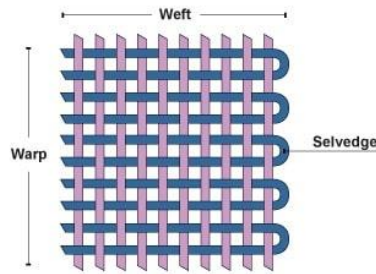


1. Weaving is widely used to construct fabrics.

(a) Explain the basic structure of a plain woven fabric. [4]

For weaving the warp yarns are first stretched on the loom and the weft yarns are then interlaced over and under one warp yarns at right angle forming a firm structure. A selvedge is formed at the edge of the fabric where the weft yarns end and continue in the next row. A true cross is the position on the fabric which runs diagonally and is the stretchiest part.



(b) Using sectional diagrams, compare the structure of:

(i) a named woven jacquard fabric

Cotton damask

Diagram showing warp threads clearly.

Weft threads form the jacquard design and is made up of different weaves such as plain, twill and satin; large floral patterns are woven into fabric .

A card system or computer system used to raise and lower individual warp threads to form the design on the fabric. Colour can be introduced in warp or weft threads to form the pattern.

(ii) a named woven pile fabric.[6]

Viscose velvet

Warp threads are set up on the loom similar to jacquard fabric and weft threads are raised and lowered together, usually alternate threads for plain weave; different coloured warp and weft threads to form stripes or checks.

Extra sets of threads is needed for pile

(c) Assess the performance characteristics of both named fabrics in (b) . [8]

Cotton damask is a medium weight fabric that creases readily and will need ironing after washing. It is absorbent and is often used for table coverings. Is usually one colour, white being popular and floral designs can be seen on the surface which are made up of different weaves, which form the pattern.

Viscose velvet is a heavy weight fabric but has good draping qualities. Ironing is not needed because of the crushed finish

(d) Discuss how the performance characteristics of a knitted pile fabric differs from that of a woven pile fabric.

Knitted pile fabric: very floppy and drapes well.

Very stretchy if weft knitted and normally used for jumpers, sportswear, blankets.

They often have the pile surface on the wrong side of the knitted fabric.

Pile knitted fabrics can stretch out of shape when wet thus, dry cleaning is recommended..

Also stretch out of shape during wear and often not long lasting fabrics

Woven knitted pile fabric: are firm and non-stretchy.

Have pile on the right side.

Woven pile fabrics last longer due to the dense nature of the weave. Both trap air and are warm which make them suitable for clothing or household item where insulation is required.

2. There is a wide range of textile fibres available for textiles production.

(a) State the sources of

(i) Viscose- obtained by treating cellulose from wood pulp with sodium hydroxide (caustic soda)

(ii) Triacetate- obtained by treating cellulose from cotton linters with acetic acid

(iii) Polyester- a combination of ethylene glycol and terephthalic acid

(iv) Moda-acrylic – a combination of acrylonitrile and other additives

[4]

(b) Describes the results you would expect to find when using the following tests on each of the fibres (i)- (iv) listed in (a).

(i) Microscopic test

Viscose- irregular cross section (C.S), although it can depend on the process used in manufacture.

Longitudinal section (L.S)-has fine lines along the length

Triacetate- C.S view- less irregular than viscose; multi lobal appearance with indentations.

L.S- occasional markings and fine lines along length of fibres

Polyester- C.S round

L.S Smooth and straight

Moda-acrylic- C.S dogboned or round (depending on method of manufacture)

L.S straight and smooth

ii) Standard burning test

viscose- Burns quickly with a yellow flame, smells like burning paper and a light grey ash

triacetate- fuses away from flame, flames quickly, melts and drips, smell like vinegar, brittle ash

polyester- fuses away from flame, burns slowly with melting, round black bead

moda- acrylic- fuses and shrinks away from flame, burn very slowly and self extinguishing, sharp acrid smell, brittle black ash [4]

(c) Discuss the importance of the test results in (b) in relation to the performance characteristics of each fibre (i- iv) listed in (a).

Viscose- hollow cross section allows good absorption and allows easy washing. It has low lustre due to striations. Is flammable and will need fire resistant finish

Triacetate- shiny fabric and stain less as dirt brushes off easily due to smooth surface. Not very absorbent. Will drip dry. Is flammable and will need fire resistant finish

Polyester- very smooth surface, shiny fabric.

Nonabsorbent, easy to wash and dries quickly.

Melts and drips and will need fire resistant finish for clothing

Moda-acrylic- dog shaped will mean some absorbency while smooth surface will mean shine on surface of fibres. Nonflammable and cost effective if used for home furnishing.

[8]

(d) Assess the reasons for using elastane fibres as part of a fibre blend, for fashion clothing. [5]

Elastane can stretch up to 7 times its original length

Often used a blend for figure hugging clothing e.g swimwear, tops

Minimize the use of fastenings

Comfortable to wear, absorbent and blends well with most fibre.

Easy to wash and quick to dry.

Can fit all sizes of body, comfort, smooth, sleek look

3. Clothing production uses a wide range of production methods.

(a) Explain what is meant by 'one-off' production in garment manufacture. [2]

One item is produced for a customer to a specific size/brief

- One skilled worker will produce the item
- Item will be an original/unique item e.g. wedding dress, theatrical costume,

(b) Compare the methods of spreading and cutting processes available to the garment manufacturer for:

(i) one-off production; [3]

• Card templates – drawn by hand and laser cut • Spreading: preparing fabric before cutting out; single item cut. Pattern pinned on, spread on table. • Cutting: usually done by hand using shears for one-off production

(ii) batch production/mass production. [3]

Spreading: roll of fabric will be spread automatically or manually onto a large table; many layers of fabric will be placed one on another; up to 50 layers depending on thickness of fabric and/or how many items are being produced. • It may be computerised.

Cutting: can be done by hand using an electric knife or band knife or automatically with a computer-controlled cutter or laser-cutter

(c) Discuss the advantages of choosing the ‘one-off’ method of production for clothing. [7]

Item made for a specific customer • Clients who want an original piece which no-one else has; unique. • Made to measure • Item made will fit perfectly due to several fittings • Often preferred method for celebrities/royalty • Customer can choose fabric/style • Cost will be high due to being time-consuming so suitable for individual • Can apply decoration by hand. Often ornate. Skilled workers used • Direct contact with customer

(d) Assess the variety of hems which are available to an one off manufacturer for different garments. [10]

Types of hems: narrow hem for wide skirts/dresses – raw edge may be over-locked and then folded once with a narrow hem such as 6mm and straight stitched along the edge • Interfaced hem: Decorative hems e.g. lace edged or decorative stitched and trimmed close to the edge; bound hems. Overlocked (serged) hem which may be left as it is for decorative effect or turned up • Top-stitched hem • Faced hem • Hems in jackets which are lined will not need a hem because the raw edge will be enclosed • Rolled hem for fine fabrics • Single hem for heavy fabrics such as for coats – may be hand-stitched or blind hemmed • Double hem for medium weight opaque fabrics

4. Contemporary fashion wear is popular with consumers.

(a) Describe what is meant by the following and give one example of each:

(i) fashion fads [3] it is a short lived style. It gains popularity very easily and fade out easily

A fashion fad is a popular style being worn at the current time. This may be according to high street stores or the prevailing trends by celebrities/media/style icons/well known stars. It can be short-lived, e.g. one season so will not continue for a long time. It could be an update of a classic fashion trend from the past. Examples could include jeans (fashion trend), which have rips in the knee area; jumpsuits for ladies; off the shoulder tops which have flounces and gathered necklines, etc.

(ii) fashion revivals [3]

It may be a style which has been used before but has been updated to make it more contemporary. It may have modifications to the original so will not necessarily be exactly the same, e.g. long sleeves which have elastic at the wrist; smock tops which have uneven hemlines

(b) Discuss how the choice of seams and edge finishes in garment manufacture is affected by the type of fabric used. [9]

seams could include: plain seam with various ways of finishing edges, e.g. overlocking, zig-zag, bound edges, decorative on right side (top stitching in matching or contrasting colour); special seams, e.g. French seam used on fine thin fabrics such as silk surah; Double machined seam used on fabrics such as denim for jeans, may have contrast stitching, e.g. orange. Flat felled seam; Overlaid seam which may be used where one side of the seam is flat and the other is gathered; top stitched seams; any other relevant seam/join. Edge finishes could include: hems (cover stitch, bound, top stitched, etc.), necklines (shaped, faced, decorative, including fastenings, collar edges including types of collars and their method of attaching/finish, etc. bound edge, top stitching along the edge, blanket stitched/zig zagged along the edge, etc. methods could include machine finished, hand finished, decorative, etc

(c) Compare the advantages and disadvantages of three different types of retail outlets that sell fashionable sportswear. [10] [Total: 25]

Retail outlets could include: designer shops, department stores, personal shopper in stores; high street stores, franchises, discount stores, mail order, markets, electronic developments (e.g. internet shopping).

Points which can be included when comparing retail outlets:

- Types of sportswear in each, e.g. cost of items, whether high fashion colours, styles to be worn every day as outerwear; Types of sports clothes for men/women and examples, e.g. joggers, sweatshirt tops, running tops with cut out shoulders, tight-fitting below the knee leggings for aerobic gym work.
- Types of fabrics used, e.g. more expensive fabric may have newer technology incorporated, e.g. polyester which wicks away body moisture compared with cotton fabrics which are naturally absorbent.
- Advantages and disadvantages of each: Internet shopping, can't try items on, can't feel the fabric for weight/quality; have to wait for delivery; have to send back items if not suitable;

cost of postage; other points: costs (travel), which shops – depends on your budget; travel time to get to shops; shops don't always have your size in stock; less choice but more experience