GCE A LEVEL – NEW

A601U10-1

S19-A601U10-1

DESIGN AND TECHNOLOGY – A level Component 1
Fashion and Textiles

FRIDAY, 7 JUNE 2019 – MORNING

3 hours

A601U101
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ADDITIONAL MATERIALS

In addition to this paper you will need:
a WJEC pink 16-page answer booklet, a calculator, ruler, 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. As part of the design process, fashion designers use a range of strategies to present their ideas.

(a) Explain why a designer might use a design storyboard like the one shown below. [2]



(b) A manufacturing specification contains information relating to the manufacture of a product.

Describe how a product would be visually represented on a manufacturing specification and explain the purpose of **two** *other* pieces of information that would also appear in a manufacturing specification. [6]

2. The thermal bottle carrier shown below is made from laminated neoprene. Neoprene is a synthetic rubber which forms part of the laminated material.



(a) Explain what is meant by the term 'laminating' and give a detailed reason for laminating the thermal bottle carrier. [4]

(b) Using notes and sketches describe a test you could carry out to compare thermal properties when choosing materials for the thermal bottle carrier. [4]

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(c) The height of the thermal bottle carrier is 24 cm and the diameter of the base is 8 cm.

(i) Calculate the maximum volume of liquid in litres that a cylindrical bottle the same shape and dimensions as the carrier could hold. [4]

Round your answer to the nearest whole number.

(ii) A template is needed before the manufacture of the bottle carrier can begin. Calculate the size of the rectangular template needed for the cylindrical part of the bottle carrier. [2]

Note: Seam allowance does not need to be included.

3. Aramid is the generic term for a specific group of fibres derived from petrochemicals. Kevlar and Nomex are both examples of aramid fibres.

(a) Describe the specific properties of aramid fibres that differentiate them from other fibres also derived from petrochemicals. [4]

(b) The products in the picture below have all been made from Kevlar or a composite containing Kevlar.

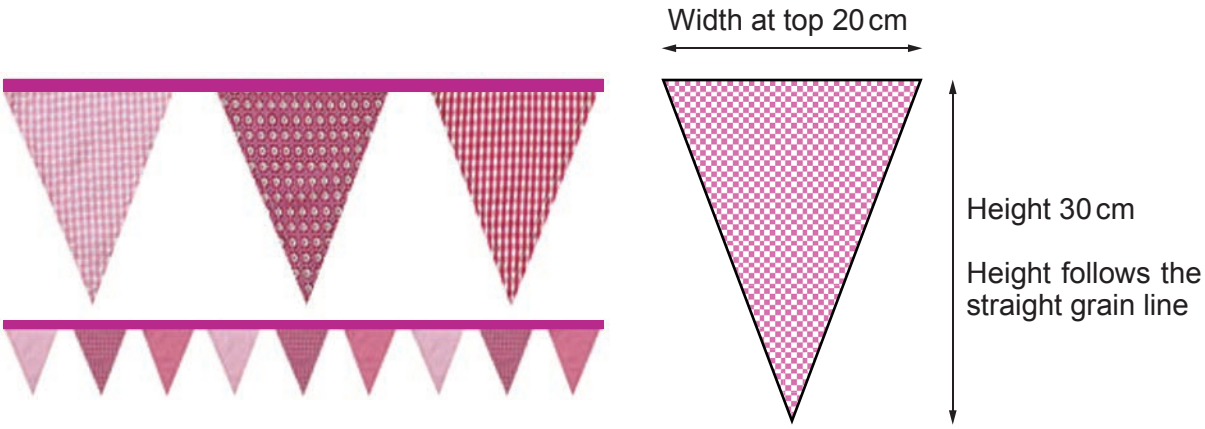


Explain why Kevlar has been used for the safety gloves, vest or helmet. [4]

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4. Coloured fabric bunting, like the example shown below, is needed for a local village fete.

- Each triangular pennant is made from two pieces of fabric with no visible raw edges.
- A binding runs along the top and holds all the pennants together with a 2 cm gap between each pennant.
  (Do not include seam allowances.)



(a) Using notes and sketches, explain how you would construct each pennant so that no raw edges are visible. [4]

(b) Calculate the maximum number of pennants that can be made from a one metre length of fabric that is 150 cm wide. [5]

(Show all calculations including sketches if appropriate.)

(c) A length of bunting containing 3500 pennants is needed for the village fete. If the binding is 75p per metre, calculate the cost of the binding for the length of bunting. [4]
(Show all calculations.)

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5. The tweed jacket shown below was designed by Coco Chanel in the 1950s and at that time was considered one of fashion's chicest and most revolutionary pieces. Today it is considered an iconic design.



(a) Define the term 'iconic' and explain why contemporary designers are influenced by such historic designs. [5]

(b) Jackets, like the one pictured, are usually fully lined. Explain in detail why a lining is essential in the manufacture of similar jackets. [5]

6. Textile fabrics have traditionally been embellished using different types of embroidery, appliqué and cutwork like the example shown below.



Explain why the use of laser cutters is increasingly becoming the preferred method of embellishment for many designers. [5]

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7. Consumers have a right to expect that the fashion and textile products they purchase fully function, are fit for purpose and meet legal requirements.

(a) Analyse the purpose of quality assurance in the manufacture of fashion and textile products in order to meet consumer needs and expectations. [6]

(b) With reference to specific examples, evaluate the importance of quality control in the manufacture of a school shirt like the one shown below. [6]



8. Fashion designers such as Stella McCartney have strong moral, social and ethical beliefs that influence their design thinking. They believe high end glamorous fashion is both realistic and achievable without compromising their personal beliefs.

Analyse how fashion designers can remain true to their personal beliefs but still produce high end glamorous fashion. [9]

9. Fashion and textile products are manufactured using different types of production systems.

Explain what is meant by cell production and describe how it benefits both manufacturer and cell production worker. [9]

10. Micro and Nano Technology has had a major impact on the fashion and textile industry with the introduction of innovative new products that include wearable electronics.

With reference to named examples, evaluate how technology-push and market-pull have influenced the development of products that include wearable electronics. [12]

END OF PAPER

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