Candidate Style Answers

GCSE Design & Technology: Industrial Technology

OCR GCSE in Industrial Technology: J304

Unit: A544

These candidate style answers are designed to accompany the OCR GCSE Industrial Technology specification for teaching from September 2009.

OCR
RECOGNISING ACHIEVEMENT

GCSE Design & Technology: Industrial Technology

Unit A544 Technical aspects of design and making

OCR has produced these candidate style answers to support teachers in interpreting the assessment criteria for the new GSCE specifications and to bridge the gap between new specification release and availability of exemplar candidate work.

This content has been produced by senior OCR examiners, with the support of the Qualification Manager, to illustrate how the sample assessment questions might be answered and provide some commentary on what factors contribute to an overall grading. The candidate style answers are not written in a way that is intended to replicate student work but to demonstrate what a "good" or "excellent" response might include, supported by examiner commentary and conclusions.

As these responses have not been through full moderation and do not replicate student work, they have not been graded and are instead, banded "medium" or "high" to give an indication of the level of each response.

Please note that this resource is provided for advice and guidance only and does not in any way constitute an indication of grade boundaries or endorsed answers.

5b) Discuss why the manufacturer has chosen to produce 500 novelty storage boxes using the vacuum forming process. (6)	
Candidate style answer	*Examiner's commentary*
The manufacturer has used vacuum forming for the boxes because vacuum forming is a good process for making thin plastic objects with difficult shapes. The shape of the box makes it easy to produce by vacuum forming because it is hollow with an even thickness. *The moulds for vacuum forming are cheap to make compared to other processes like injection moulding and if the mould has to be changed at all it can be done easily and quickly. The moulds for injection moulding are made from steel and are expensive to make.* *Vacuum forming is a quick and easy process and the vacuum forming*	The candidate has demonstrated good technical knowledge and understanding in this answer, producing a **high** level of response overall. Although not all aspects of the subject area have been covered, the candidate has taken two main areas and explained them in clear and accurate detail using technical terminology where appropriate. The box referred to in the question has been used as an example to support part of the answer. There is some repetition in the text of the response, but it is generally well structured, with accurate spelling and good use of grammar.

moulds and machines are quite simple and inexpensive. This makes the process ideal for batch production of only 500 boxes, but if many thousands were needed at a time it would be better to injection mould them as it would be quicker.	

Please be aware the next question included in this document is not from the current specimen SAMs but is to give teachers an idea of what types of question could be seen in future examinations for Industrial Technology.

Explain the issues a manufacturer would need to consider when deciding to introduce the use of robotics. **[6]**	
Candidate style answer	*Examiner's commentary*
A manufacturer needs to consider the cost of buying the robots and what they will be used for. *They also have to think about their workers and if they will have to make any redundant or not.* *Robots can work in worse conditions than humans and don't need rests.*	This is a good example of a **medium level** response to an 'explain' question. Although the candidate has made reference to three major issues, these have been 'given' rather than 'explained'. The issues need to be expanded on, using appropriate technical terminology, in order for this to be classed as a higher order response. E.g. A manufacturer needs to consider the cost of buying the robots and how much will be saved by using them. It would only be worth doing if the robots were going to be used all the time so that the cost of buying them was recovered quickly. Some of the workers may be put out of a job or might need to be retrained to set and maintain the robots. This could make them more skilled and they would earn more. Robots can be used to do jobs that would be hazardous for humans to do, like working in smoky and dusty atmospheres.