DTBase©

Design & Technology
Eduqas GCSE

Textiles: specialist techniques and processes

Materials required for questions

- Pencil
- Rubber
- Calculator

Instructions

- Use black ink or ball-point pen
- Try answer all questions
- Use the space provided to answer questions
- Calculators can be used if necessary
- For the multiple choice questions, circle your answer

Advice

- Marks for each question are in brackets
- Read each question fully
- Try to answer every question
- Don’t spend too much time on one question

Good luck!

Q1. Which machine stitches the seam, trims the excess and neatens the raw edge in one go?

A Overlocker

B Sewing machine with a walking foot

C Sewing machine with a twin needle

Q2. Which needle should be used to sew knitted fabrics without laddering?

A Twin needle

B Ballpoint (stretch) needle

C Tapestry needle

Q3. How should the grain line arrow on a pattern piece be placed?

A At 45° to the selvedge

B Along the fold

C Parallel to the selvedge

Q4. What is hot notch marking?

A A heated notcher melts or scorches small notches into the edge of a stack of fabric layers

B Chalk or wax lines that brush off easily

C Loose loops of thread through both layers

Q5. Which industrial cutting tool has a continuous blade, like a bandsaw, for very accurate curves on small pieces?

A Straight knife

B Band knife

C Automated die cutter

Q6. Why is a laser cutter useful for cutting synthetic fabrics?

A It prints a design at the same time

B It cuts through very deep stacks of fabric

C It cuts and seals the edges so they do not fray

Q7. A child's t-shirt is commercially manufactured in batches of 60,000. State what method of construction would be used to neaten the seams of the t-shirt. **(1 mark)**

Q8. A dress pattern piece shows these pattern markings: a dart, notches, and a place to fold arrow. Choose two of these pattern markings and describe their use in garment construction. **(4 marks)**

Q9. The fabric for a dress was cut on the bias. Describe one advantage of cutting fabric on the bias. **(2 marks)**

Q10. The front and back of a dress are joined together with top-stitched plain seams. Use words and sketches to show how a top-stitched plain seam is manufactured. **(5 marks)**

Q11. The plain seams of a skirt are edge finished with bias binding, folded over each raw edge of the seam allowance. Describe how to manufacture the seam. **(4 marks)**

Q12. A denim jacket is manufactured in batches. Explain two reasons for manufacturing the jacket to a tolerance. **(4 marks)**

Q13. A template is used to mark out the shape of a fabric glasses case. Explain two advantages of using a template to mark out the shape of the glasses case when manufacturing in large quantities. **(4 marks)**

Q14. A wedding dress has a fitted bodice joined to a full skirt at the waist seam. Give two different manufacturing methods that could be used to reduce fullness where the top of the skirt meets the bodice at the waist seam. Explain one reason for using each method. **(6 marks)**

Q15. A shirt pocket is cut from a sheet of cotton twill weave fabric. Give two different manufacturing methods that could be used to cut out the shape of the pocket. Explain one reason for using each method. **(6 marks)**

Q16. In commercial manufacture, fabric patchwork shapes are laser cut. Analyse the advantages and disadvantages of laser cutting fabric. **(5 marks)**

Answers

Q1. A
Q2. B
Q3. C
Q4. A
Q5. B
Q6. C

Q7.

Overlocking or an overlock stitch (1). Only acceptable answer.

Q8.

Up to 2 marks for the description of each marking. A maximum of 1 mark if both markings are named but not correctly described.

- Dart: a tapered stitched fold of fabric (1) that gives the garment shape (1) so it fits the body (1), e.g. around the bust line or to fit the waist more closely (1)
- Notches: V shaped markings on a pattern piece (1) used to line up one pattern piece with another (1). Notches can also reduce seam bulk by cutting V shapes from the seam allowance (1)
- Place to fold: the fabric is folded double (1) and the pattern is placed on the fold so the piece is cut out symmetrical (1) with no seam needed (1); any pattern on the fabric must face the right way when the garment is assembled (1)

Q9.

An advantage (1) and a description (1). For example: cutting on the bias gives more stretch than cutting on the straight grain. Other advantages:

- The fabric looks finer, thinner and softer
- The fabric drapes softly over the body and its contours
- Cut edges fray less
- The fabric has more fluidity and movement
- Gives a slim silhouette when made into a garment

Q10.

Up to 5 marks for words and sketches showing a clear understanding of the stages. A maximum of 3 marks if only words or only sketches are given. One mark for each:

- Place and pin the right sides of the fabric together (1)
- Machine sew a straight (running) stitch on a 1.5 cm seam allowance (1)
- Reverse stitch to secure the seam (1)
- Press the seam closed or open (1)
- Overlock or edge finish the seam (1)
- Top stitch 2 mm to 3 mm from the seam (1)

Credit quality control checks, e.g. tacking before sewing to stop the fabric moving, a longer stitch for thick pile fabric, cutting loose threads.

Q11.

Up to 4 marks for a clear understanding of the stages. A maximum of 3 marks if bias binding is not mentioned. For example:

- Place the right sides of the fabric together (1)
- Stitch the fabric together with a running stitch (1) on a 1.5 cm seam allowance (1)
- Press the seam allowances open with an iron so they lie flat (1)
- Fold and press the bias binding in half (1), or open it up and stitch one side to one edge of the seam allowance (1); repeat for the second side
- Tack or stitch the bias binding in place (running stitch or slip stitch) (1)
- Press everything with an iron (1)

Quality checks can also earn marks, e.g. trimming loose threads, tucking under the ends of the binding, matching the thread colour to the fabric.

Q12.

Two reasons (1 mark each), each with a linked justification (1 mark each). For example:

- The overall size of the jacket must be within tolerance (1) so the measurements are right for the size the customer buys (1)
- The buttons and buttonholes must line up and fit together (1), otherwise the jacket cannot be fastened correctly (1)

- The pocket flaps must be placed correctly (1), otherwise the jacket would look uneven (1)
- The buttonholes must be the right length (1), otherwise the jacket will not fasten or will come undone easily (1)

Q13.

Two advantages (1 mark each), each with a linked justification (1 mark each). For example:

- Templates can be drawn or traced around quickly (1), saving time and speeding up production (1)
- Each piece will be identical (1), so all the parts will line up (1)
- The template can also mark features such as tailor's tacks, balance points, fastening positions and fold lines (1), so all the other parts fit correctly into place (1)
- Templates need little skill to use (1), so workers with limited skill or technical knowledge can use them (1)

Q14.

Two methods (1 mark each), each with two linked justifications (1) + (1). For example:

- Pleating (1): pleats can be folded, pinned or sewn at regular intervals (1), giving a fairly flat finish that does not add much bulk at the waist seam (1)
- Gathering (1): gathers can be adjusted easily (1) and altered if the dress is adjusted to fit the client (1)
- Tucks (1): small tucks can be placed at certain points to ease in the extra fabric (1) and look fairly inconspicuous (1)
- Darts (1): darts reduce the volume of the skirt (1) to give a sleeker, more fitted look (1)

Q15.

Two methods (1 mark each), each with two linked justifications (1) + (1). For example:

- Dressmaking shears or scissors (1): they have long, sharp blades (1), so the user can cut accurately (1)

- Rotary cutter (1): it can be used against a ruler for a very straight cut (1), leaving a very neat finish (1)
- Laser cutter (1): it seals the edges of the fabric (1), so it does not fray and is easier to work with (1); or it cuts through several layers at once (1), speeding up production (1)
- Band saw or die cutting (1): cuts through several layers of fabric at once (1), increasing the speed of production (1)

Q16. (5 marks)

Answers must include both advantages and disadvantages to access the full 5 marks.

Advantages

- Any fabric type (woven, knitted, felted) and any thickness, from fine cotton lawn to denim and leather, can be cut
- Natural, synthetic and regenerated fabrics can all be cut
- Any shape can be cut however intricate, e.g. for appliqué, with high precision (± 0.1 mm), so pieces fit together
- Synthetic and regenerated fabrics are sealed as they are cut, so they do not fray and need no overlocking
- More than one layer can be cut at once, speeding up production
- Needs little manpower; can cut other parts too, e.g. buttons
- No friction, so little wear on parts; safe, as it stops if the lid is opened

Disadvantages

- Shape size is limited by the laser bed; many clothing pattern pieces are too big
- Natural fabrics get a singed edge that can stain if settings are wrong, and smell of burning (this fades after washing)
- Staining from the bed plate can transfer onto the fabric
- Some fabrics, such as PVC coated fabrics, cannot be cut as they give off toxic fumes
- A ventilation system is needed, and its filters need replacing
- Expensive to buy, install, service and repair; training is needed
- Settings differ for each fabric type and thickness; wrong settings damage the fabric and waste it

Band	Marks	Descriptor
3	4 to 5	A coherent answer with detailed, relevant knowledge and understanding of the advantages and disadvantages of laser cutting fabric. Relevant examples and a well-developed, logical chain of reasoning, sustained throughout.
2	2 to 3	Some coherence, with partial knowledge and understanding. Mostly relevant examples and a logical chain of reasoning that may not be sustained throughout.
1	1	Basic knowledge and understanding. Limited relevant examples or logical chain of reasoning.
0	0	Incorrect or irrelevant answers.