

Examiners' Report/
Principal Examiner Feedback

Summer 2014

Pearson Edexcel GCSE in
Application of Technology in
Engineering and Manufacturing

Unit 5EM03 Paper 3C
Textiles and Clothing

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Textiles and Clothing

General Comments

A good selection of responses were offered by candidates over sections A & B of the paper, with many being able to access some of the higher level questions at the end of both sections.

As seen in the past, lower ability candidates often gave very generic responses to some questions. 'Easier', 'faster' and 'cheaper' were common responses which gave them limited marks. The more demanding questions (at the end of section B) were often only accessible to the higher ability candidates due to the ramped nature of the paper.

The majority of candidates had clearly read the questions on the paper and when asked to 'describe', 'explain', or 'discuss' candidates took note of this and included detail in their answers where appropriate.

The pre-release material focused on the manufacture of mass produced umbrellas. Centres had clearly prepared well for this section of the paper as the students were able to discuss aesthetic, function and material properties as well as production techniques related to this product.

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

Part a was not answered correctly by many candidates. The majority of students were unable to identify the embroidery hoop but many did know the pinking shears.

Part b was much better answered by the majority of candidates. Many could expand upon the use of a seam ripper and some very thorough explanations were given. Expanding upon the use of a safety pin seemed more difficult but this was still done well by many.

Question 3

This was a very well answered question, although some candidates did confuse the areas of 'control technology' with 'information and communications technology'. There was also some issue with where 'composites' should belong. This question was answered by all and it was encouraging to see that most candidates scored well.

Question 4

Responses to question 4 were generally mixed. Good responses used in part a included products used in previous pre-release materials or in the sample assessment material.

Many candidates had issues with part b as they could not state a specific type of control technology used within the textiles and clothing industry. They therefore also had problems with describing reasons behind why this type of control technology was used.

In part c candidates gave a wide variety of answers specifying fabrics used in manufacturing textile and clothing products although some would list a fibre rather than a fabric which was incorrect.

Question 5

There was a wide variety of responses seen for this question and therefore a selection of different marks were obtained by candidates. The majority of candidates could list one way that a manufacturer could reduce costs using websites, but often answers were simple and the description was missing for them to obtain two marks.

Part b was very well answered with many candidates scoring high marks here. A good variety of benefits linked to CAM were listed and well explained by lots. Common responses were linked to improved / consistent quality as well as to quicker output and reduced human input.

Question 6

This was another well answered question by the majority of candidates. In part ai) candidates could list a wide variety of electronics communications technologies. Part aii) was not so well answered by the majority of candidates. Responses to this part were very generic and centred around general use of email, most candidates failed to link their responses to the issue that customers required their products being made urgently by the manufacturers.

In part b many candidates failed to list an appropriate smart material. Some would list a modern material but not technically one classed as 'smart'. Some very good responses were seen in part bii) with a wide variety of reasons being described thoroughly as to why finishes are applied to modern materials.

Question 7

Centres are reminded that the question paper is ramped in difficulty and the latter questions in each section are aimed at the more able candidates. Many candidates attempted parts a and b but most did not respond well in both parts. Candidates responded quite well to part a – they could link data handling systems with product sales as there appeared to be a natural link there. Part b proved more difficult and was really only answered by the very high ability candidates.

Section B – This section was based upon the mass produced umbrellas pre-release material

Question 8

It should be noted that for a pupil to obtain full marks for this question they must use both notes and sketches to explain their answers. Parts a & b of question 8 were answered very well by the majority of candidates. Many could sketch and annotate the use of the crook handle and the spokes in a good amount of detail.

Part b was especially well answered with many candidates showing sketching an open and closed umbrella to show the use of the spokes. Part c was less well answered as many candidates failed to include the detail needed for 3 marks here. Many could say that the fastener tab 'closed' the umbrella but could not expand upon another point that would be required for the full 3 marks.

Question 9

For part a many candidates were able to identify the missing stages correctly. Part b was well answered with a good variety of activities that are carried out at the materials supply and control stage being listed. Many candidates also scored well in part c as they could describe in detail many of the operations carried out at the production planning stage of manufacture.

Question 10

Part a was answered very well by the overall majority of candidates who mainly listed Velcro and press studs as being appropriate fasteners for the umbrella.

There were mixed responses to b1. Here it is expected that candidates list specific processes that are carried out during the production of mass produced umbrellas. Suitable responses included answers such as 'lay planning', 'cutting' and 'spreading'. Many candidates were not specific with their processes e.g. assemble and some listed 'CAD','CAM','CIM' which were incorrect responses.

Part bii was fairly well answered as many could explain in detail about the suitability of injection moulding for making the umbrella handle. For those that did not do well here they tended to explain the process rather than explaining its suitability.

Question 11

Many responses to part ai were very limited as candidates failed to be able to list specific uses of ICT at the *design* stage. Responses given were very generic and lacked the understanding for a question this late in the exam paper. Part aii was much better answered by many who could list a variety of uses linked to the packaging and dispatch stage. Many candidates knew the uses of ICT here and were able to expand upon their answers. Candidates again struggled with part b as they failed to make their responses specific to the retailer of the umbrellas. Part c was answered quite well, especially by the higher ability candidates although it was still typical to see four low grade responses as opposed to a more developed explanation here.

Question 12

Many candidates performed well across question twelve. In part a they were clear as to the effects of automation upon the workforce and many well developed answers were given. Those who lost marks would have failed to include this development part of their answer. In part b lots of good answers were seen about the effects on the working environment and again it was clear that candidates were familiar with this topic. Part c was the weak spot in many papers as many candidates just repeated what they had written in part b as opposed to listing the impact on the *global* environment.

Question 13

Many candidates attempted this question although responses which is pleasing as it is good examination technique for a candidate to attempt all questions, even if the response is an informed or educated 'guess'. Not many marks were awarded for

this question, when they were it was often as a candidate mentioned about recycling heat to heat the building or to use in production processes such as drying.

Question 14

This question was attempted by the majority of candidates. 'Just-in-time manufacturing' was a familiar term to many although some just described what it was, failing to discuss the benefits of this to the manufacturer. This question is where candidates are credited for QWC and in general most answers were well written, logical and in correct English.

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