GCE A LEVEL

A601U10-1

S23-A601U10-1

WEDNESDAY, 7 JUNE 2023 – AFTERNOON

DESIGN AND TECHNOLOGY – A level component 1

Fashion and Textiles

3 hours

A601U101
01

ADDITIONAL MATERIALS

In addition to this paper you will need:
a WJEC pink 16-page answer booklet, a calculator a ruler a pencil and coloured pencils.

INSTRUCTIONS TO CANDIDATES

Use black ink or black ball-point pen.

Answer **all** questions.

Write your answers in the separate answer booklet provided.

INFORMATION FOR CANDIDATES

When and where appropriate, answers should be amplified and illustrated with sketches and/or diagrams.

The number of marks is given in brackets at the end of each question or part-question. You are advised to divide your time accordingly.

The number of marks available is 100.

You are reminded of the need for good English and orderly, clear presentation in your answers.

You may use a calculator in this examination.

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Answer **all** questions.

1. The dress pictured below is made from a weft-knitted rib fabric.

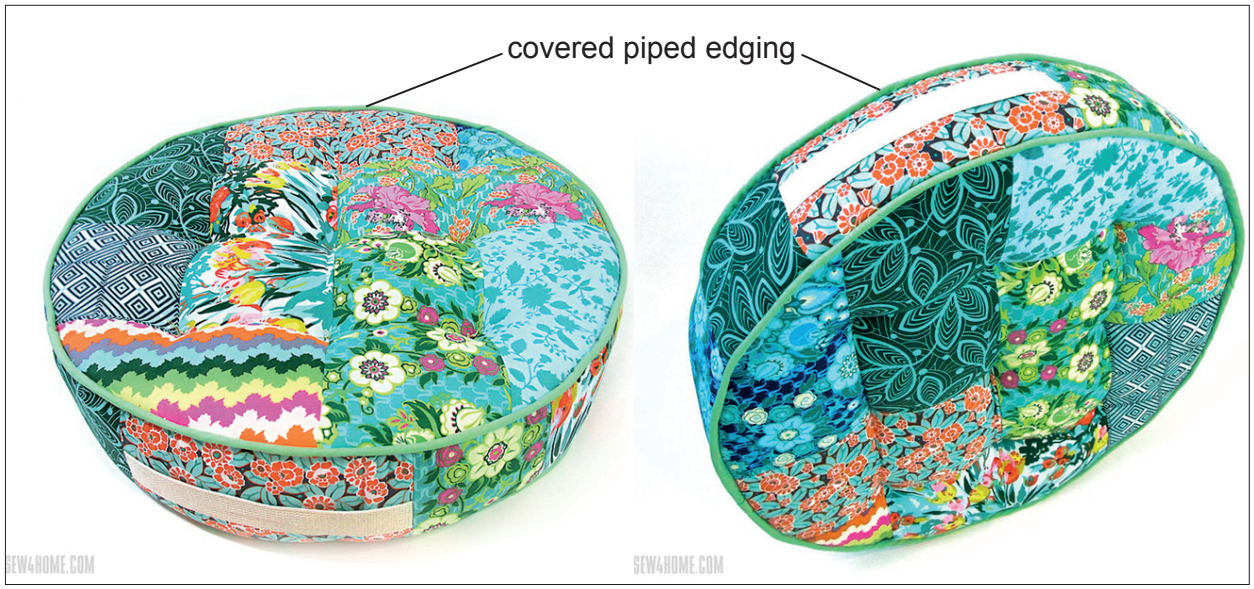


(a) Explain why the designer chose a weft-knitted rib fabric to make the dress and why it would appeal to users. [4]

(b) Describe the main differences between warp and weft knitting and how the construction affects its end use. [4]

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2. The floor cushion shown below has a covered piped edging inserted into the seams.



(a) Using notes and sketches, explain how you would make a fabric-covered piped edging as shown above and insert it into a seam. [6]

(b) Explain why a bias-cut woven fabric is essential when making the piped edging for the floor cushion. [2]

(c) Calculate the total cost of the covered binding for a batch of 150 floor cushions, using the information listed below:

- The radius of the floor cushion is 30 cm.
- The cost of the piping cord is 35p per metre.
- The cost of the bias-cut fabric is 40p per metre. [7]

You must show all your workings.
Round your calculations to a whole number.

3. Fabrics made from cellulosic fibres such as cotton, linen and viscose are prone to creasing.

(a) Explain the benefits of a crease-resistant finish on cellulosic fabrics and how the finish is applied. [5]

(b) Polyester and linen fibres and yarns are often blended or mixed together.
Explain why this fibre blend or mix improves the functionality of the resultant fabric. [3]

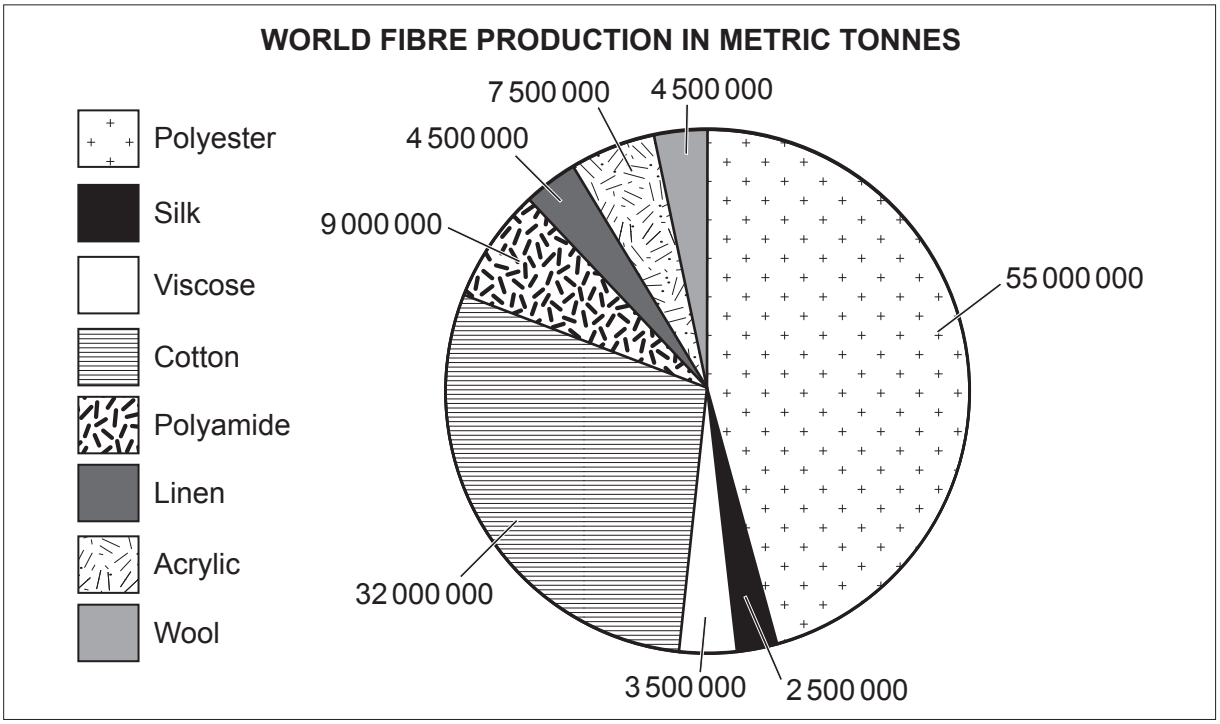
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Turn over.

4. Textile fibres, used to make yarns and fabrics, can be natural, synthetic or regenerated. The impact each fibre will have on the environment will depend on its market share. This is based on the number of products made from each fibre and is measured in metric tonnes.

(a) Study the chart below which shows world fibre production in metric tonnes. Calculate the percentage (%) that synthetic fibres account for in world fibre production. [4]

Show all your workings



(b) The total cotton fibre production is 32 000 000 metric tonnes.

(i) Organically grown cotton is included in this figure but only makes up for 3.5% of the total for all cotton fibre grown. Calculate the quantity in metric tonnes that organic cotton accounts for. [2]
Show all your workings.

(ii) Calculate the percentage (%) of the world total fibre production that organic cotton accounts for. [2]
Show all your workings.

(c) Explain what a regenerated fibre is and why they are considered viable alternatives to cotton for use in clothing. [4]

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5. The fashion leggings we recognise and wear today originated in the 1960's when Dupont created the very first Lycra leggings. Many iterations have followed with designers continuing to rework them into current trends.



(a) Explain how lifestyle choices in recent years have impacted on the continued popularity of leggings. [5]

(b) Using notes and sketches, explain how Lycra can be incorporated into yarn and how it has impacted on fabrics used for sportswear. [5]

6. The pictures below show a fleece liner packaging product made from 100% felted wool fibre. It is used as an alternative to plastic packaging for the transportation of temperature-sensitive goods.





Explain how the properties of wool make it suitable for use in either the transportation of temperature-sensitive food products or pharmaceuticals. [5]

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7. Different types of specifications are used in the design and manufacture of fashion and textile products.

(a) Outline the most critical fabric details that would be listed on a fabric specification for a high-performance mountaineer jacket and evaluate their importance to the end user. [6]

(b) Analyse the importance of including measurable criteria in the design specification for the business backpack shown below. [6]





8. 3D printing is increasingly used in the fashion and textile industry in the development and manufacture of products.

Evaluate the use of 3D printing as an innovative method of developing and manufacturing fashion and textile products. [9]

9. The 4Ps of marketing is a strategy an organisation might use to bring new fashion and textile products to market.
With reference to the 4Ps, discuss how the digital world is changing the way fashion and textile products are being brought to market when compared to traditional strategies. [9]

10. Fashion and textile products go through a series of stages during their life cycle.
Analyse the environmental impact of a polyester cotton shirt at each stage of its life cycle 'from cradle to grave'. [12]

END OF PAPER

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