

CAMBRIDGE INTERNATIONAL EXAMINATIONS
GCE Advanced Subsidiary Level and GCE Advanced Level

MARK SCHEME for the October/November 2013 series

9631 DESIGN AND TEXTILES

9631/03

Paper 3 (Textile Applications and Technology),
maximum raw mark 100

This mark scheme is published as an aid to teachers and candidates, 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, which would have considered the acceptability of alternative answers.

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Section A

1 Relevant factors need to be considered when designing new garments.

- (a) State four factors which need to be considered when designing women's leisure wear (informal clothing). [4]

Answer could include:

type of leisure e.g. whether active or passive as if active, such as a sport activity, a more flexible/stretch fabric or style/cut may be needed;
 whether indoor or outdoor – indoor fabrics can be lightweight and thinner, outdoor fabrics may need to be weatherproof;
 what type of garments e.g. trousers/shorts/skirts/T-shirts etc.;
 which colours to use – colour palette for the current trends may be needed to attract customers;
 cost;
 type of fabric;
 all body sizes/target group;
 religious preferences e.g. some religions do not allow tight fitting clothing;
 type of fastening – if explained;
 any other appropriate point;
 1 mark for each explained point

- (b) (i) Sketch one item of leisure wear for women and label the design features fully. [4]

Answer could include:

item could be shorts/trousers/top/jacket; skirt; etc.;
 back and front view to be shown; good quality of sketches with detailed annotations required;
 design features could include: seam details; fastenings; pockets; decorative features e.g. top-stitching;
 include details of colour and fabric;
 any other appropriate point;
 1 mark for each explained point

- (ii) Justify the choice of design features which make the garment suitable for leisure wear. [4]

Answer could include:

design features will relate to the answer given in (b)(i);
 easy to open/close fastening e.g. zip, or Velcro, or press-studs, etc.;
 cut of the pattern pieces to be comfortable to wear – this may be related to the type of fabric used, e.g. stretch fabric does not need as many seams (joins) as a woven fabric;
 soft, unstructured styles may not need interfacing for the collar and lapels etc. (if used), as 'formal' styles are often stiff and use interfacing/underlining, lining, etc. to give more body; use of features such as pockets, so that small items can be kept there, e.g. if the item of clothing is used for sportswear.
 any other appropriate point;
 1 mark for each explained point

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- (c) Assess **four** different fabric finishes which could be used to improve the performance of the fabric(s) used in the design in (b) explaining why each would be effective. [8]

Answer could include:

answer should relate to the type of fabric suggested in the earlier part of the question;

mechanical finishes: e.g. raising or teasing (surfaces) for fleece fabrics;

sanding/emersing the surface to create a soft peachskin effect on Lyocell and polyester microfibres;

molecular finishes e.g. a layer of nano particles is fixed to a textile surface to create stain, abrasion and water resistance e.g. Nanotex TM

easy care finishes: e.g. crease resistance, to reduce creasing in garments made from fabrics such as woven cotton (if used);

special finishes such as Teflon coating to help with easy ironing;

stain resistance;

anti-static if a synthetic fibre is used e.g. nylon or polyester;

reasons for use of fabric finishes to be given;

chemical finishes e.g. crease resistance; shrinkage (Sanfor plus TM); water and stain repellancy (Teflon TM) (Scotchguard TM), only if relevant to the design; anti-pilling prevention using film forming polymers or solvents;

smart fabrics; reactive fabrics, etc.

any other appropriate point;

1 mark for each explained point

- (d) Discuss why it is important to design to a given specification. [5]

Answer could include:

more efficient – resource of time, materials and labour will not be wasted, only preparing what is actually needed;

manufacturer knows how to brief/train workers so is more efficient;

manufacturer knows exactly which materials to use for the items;

items to be made will be what consumers want after doing market research;

workers will know exactly which processes will need to be worked;

essential for communicating information to everyone;

the client may reject a production run if not to their original specification/request; any other appropriate point, well discussed;

1 mark for each explained point

[Total: 25]

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2 Garments for children can often be decorated with creative techniques.

- (a) Comment on four factors which need to be considered when choosing which creative techniques to use on garments for children. [4]**

Answer could include:

age of the children;
 are the creative techniques suitable for young children e.g. safe, no loose threads, etc.;
 what sort of fabrics will be used for the garments and whether the creative techniques will be suitable for the fabric;
 comfort;
 how complicated the creative techniques are – may not be worth doing if the child grows out of the garment quickly and depend on the market and price points;
 creative techniques may have a functional factor e.g. smocking or tucking;
 may be costly to produce creative techniques;
 beads and ribbons may be choking hazards;
 sensitive skin;
 not restrictive;
 not too heavy;
 fabric dye loss;
 attractiveness to the adult/parents market/child who chooses;
 fashion trends for children;
 where is the decoration going – if on the knee, for example, it should not be too bulky;
 gender of child;
 colour – must be well explained;
 any other appropriate point, well discussed;
 1 mark for each explained point

- (b) (i) Design one garment suitable for a child, which uses two named creative techniques. Label your sketch clearly. [4]**

Answer could include:

front view; back view; design features to be well labelled, and accurately placed;
 designs will depend on age of child;
 fastenings, position and types of fastenings, suitable for children e.g. Velcro, big buttons and buttonholes;
 use of colour; fabric; special features e.g. pockets, top-stitching, etc.;
 creative techniques could include: making a small toy for a child to be attached to the garment; appliqué in different colours/designs;
 patchwork panels with interesting pictures e.g. coloured vehicles;
 coloured decorative embroidery, worked by hand or machine;
 any other appropriate point, well discussed;
 1 mark for each explained point

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- (ii) Explain how the two creative techniques in (i) will be worked on one named fabric. [8]

Answer could include:

creative techniques e.g. use of applique to show three-dimensional items such as flowers;
interesting use of fabrics e.g. shapes and designs from other fabrics which can be used on the design;
details of stitches (hand or machine);
details of any specialist techniques e.g. free quilting may need to have an embroidery hoop to keep fabric layers tight during stitching;
colour may be added to the garment to produce design e.g. fabric painting with non-toxic and washable dyes;
all responses must relate to the chosen named fabric;
any other appropriate point, well discussed; accept well labelled relevant sketches
1 mark for each explained point

- (c) Assess the range of craft printing tools and materials which are available, to produce printed fabrics for textile use. [9]

Answer could include:

protective clothing for safety e.g. overalls, gloves, etc.;
craft printing tools e.g. **block prints** such as wooden stamps with designs already fixed; block printing stamps with carving on the wood (wood cut); skill needed to produce successful designs;
lino-cuts which have been carved in lino or other pliable material, after which it has been glued into wood; some skills needed; glue needs to dry thoroughly before use;
lino cutters used to produce the designs; skill needed to produce successful designs;
objects can be used to print with e.g. vegetables cut into shapes, such as carrot or potato pieces, cut with a knife, into specific shapes e.g. triangles, stars, etc. and used to print with, cheap and readily available;
Screen printing – squeegees used to apply colour through the screen onto fabric;
other materials needed for printing e.g. soft surface on a table or board – to allow the fabric to be fixed, and printed without moving;
fabrics need to be washed and ready for dyeing – no starch or other size which may interfere with the dyeing process;
suitable dyes/printing pastes for the fabrics e.g. cotton fabrics can use direct dyes and printing materials;
some printing dyes need to have a base with which the pigment is mixed to produce a suitable printing medium;
how the printing ink will be applied to the fabric e.g. screens to print; or painted on to the block and then pressed onto the fabric; or rollers used to apply colour onto the block, and another roller used to press the design into the fabric evenly; poured onto screens;
how the fabric will be dried – special racks;
equipment used;
accept well labelled sketches if relevant;
any other appropriate point, well discussed;
1 mark for each explained point

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Section B

3 The variety of textile items for the home continues to increase.

- (a) Sketch and label **two** interesting design ideas for textile items which have specific uses in the home. [4]

Answer could include:

textile items which could have specific uses in the home: cushion for extra padding/comfort on chairs;
 wall hangings with pockets to store items e.g. keys, books, etc.;
 curtains/blinds which block light; or stop draughts;
 containers to store items e.g. belt hanger for wardrobe;
 throw/runner for a bed;
 bathroom – seat cover;
 toilet seat cover;
 tea cosy;
 well labelled sketches with specific design features e.g. stitching by hand or machine;
 any other appropriate point, well discussed;
 1 mark for each explained point

- (b) Justify your choice of fabric(s), colour(s) and stitched textile technique(s). [6]

Answer could include:

reasons given need to relate to the sketches in (a).
woven techniques not appropriate in this question;
fabrics: hardwearing, fade resistant (if used near windows), washable (if used as a cushion which may get soiled); fabrics which are long lasting and strong, such as: cotton chintz, linen slub, polyester satin, also blends of these and other manufactured fibres.
colours: can match with colour scheme of room; colours which do not get soiled easily; colours which follow current trends;
textile techniques: any techniques which have interest e.g. applique (texture/variety of fabrics), techniques which will not catch dust easily so perhaps shiny fabrics or fabrics such as cotton satin which have a shiny weave, or fabrics such as cotton gabardine which have a special finish which is soil resistant; quilting (various types e.g. all over padding; trapunto quilting – only some areas are padded; quilting which is based on a linear design); free machine stitching to produce different textures and surfaces;
 mola work; shisha work, or any other cultural techniques which are special to different communities or areas;
 hand embroidery e.g. chain/stem stitch;
 machine embroidery (may be computerised);
 any other appropriate point, well discussed;
 1 mark for each explained point

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- (c) Explain in detail how one of the stitched textile techniques will be worked. [6]

Answer could include:

preparation of materials for the chosen technique;
woven techniques not appropriate in this question;
method of working e.g. for applique, fuse iron-on interfacing or bondaweb onto the back of the shape to give the fabric more body/stiffening;
transferring the design to fabric e.g. using a fabric pen/paper templates/stitching;
hand or machine stitching details e.g. quilting by hand – prepare the needle/thread and make sure the fabric is in a frame to keep it tight; use running stitch to work along the lines of the design which has been drawn on using a fabric pen;
finishing details e.g. make sure the threads have been tied securely and trimmed;
pressing details e.g. press embroidery lightly on the wrong side, using a pressing cloth and a steam iron, set to the temperature of the fabric;
accept well labelled sketches which are relevant;
any other appropriate point, well discussed;
1 mark for each explained point

- (d) Assess the range of different types of speciality yarns which are available for creative textile use. [9]

Answer could include:

filament – definitions;
staple – definitions;
special twisted yarns: use a core/central thread, novelty thread and are held together with a binding thread; examples are slub, knot, etc.;
fancy yarns may be single or double (folded) e.g. slub yarns have long thick sections; nub, bourette or knop yarns have bunches of fibres or yarns at regular or irregular places;
bouclé have sections placed together and one yarn remains slack causing it to twist again in the same place;
metallic;
manufactured synthetic fibres can be heat-set, i.e. softened with heat, so can have texture added e.g. knit-de-knit where a heated cog sets the yarn into crinkled shape;
slub yarns, where one yarn is thicker than another, with uneven thickness to produce a textured yarn;
chenille yarn, where the 'novelty' part is made up from short fibre lengths which stick out horizontally from the yarn, producing a velvety texture;
yarns may be space-dyed where the colour is changed along the length of the yarn to give variety;
yarns of different colours may be twisted together to give variety;
any other appropriate point, well discussed;
1 mark for each explained point

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4 Skirts of many different styles are readily available in retail stores.

- (a) (i) Explain what is meant by consumer testing/surveys. [2]**

Answer could include:

specific age group;
 chosen consumers may be asked questions about specific products;
 consumers may be asked to look at or try on specific garments (prototypes);
 consumers may be asked to suggest improvements or why they do not like specific details of prototypes;
 any other relevant point;
 1 mark for each explained point

- (ii) Give four reasons why it is important to carry out consumer testing before manufacturing fashion products such as skirts. [4]**

Answer could include:

target group/religious preferences;
 cost of manufacturing is expensive and business/profit would be lost if consumers did not like the product after a large number had been made and not sold;
 style of skirts need to be fashionable so consumers buy then;
 fabrics and colours need to be suitable for retail sale in a particular season;
 testing such as trying on the prototype will make sure the garments fit well and whether alterations need to be made – the manufacturer will want to be sure that the items are suitable for different figure types; retailers will not want items to be returned by consumers;
 any other appropriate point, well discussed;
 1 mark for each explained point

- (b) Assess the factors which need to be considered by a manufacturer of skirts before the start of a production run. [9]**

Answer could include:

accurate patterns (templates);
 which machines will need to be used;
 how many processes are there which need to be carried out;
 what is the time-scale of producing the garments;
 how many workers are there who can work on the garments;
 will extra training be needed for workers;
 are there any specialist processes which need to be done in a specific order e.g. embroidery;
 what other work is being done at the same time as the skirts;
 what fabrics and colours of fabrics need to be ordered and how many metres will be needed;
 how many skirts will be made;
 what other components will be needed;
 what threads and other material will be needed;
 quantity and timescale deadlines;
 budget;
 environment points;
 range of sizes/measurements;
 documentation of the required processes/procedures e.g. product specification;
 any other appropriate point, well discussed;
 1 mark for each explained point

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- (c) Discuss the types of stitching techniques which are available to the manufacturer when constructing fashion items such as skirts. [10]

Answer could include:

temporary stitches worked before the item is manufactured e.g. tailor tacking or tacking pieces of fabric together in specific areas of the garment;
 permanent stitching carried out to construct the garment together e.g. straight stitching by lock stitch machine;
 special seams e.g. cover stitch, which can produce decorative top-stitching which can show on the right side of the garment e.g. French/double stitched;
 automatic patterns which can be stitched on the fabric to produce a decorative edge e.g. along the yoke of a skirt;
 hand stitching which can be added as decoration to the finished garment e.g. running stitch along the edges of an applique design;
 hand stitching used to stitch trimmings onto the part-finished or finished item;
 stitching which may be part of a specific process e.g. buttonholes made automatically by machine;
 finishing of edges to stop fraying e.g. overlocking;
 blind stitch for hemming;
 embroidery carried out by specialist machines (CNC) which can stitch several colours at one time, for special jobs like logos or embroidery designs on the hemline of skirts;
 any other appropriate point, well discussed;
 1 mark for each explained point

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5 Women's tops and tunics have become popular items in contemporary fashion.

- (a) Sketch and label two designs for women's tops or tunics which have trimmings incorporated in the design. [4]**

Answer could include:

tops or tunics could have sleeves or not;
length can vary – hip length or knee length;
front and back views to be shown;
trimmings added to neckline and hem line and cuff edge of sleeves, or any other part of the design for the top/tunic;
design features to be added and labelled: colour, type of fabric, type of trimming, details of trimming (e.g. width, decoration, how constructed, etc.) (self-made i.e. same fabric as tunic/top);
accept well labelled sketches which are relevant;
any other appropriate point, well discussed;
1 mark for each explained point

- (b) Explain the reasons for choosing the fabric(s), colour(s) and stitch(es). [6]**

Answer could include:

colours: in fashion/fit in with current wardrobe, classic colour which does not date, etc.;
fabrics: fit in with current trends, suitable for summer/winter according to design;
stitches: use of stitches to hold the trimming in place or stitches used to decorate the trimming, or both;
accept well labelled sketches which are relevant;
any other appropriate point, well discussed;
1 mark for each explained point

- (c) Discuss the textile experimental work (samples) which would be required before making the final prototype of one of the designs from (a). [7]**

Answer could include:

types of trimmings which could be used: e.g. ribbons, lace, braid, tapes, cords, etc.;

developmental work could include:

trying out each of the types of trimming in the following way:

how to attach the trimming to the fabric e.g. stitches such as straight stitch, zig-zag, decorative stitch (hand or machine);

what colour to use for the stitching e.g. blue trimming could have a contrasting coloured thread such as yellow, or one which blends in;

how to manipulate the ribbon or other trimming e.g. lay flat on the fabric, or gather before attaching or decorate with beads or any other suitable method;

use different coloured trimmings on the background fabric, and different background colours;

try different thicknesses/different widths of trimmings;

accept well labelled sketches which are relevant;

any other appropriate point, well discussed;

1 mark for each explained point

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- (d) **Assess the choice of environmentally-friendly fabrics which are available to the consumer.** [8]

Answer could include:

environmentally-friendly fabrics use raw materials which are sustainable e.g. wood from trees which are replaced once they have been harvested, the wood would be used to produce different types of viscose fabrics, which includes Lyocell (Tencel); fibres produced and solvents are almost completely recycled so have much reduced damage to the environment compared with other manufactured fibres; contain no harmful substances; made from wood which comes from eucalyptus trees – sustainable;
fabrics made from these fibres are soft, absorbent and strong;
organic cotton is cultivated without chemical products and with organic fertilisers/compost;
recycled fibres e.g. polyester;
recycled fabrics;
include ethical environmentally friendly fabrics e.g. Fairtrade certified cotton;
other fibres: bamboo, produced in a similar way to Lyocell, except stinging nettle (stem);
hemp grows rapidly, needs little water, requires little or no pesticides etc., is similar to cotton;
soya (using pulp after soya bean production for food products);
reduced amounts of pesticides, dyes, water, solvents etc. used in the production of fibres;
(chilli used as insecticide)
any other appropriate point, well discussed;
1 mark for each explained point

[Total: 25]