

Examiners' Report/  
Principal Examiner Feedback

Summer 2012

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 candidates over both sections of this paper, with many candidates being able to access some of the more demanding questions at the end of the paper.

As seen in the past, lower ability candidates often gave very generic responses to some questions, such as quick /cheap/ easy which gained them limited marks. The more demanding questions (those at the end of section B) were often out of reach for the lower ability candidates due to the ramped nature of this paper. It was however good to see that many had attempted them.

It was clear that many candidates had read the question paper properly and when they were asked to 'describe', 'explain' or 'discuss' candidates 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 baby carriers. Centres had clearly prepared well for this section of the paper as the candidates 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 candidates correctly identified the products belonging to the Textiles sector in part (a) and Clothing sector in part (b).

##### **Question 2**

The majority of candidates were able to identify the textile components (Velcro & beads) shown in part (a). Part (b) proved difficult for some candidates who did not seem familiar with the correct use of a thimble. In general candidates knew the use of a tape measure but sometimes gave a simplistic answer such as 'used for measuring' which could only credit them with 1 mark.

##### **Question 3**

A generally well answered question although some candidates did confuse the key areas of 'control technology' and 'information communications technology'. All candidates attempted this question and it was encouraging to see that all were credited with some marks.

##### **Question 4**

There were very mixed responses to this question. It was worrying to see that a small minority of candidates could not name two products which belonged to the textiles and clothing sector in part (a)(i). Some candidates got confused in part (a)(ii) where they incorrectly stated the name of a fabric or natural fibre rather than the name of a synthetic fibre. In general if candidates had answered (a)(i)

and (a)(ii) correctly then they performed well in part (a)(iii) where they could explain in detail the reasons for using this synthetic fibre in their products.

In part (b) many candidates failed to gain a mark in part (b)(i) where they were asked to name a stage in textiles manufacture that involved the use of systems and control technology. This question was asking for one of the names of the predefined stages of manufacture out of the engineering and manufacturing specification but most candidates specified a process that used control technology instead.

### **Question 5**

Part (a) was generally a well answered question with the majority of candidates obtaining at least half marks. Most candidates showed that they had some knowledge of CAD but those that struggled often wrote simplistic answers such as 'it is quicker and easier'. Some candidates discussed how CAM can contribute to efficiency but this was not what the question was asking for and so they subsequently did not achieve marks. Part (b) was connected to CAM and most candidates achieved at least one out of the two marks available for this question.

### **Question 6**

Part (a)(i) asked candidates to describe the term 'e-mail' and was answered very well by most. It was clear that candidates were very familiar with the content of the question and were confident and descriptive in their answers. Again (a)(ii) was answered well by candidates who had to discuss the disadvantages of email to a manufacturer. Those candidates that lost marks gave generic responses which were not directly linked to email itself. For example 'the computer might not switch on' was not considered a good answer as it did not link specifically to email.

The majority of candidates were knowledgeable about video conferencing in part (b) and part (b)(ii) in particular was well answered as candidates explained in detail about the advantages to the manufacturer of using this medium.

### **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 candidates. Many candidates struggled to respond well to this question. They appeared to be unaware of the meaning of the term 'information and data handling systems' and many failed to discuss the benefits of them on packaging and dispatch in part (b). Some candidates in part (b) discussed data handling systems but their answers were linked to other stages of the manufacturing process instead of packaging and dispatch which the question specifically mentioned.

## **Section B - This section was based upon the mass produced baby carrier pre release material**

### **Question 8**

It should be noted for this question that for a candidate to obtain full marks they must use both notes and sketches to explain their responses. It was encouraging to see that all candidates achieved at least one mark in part (a). Many candidates drew useful sketches and it was clear to see how the adjustable side release buckles functioned. Many candidates referred to both the baby and adult in their answers which was very good. Part (b) was also answered well by candidates who could describe in detail the function of the foldable padded hood. Those that achieved low marks in part (b) tended to struggle with their sketching here as they failed to sketch an image which showed the hood in use. There were very mixed answers in part (c). Those that did well could describe multiple functions of the elasticated netting and could help the examiner understand their thinking through the use of suitable sketches. Those that did not do so well here sometimes failed to add any kind of sketch at all.

### **Question 9**

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

### **Question 10**

Part (a) was surprisingly not well answered by the majority of candidates who failed to state a specific woven fabric commonly used in the manufacture of baby carriers. Those that did not obtain any marks here may have named a knitted fabric eg fleece or named a specific fibre eg nylon or cotton.

There were mixed responses to part (b)(i). Here it is expected that candidates list specific processes that are carried out during the production of the *mass produced* baby carriers. Suitable answers included responses such as 'lay planning', 'cutting', 'sewing' etc. Many candidates listed stages of the production process (eg marketing) or were not specific enough giving answers such as 'assemble'. Some also included processes which were not suitable for the type of production. For example some candidates stated 'tacking' which is a process used in one-off production in school but not one that is suitable to be used in a mass produced environment.

Part (b)(ii) was well answered by many who could explain a variety of reasons why overlocking was a suitable process to use on the baby carriers.

In part (c) candidates demonstrated that they had excellent knowledge of modern materials used in the textiles and clothing sectors and many could explain in full how they have allowed manufacturers to improve their products.

### **Question 11**

Many responses to part (a) were limited as candidates often struggled to link quality control procedures with the packaging and dispatch stage of manufacture.

Many candidates offered specific QC checks which would have been done at earlier stages of manufacture. Part (a)(ii) generally saw candidates struggle who again could discuss automation but not automation used at the packaging and dispatch stage.

### **Question 12**

Most candidates were able to achieve well in part (a) where it was clear that they knew about how modern technology impacts on the working environment. Candidates surprisingly struggled all through part (b) where the main focus was about the role of ICT. In general candidates could discuss how ICT was used at the marketing stage - part (i) - but many failed to gain marks when discussing the role that ICT plays in the assembly and finishing stage - part (ii). In part (iii) candidates could discuss the benefits of using ICT but many of their answers were linked to the manufacturer and not the retailer as the question specifically asked.

### **Question 13**

Many candidates did not write anything for this question and it was left blank by the majority. Those that did attempt this question tended to discuss control technology in general and failed to link it to the issue of safety when manufacturing.

### **Question 14**

This question was attempted by many candidates but some did leave it blank. Those candidates who did not perform well centred their answers on cleaning up the environment and not about reducing energy consumption which the question specifically asked for. Those that did gain over half marks discussed turning off machinery, using the heat generated by machines to heat other areas of the factory, updating their machinery to that which is more energy efficient and recycling waste materials back into products. This question is where candidates are credited for their QWC and in general most answers were written logically and correctly in clear English.

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