

Examiners' Report/
Principal Examiner Feedback

Summer 2013

GCSE

Application of Technology in Engineering
and Manufacturing

Unit 5EM03 Paper 3C

Textiles and Clothing

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Unit 5EM03_3C

Textiles and Clothing

General Comments

In general a good selection of responses were offered by students over both sections of this paper, with many being able to access some of the higher level questions at the end of both Sections A and B.

As seen in the past, lower ability students often gave very generic responses to some questions, such as 'quicker', 'cheaper', 'easier' which gained them limited marks. The more demanding questions (those at the end of Section B) were often more difficult for the lower ability students due to the ramped nature of the paper. It was however good to see that many were attempted and blank spaces were kept to a minimum.

It was clear that many students had read the question paper properly and when they were asked to 'describe', 'explain' or 'discuss' students took note of this and answered in full sentences or paragraphs as appropriate.

The pre-release material this year was focused on the manufacture of mass produced baseball caps. Centres had clearly prepared well for this section of the paper as the students were able to discuss aesthetic, functional and material properties as well as production techniques related to this theme.

Section A

Question 1

The majority of students correctly identified the products belonging to the Textiles sector in part (a) and Clothing sector in part (b).

Question 2

Part (a) was not answered correctly by many of the students. The majority of students were unable to identify the textile component 'wadding' even though it is commonly used in many schools. Many students knew that the second component was 'press studs / poppers'.

Part (b) was much better answered by the majority of students. Many could expand upon the use of both an 'overlocker' and a 'steam iron' and some very thorough answers were seen.

Question 3

A generally well answered question, although some students did confuse the key areas of 'control technology' and 'information communications technology'. Most students attempted this question and it was encouraging to see that the majority scored well here.

Question 4

This was a generally well answered question. Good responses to (a) included products used in previous pre-release materials or in the sample assessment material.

Some students had difficulty in part (b) as they failed to mention one of the set stages of manufacture that are listed in the specification. Often students were naming a specific process that used ICT and this is not what the question was asking for.

In part (c) students gave a wide variety of answers as the textiles and clothing sector has many modern materials to call upon. Most were able to link the modern material to the product in question and some very thorough answers were seen here.

Question 5

There was a wide variety of responses seen for this question and therefore a wide variety of marks were given to students. The majority of students achieved well in part (a) as they were able to state a variety of benefits to a manufacturer of using CAM in processing and production.

Part (b)(i) was well answered as many students could name specific uses of CAD during manufacture. Many sector specific answers were given here including using CAD for lay planning and grading which was very encouraging to see.

In part (b)(ii) responses were often more limited and many students did not link their answers to the manufacturer.

A similar issue was seen in part (c). Those students who did not score well here failed to link their answers as to why CAM benefits the consumer.

Question 6

Part (a) was very well answered by the majority of students. Many could describe in detail what a spreadsheet was and gave examples of spreadsheets in use.

Part (b) was also well answered by the majority who could list traditional methods of handling data and knew that databases often provided a more thorough and up to date link with their manufacturers.

Part (b)(iii) was also very well answered. Many could explain about technical problems that manufacturers could have with their databases. Loss of data and lack of technical skills were the most common answers seen here.

Question 7

Centres are reminded that the paper is ramped in difficulty and the latter questions in each section are aimed at the more able students. Many students struggled to respond well to both parts of this question. They appeared more confident in part (a) where many could briefly describe the impact of programmable logic controllers on safety. Most students could as a minimum say that PLCs reduced the number of accidents to the workers.

Part (b) proved more difficult and was really only answered well by the very high ability students.

Section B - This section was based upon the mass produced baseball caps pre release material

Question 8

It should be noted that for a student to obtain full marks for this question they must use both notes and sketches to explain their responses. In part (a) many students did not achieve marks as they described how to make a stiffened peak and not what the function of the peak actually was.

Parts (b) & (c) tended to be answered much better but some students struggled to sketch meaningful diagrams to aide their explanations. In part (b) in particular, students were unable to sketch the purpose of the eyelets. Parts (b) & (c) saw some good explanations written in prose however, and students were credited accordingly.

Question 9

For Part (a) many students were able to identify the missing stages correctly. Part (b)(i) and Part (b)(ii) were generally well answered as many students could describe what happens during the processes of design and marketing.

Question 10

Part (a) was surprisingly not well answered by the majority of students who failed to state a specific woven fabric commonly used in the manufacture of baseball caps. Those that did not obtain a mark for this question typically named a knitted fabric eg fleece or named a specific fibre eg cotton or polyester.

There were mixed responses to part (b)(i). Here, it is expected that students list specific processes that are carried out during the production of **mass produced** baseball caps. Suitable answers included responses such as 'lay planning', 'cutting', 'pressing' etc. Many students were not specific with their processes eg 'assemble' and many listed 'CAD', 'CAM' and 'CIM' which were incorrect.

Part (b)(ii) was well answered by the majority who could explain in detail why lock-stitching was a suitable process for making the mass produced baseball caps.

Part (b)(iii) was also very well answered and it was clear that many students could compare a traditional method of applying a logo with a computerised method.

Question 11

Many responses to Part (a)(i) were limited as students often struggled to put their explanation of 'process control' into a logical sentence and did not show a clear understanding.

Part (a)(ii) was quite well answered as many could describe numerous reasons as to why a manufacturer would use process control.

Mixed responses were given in Part (b). The question was asking for a description of specific Quality Control checks that could be carried out on the baseball caps eg strength test for stitching.

Question 12

This question was surprisingly poorly answered by most students. Many students were unable to achieve many marks in (a)(i) as the question asked about how modern technology has had an impact on the **type** of workforce that manufacturers

employ eg more ICT literate. Most students just discussed that the size of the workforce would be reduced which was incorrect.

Part (a)(ii) was also poorly answered. Here students were asked about the changes that modern technology would have had on the **production** environment eg 'cleaner', 'safer'. Instead, most students discussed the changes that were evident in the global environment. This was incorrect as this was the answer to (a)(iii).

Part (b) was well answered by the majority of students and many had extensive knowledge about the use of barcodes by manufacturers. The highest achieving students on the question were able to specifically link their answers to the manufacturer.

Question 13

The majority of students attempted this question and many appropriate answers were seen. This is pleasing as it is a good examination technique for students to attempt all questions, even if the response is an informed or 'educated' guess. Many students were able to gain some marks on this question. Most attempted a good explanation of the impact of modern technology on customer satisfaction.

Question 14

This question was attempted by many students but some did leave it blank. Those students who did not perform well centred their answers on the term 'modern technology' and not its effects on marketing and selling. It was seldom that full marks were achieved here. This question is where students are credited for their QWC and in general most answers were written logically and correctly in clear English.

Grade Boundaries

Grade boundaries for this, and all other papers, can be found on the website on this link:

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