

Textiles and Design

Section II (continued)

Marks

Question 13 — Properties and Performance of Textiles (10 marks)

- (a) Explain how a finishing technique can be used to enhance fabric performance for a specific end-use. 2

Scotchguarding a fabric enhances the fabric performance of farmers pants (for example) so to repel dirt in a dirty environment making the fabric last long with good where and easy to wash. Making the fabric specific to repel dirt in its end use.

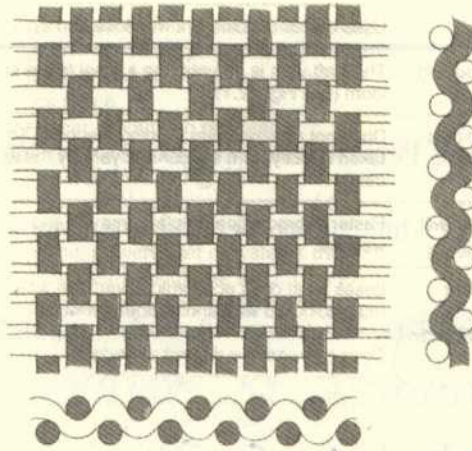
- (b) Explain the impact ONE technological advance in machinery has had on the production of textiles. 2

Computerised machines that transfer pattern layouts on to material and then ~~are~~ able to cut out 50-100 layers of material. This reduces wastage ^{age} increase the production and effectiveness in the textile product.

Question 13 continues on page 10

Question 13 (continued)

- (c) Identify the fabric structure in the diagram. Explain why it is an appropriate structure for a cotton hat. 2



Plain weave. It interlaces with each other, is durable and flexible. This is appropriate for a cotton hat as it stops light but structure allows air flow. Strong structure therefore durable. And comfortable as it allows some movement (Flexible).

- (d) (i) Identify a specific end-use that requires excellent abrasion resistance in a fabric. 1

An infant that crawls; the pants.

- (ii) Describe how the fabric structure, yarn structure and fibre content optimise abrasion resistance. 3

Fibre would have to be filament long and strong. Fibres being spun into a yarn would need a Z-twist for maximum strength. Fabric structure in a twill weave as it's the strongest weave. All of these qualities in a material would optimise it into being a good abrasion resistance material.

End of Question 13