1]	No explanation needed here, just points.
		Total	[10]	

Question			Expected Answers	Marks	Additional Guidance
2	(a)		<p>Any three, one mark each:</p> <ul style="list-style-type: none"> • Waterproof / shower proof / weatherproof • Strong / durable / hardwearing / tough • Stable fabric / will not stretch out of shape / stiffer • Will not rot • Not damaged by moths / mildew • Easy to wash / keep clean / washable • Stain resistant • Quick drying / non- absorbent • Lightweight <p>Do not credit attractive Comfortable / soft Insulation Crease resistant Reference to cost</p>	[1+1+1]	

Question			Expected Answers	Marks	Additional Guidance
2	(b)	(i)	Any finish, one mark: <ul style="list-style-type: none"> Waterproof / silicon finish / wax / water resistant or repellent Stain resistant / scotchguard / Teflon Proban / flame proofing / fireproof / fire resistance Not PVC coated cotton or laminated fabrics. Not crease resistant finish	[1]	The finish is to improve the performance of the bag, not the appearance of it.
		(ii)	One mark for shallow explanation, two marks for detailed response: <ul style="list-style-type: none"> Waterproof – protects contents of rucksack as used outside in wet weather / makes rucksack easier to dry / will last longer / keeps the person dry / warm as the bag does not get damp / used in all weathers Stain resistant / Scotchguard – easier to keep clean as used outside / protects contents as used outside / lasts longer Proban / flame proofing – safer if used when camping near naked flame / lasts longer / cigarettes / safety / personal safety 	[1+1]	<p>Candidates must give an answer in bi to be able to get marks in bii.</p> <p>Marks can only be awarded in bii if they relate to the finish given in bi.</p> <p>Do not credit – to make waterproof / stain proof / flame proof.</p> <p>Must give two clear points in the explanation, not just 'to improve the performance of the bag'.</p>

Question			Expected Answers	Marks	Additional Guidance
2	(c)		<p>One mark for shallow explanation, two marks for a detailed response:</p> <ul style="list-style-type: none"> • Hardwearing / durable / strong / re-enforce the seam so bag is stronger • No need to neaten as edges are enclosed / does not need neaten / does not fray • Flat seam so comfortable next to the body when carrying the rucksack • Decorative seam so adds to the appeal of the bag / design feature • Makes the inside neat / no need for lining <p>Do not credit just 'neat' or looks neat</p>	[1+1]	<p>Two points needed – eg strong and flat would be worth two marks.</p> <p>Or</p> <p>One point well explained – eg 'seam is flat so comfortable to carry' two marks</p> <p>A strong seam as double fabric is worth two marks</p>

Question		Expected Answers	Marks	Additional Guidance
2	(d)	<p>Either two modifications, one mark each, or one modification with a reason:</p> <ul style="list-style-type: none"> • UV reactive threads / fabric to indicate too much sun exposure • Addition of reflective strips to make more visible / easy to find / see • Bright colours so the rucksack and the wearer stand out • Transmitter built in in case of avalanche / getting lost • Addition of whistle / torch as fixtures on the bag to attract attention if lost / built in torch or light • More external pockets to make items easily accessible NB only credit one reference to pockets • Camel bag / water carrier / water bottle holder – easy to get to • Cooler section to store food • See through pocket for map / ski passes • Frame to make it easier to carry / more rigid shape so items do not get squashed • ‘wet’ compartment for wet clothing, to keep other contents of the bag dry • Wearable electronics – MP3 player / phone in bag / GPS / Sat Nav • Addition of a strap or belt to tie around the waist to hold bag to body. Reduces back strain. • Flap over zips – to prevent water getting in through zip teeth • Addition of exterior straps / clips – to hold ski sticks or walking stick when not needed / sleeping bag • Padded straps – improved comfort, can carry the bag for longer / • Thermochromic threads indicate if too hot or too cold <p>Do not credit ‘make it bigger’ or any reference to changing the size Do not credit mention of fabrics Do not credit flaps to hold items in pockets</p>	[1+1]	<p>Two modifications, one mark each.</p> <p>Or</p> <p>One modification with an explanation two marks.</p>
			[10]	

Question		Expected Answers	Marks	Additional Guidance
3	(a)	<p>Any six points, one mark each unless otherwise stated;</p> <ul style="list-style-type: none"> • Colours – named or shown • Size / measurements • Components eg fastenings / bells / squeakers / googly eyes / ribbon / braid / lace / ‘crinkle’ fabrics / beads / sequins / tassels • More than one view shown • Construction methods – <i>up to two marks</i> top stitching / seams shown or named/ disposal of fullness / bound edges / overlocked / piped • Decorative methods – <i>up to two marks</i> – free machine embroidery / CAM embroidery / screen printing / transfer printing / appliqué / quilting inc trapunto and padding / hand embroidery / roller print / tie dye / batik / block print / stencil print / fabric paint • Detachable features – soft sculpture objects or shapes / book • Fibres or fabrics named – wadding / foam • Mention of electronic features – eg touch to make a sound / light • Pockets to hold items • Use of micro encapsulation for smells / smart materials to change colour <p>Credit marks for drawing or label. Not shisha mirrors – safety</p>	[1+1+1+1+1+1]	Part a is about the design, communicating the design idea and how it would be made.

Question		Expected Answers	Marks	Additional Guidance
3	(b)	<p>One mark for shallow explanation, two if detailed. Do not credit repeats:</p> <ul style="list-style-type: none"> Suitability for visually impaired children – big, bold shapes / bright colours / contrasting colours / textured fabrics / feely fabrics / noises / 'lumpy' items such as beads or buttons for children to feel / nothing removable which can be lost Educational features - learning numbers / colours / textures / fastenings / manipulation skills / maths skills / maths symbols / days of the week / hand eye co-ordination / animal recognition / seasons / weather / letters / reading / Braille / listening skills Versatility – use as a wall hanging / suitable for children with normal vision / potential for interaction / suitable for use outside / suitable for use in a car / carrying method / for boys and girls 	[2+2]	<p>Part b is about how the design meets the specification points.</p> <p>The mark is for the explanation of the design feature, not the design feature itself.</p> <p>Candidates can explain two design features to meet the specification point, one mark each.</p> <p>Versatile eg The mat has a waterproof backing so that it can use used outside and hooks to hang it on the wall to be used as a wall hanging.</p> <p>Or</p> <p>One design feature well explained.</p> <p>Versatile The mat has a waterproof backing keeps the child dry if used outside and is easily wiped clean after use.</p>
		Total	[10]	

Question			Expected Answers	Marks	Additional Guidance
4	(a)		<p>Process should be outlined using notes and diagrams and cover the following points in a logical sequence. Any six, in correct order, one mark each:</p> <ul style="list-style-type: none"> • Wash sweatshirt (to remove finish / stains / ensure clean / no stains) • Description of making a stencil / areas of the screen need to be blocked off to prevent the dye going through. Can be done using paper stencils or a light sensitive chemical, or etch away an insoluble polymer • A separate screen or stencil if used, is needed for each colour – two in this case • The sweat shirt needs to be laid on a flat surface / table • Secured • Sweatshirt will need something between the two layers to prevent the dye going through to the other side • Print light colours first • Place screen / frame / mesh on top of the sweatshirt, • Stencil in between screen and fabric if that method is being used • Pour ink / dye along one edge/ end of the screen • Move the dye / ink backwards and forwards across the screen using the squeegee / action of the squeegee (accept description of squeegee – ‘plank ‘ ‘piece of wood’) • Lift screen / peel off stencil or remove stencil • Repeat for second colour / print second part / repeat of some stages • Mention of registering / aligning the colour • Fix colour, usually using heat <p>Industrial method acceptable Credit answers which refer to fabric rather than a sweat shirt.</p> <p>Do not credit reference to drawing the design.</p>		<p>The method can be described all in notes or all in diagrams for the six marks.</p> <p>Do not credit the same information twice – eg if they have drawn and written about the same point.</p>
				[1+1+1+1+1+1]	

Question		Expected Answers	Marks	Additional Guidance
4	(b)	<p>One mark for the problem, one for the solution. Do not credit repeats;</p> <ul style="list-style-type: none"> Colours in design not matched / overprinted / gaps – cut stencils accurately / prepare screen accurately / align screen / stencils correctly Smudged print – wait until print is dry before touching / allowing contact with anything including second stencil / folding / moving/ push dye into fabric rather than allow it to sit on the top / lift screen carefully after printing / hold screen in place firmly 'Blobs' of colour in wrong place – take care not to splash dye when putting into screen / take care when placing screen / don't wave squeegee about causing splashing / clean hands Ink / dye unevenly applied – make sure that the ink or dye is spread evenly across the screen / use even pressure when pulling squeegee across screen Dye goes through fabric onto next layer – place something between the layers of the garment to prevent transfer / use thicker dye Colours 'run' / mix / bleed – wait until first colour is dry before printing second / use thicker dye / push dye into fabric rather than allow it to sit on the top Print in wrong position on the sweatshirt / back to front – refer to specification or design / quality control in place to ensure correct placement of design / quality control checks Wrong colours – refer to specification / quality control system in place to control mixing and colour of dye / quality control checks Colour transfer from previous print – check screen clean before use Areas not printed / blank areas – screen blocked, needs washing or recovering Dye leaks through or under the stencil – ensure good contact between stencil, screen and fabric / press down on screen / use good quality paper Too much dye on the surface of the fabric – pour less dye in the screen / press down harder on the squeegee <p>DO NOT CREDIT reference to choice of fabric or printing inks.</p>	[1+1] x 2	<p>One mark for identification of the problem, one mark for the solution.</p> <p>The problem should be a fault with the final print.</p> <p>The solution should be a way of preventing it happening again.</p> <p>If the problem is not correctly identified – the solution cannot be credited with a mark.</p>
		Total	[10]	

Question		Expected Answers	Marks	Additional Guidance
5	(a)	<p>Any two points, one mark for a shallow explanation, two if detailed:</p> <ul style="list-style-type: none"> Detailed production plans to ensure workers know exactly what to do, eg step by step stages for the various processes Detailed specifications – ensures the manufacturer knows exactly what the clients wants, no room for misunderstanding – gold seal sample Set tolerances – workers have boundaries to work to Work orders – gives details of what needs to be done and when Computerised systems to monitor progress and remove human error Quality control systems, eg record keeping and results of testing and trialling Quality control checks during manufacture – correct stitching / seam allowances / fastenings / correct size Check machines are working correctly – regular maintenance / functioning correctly and consistently with other machines Standard working processes and practices – records of procedures agreed Inspection and checking of raw materials, fabric and pre-manufactured components, buy from reputable suppliers / testing fabrics and components / good quality fabrics Regular training of staff to keep skills up to date and to a high standard / hire skilled workers Use a prototype / testing – evaluate and modify the product / check it works Final inspection before dispatch with re-work if necessary Correct pattern lays – check pieces are correctly placed – straight grain place on fold <p>Do not credit Check no pins left in Check no loose threads</p>	[1+1] x 2	<p>One mark for identification of point, one for the explanation.</p> <p>eg, Check the machine is working correctly – one mark, correct stitch length, one mark.</p>

Question			Expected Answers	Marks	Additional Guidance
5	(b)		<p>Any three points, one mark for a shallow explanation, two if detailed;</p> <ul style="list-style-type: none"> • Raw materials such as fabrics - are from sustainable sources – (named) natural fibres – organic fibres - fair trade, managed crops - polartec • Economical use of resources – place pattern pieces close together to avoid waste / use scraps for something else • Water used in the system – reduce and recycle as much as possible • Chemicals / dyes used in the process – reduce harmful chemicals, replace with natural ones eg enzymes and biodegradable ones where possible, recycle and re-use • Energy used – reduce the amount used, recycle heat, use energy efficient machinery, heating and lighting • Energy - use renewable forms where possible such as solar, hydro electric, wind power • Transport – avoid unnecessary transportation – reduces energy consumption and pollution –reduce carbon footprint • Waste products – reduce and treat carefully before releasing them into the environment / no toxic waste • Reduce emissions from the factory – heat, light, noise, waste products • Life cycle analysis – consider disposal of the product at the end of it's useful life, avoid built in obsolescence / can be made into something else / recycle / biodegradable • Aftercare of product – wash at low temperature • Scrap products – avoid making products unfit for sale / purpose so items are not discarded <p>Do not credit reference to packaging</p>	[1+1] x 3	
			Total	[10]	

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

OCR Customer Contact Centre

14 – 19 Qualifications (General)

Telephone: 01223 553998

Facsimile: 01223 552627

Email: general.qualifications@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