

Design and Technology

General Certificate of Secondary Education **1958/04**

Textiles Technology Paper 4 (Higher Tier)

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	Rationale
1	<p>(a) Any two</p> <ul style="list-style-type: none"> • Reduce amount of packaging used/ pack more in a box • Use recycled materials • Use biodegradable/ environmentally friendly materials • Use non toxic printing inks • Recycle/ reuse carrier bags/ bags for life and other packaging • Use materials which can be recycled/ recycle packaging • Use paper/ card from sustainable /renewable resources 	(2x1) [2]	
	<p>(b) Two marks for a well qualified and explained answer, one mark for a brief explanation</p> <p>Disadvantages</p> <ul style="list-style-type: none"> • Morals - child labour, low wages/ sweat shops • Reductions in jobs in this country/ less work • Skills lost in this country • Additional costs re transport & shipping • Faulty goods- expensive to send back/ correct/ time • Quality – less control over process/ quality control assurance difficult • Language/ communications barriers • Late delivery/ lost goods/ damaged goods • Carbon foot print issues 	(2x2) [4]	

Question	Expected Answers	Marks	Rationale
(c)	<ul style="list-style-type: none"> • Identical, high quality but simple products • Runs 24/7 until production is complete • Used for simply designed products • Products need to have a limited number of components • May use CAM • Less outlay on wages of human workers • Used to make big batches of cheap products • Stops automatically if a fault occurs - sensors used 	(2x2) [4]	
	Total	10	

Question	Expected Answers	Marks	Rationale
2 (a)	<ul style="list-style-type: none"> • Very elastic/ stretchy • Lightweight but still strong • Hard wearing • Resistant to chemicals • Support and comfortable • Moulds to shape/ regains shape • Streamlined/ swim faster • Greater tear resistance – hard wearing • 	(2x1) [2]	
(b)	<ul style="list-style-type: none"> • Design feature- attractive/appealing/looks good • Acts as high visibility signal in dark areas • Encourages safety and protection • Illuminates when light is shone on it. • Traps and stores energy from a light source • 'Glow' after wearer moves away from light source. • Non hazardous and non toxic to use • 	(2x1) [2]	
(c)	<ul style="list-style-type: none"> • Lightweight (not light) • Hardwearing/durable/strong/value for money, protect product from damage • Waterproof/water resistant • Stain proof – keeps it looking good for longer • Fabric is suitable to have a logo applied • Fabric is available in a range of colours • Fabric holds its shape and does not stretch • Easy care – washes and dries quickly/no ironing 	(2x1) [2]	Do not accept breathable or flexible or comfortable.

Question	Expected Answers	Marks	Rationale
(d)	<ul style="list-style-type: none"> • Wearable electronics e.g. CD player, mp3 player, mobile phone/ pedometer • Waterproof/ wind protection • Reinforced stitching/ taped seams • Lined with fleece/ faux fur/ removable lining • Underarm ventilation • Pockets- security/ adjustable • Made longer/ shorter – sleeves or length of jacket • Adjustable straps/ cuffs / drawstrings • Removable/ fixed hood/ polo neck/ collar • Front fastening of jacket • Attachable gloves/ heated pads • Clips to attach eg: ski passes/ keys • Elbow protection • Flap/ protection for zip • Safety - avalanche/ signalling device/ high visibility 	(4x1) [4]	Do not credit logos or patterns as they are not modifications to design.
	Total	10	

Question	Expected Answers	Marks	Rationale
3 (a)	<p>MF: Multi functional (2x1)[2]</p> <ul style="list-style-type: none"> • Unisex • Straps/ adjustable/ detachable • Waterproof, protective finish • Smart/ modern materials • Electronic features • Functionality eg: bag to blanket/ reversible <p>EU: Ease of use (2x1)[2]</p> <ul style="list-style-type: none"> • Lightweight fabric • Fastenings- eg: drawstring, zip, toggle, poppers, elastic, clip, press stud • Washable fabric • Pockets/compartments for storage- ease of access/ zip off sections • Clip to attach equipment / drinks holder <p>EC: Eye catching (2x1) [2]</p> <ul style="list-style-type: none"> • Decorative design- colour shown or named • Motif/ logo / pattern • Fluorescent or reflective fabric • Decorative technique - quilted, printed, embroidered, printed/ transfer/ embroidered initials 	(6x1) [6]	Credit two different straps either drawn or annotated.
(b)	<ul style="list-style-type: none"> • To check for faults • To check for quality • To check against safety standards • To ensure costs work out/ profit/ reduce costs/ reduce wastage • Suitability of the design (that it works)/ does what it is designed for • Check against customer feedback • To see how materials behave • To try out the construction process 	(4x1) [4]	Four marks max. Could be two points well explained or four separate points.
	Total	10	

Question	Expected Answers	Marks	Rationale
4	(a) One mark <ul style="list-style-type: none"> • Insulating, help keeps the animal warm/ cooler • Protects from damage/ injury • Comfort – padded/ cushioned/ soft • Decorative effect/ appearance • Durability/ added strength 	(1x1) [1]	
	(b) Five marks for correct description. <ul style="list-style-type: none"> • Transfer design onto top layer of fabric (tailors chalk or fabric marker pen) • Lay fabric out flat • Three layers of fabric together/sandwich quilting between fabric • Pin and tack in place to prevent puckering • Mark out stitching lines/ evenly spaced lines drawn • Prepare machine; add quilting foot and lengthen machine stitch. • Machine/ hand stitch/ stitching/ sewn 	(5x1) [5]	<p>Process should be outlined using notes and diagrams and cover the following points in logical sequence. May be different to order shown here.</p> <p>Do not credit 'set up machine' must refer to foot or stitch selection.</p>
	(c) Credit any two correct points or one well explained <ul style="list-style-type: none"> • 'Smell induced' product • Use of beneficial chemicals or vitamins -pesticides/ Anti fungal/ anti flea • Chemicals release gradually or with abrasion • 'Moisture' induced products • Antibacterial functions – use of silver • Sun protection 	(2x2) [4]	
	Total	10	

Question	Expected Answers	Marks	Rationale
5 (a)	<ul style="list-style-type: none"> • Made from Jute 100% a natural fibre • Grown easily without the use of pesticides, insecticides, chemical fertilizers • Sustainable crop/ natural renewable resource – crop can be grown again in a relatively short amount of time • Grows quickly and densely, difficult for weeds to grow amongst- eliminating need for herbicides and artificial fertilizers. • 100% bio degradable • Needs no extra watering • Low ecological footprint – longer lasting • Expired jute fibres can be recycled more than once. 	(3x2) [6]	<p>Three reasons (3 marks) explained well (3 marks). Maximum of two marks per reason.</p> <p>Do not credit 'environmentally friendly' or 'not harmful to the environment' without qualification.</p>
(b)	<p>Products: Automotive textiles, Medical textiles, Agro textiles, Geo textiles – boats, roads etc</p> <ul style="list-style-type: none"> • Automotive - Antibacterial Microencapsulation – moisture, smell- hygiene, anti allergenic, anti static- seat covers, car carpets, conveyor belts etc • Medical- microencapsulation- aromatic, moisture, anti bacterial protection (Chitosan & Chitopoly when mixed with polyester fibres), anti allergenic, fungicide, absorbent fibres. • Agro (agricultural) - strength, stiffness, bio-degradable, resistance to sunlight, resistance to toxic environment. • Geo Textiles- permeable , strength, low moisture absorption and durability • Electronic Textiles – communication systems, camera, keyboard, MP3 player, conductive fibres developed from carbon/silver/steel, printing of conductive inks. 	(2x2) [4]	<p>'Technical textiles' is the term given to <u>textile</u> products manufactured for non-aesthetic purposes, where function is the primary criterion.</p> <p>Marks to be allocated - two for explanation and one mark for each example.</p> <p>Do not credit any garments/protective wear/or electronic clothing products.</p>
	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