Principal Examiner's Report

Summer 2016

Pearson Edexcel GCE in Design & Technology: Food Technology (6FT02)

Unit 2: Design and Technology in Practice

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General Observations

It is clear that centres have prepared candidates well for the written examination and that teaching of the specification is both comprehensive and thorough. Many candidates demonstrated a detailed, scientific understanding of the working properties of food and could apply this to commercial practice. The range of questions effectively enabled clear differentiation. A good understanding of command words and the use of technical vocabulary was evident in the responses of higher ability candidates.

Question 1

1a – A straightforward knowledge question which was answered correctly by most candidates. A few candidates stated that micro-organisms such as bacteria could be separated from crops.
1b – Most candidates correctly identified spray washing or flotation washing as the methods. Descriptions were not always accurate or precise enough for full marks.
1c – A well answered question demonstrating a good understanding of homogenisation.
1d – This was a "describe" question and so candidates were required to identify one method and explain it. Many responses lacked relevant technical vocabulary such as photoelectric cells and sensors.

Question 2

2a – A straightforward knowledge question which was answered correctly by most candidates.
2b – This question differentiated well and many candidates demonstrated a good understanding of the role of a stabiliser. Some candidates lost a mark for stating that the formation of ice crystals is prevented, rather than the importance of preventing large ice crystals. Weaker candidates referred to taste and texture without further explanations. At AS level it is expected that candidates would be able to give more precise information.

Question 3

3ai – A well answered question with many candidates able to name specific food poisoning bacteria.
3aii – Key to this question was the command word "explain". Candidates were required to state one personal hygiene precaution and explain how it ensures food safety. Those who gave two precautions gained only one mark.
3b – Many candidates demonstrated a good knowledge in this question, gaining full marks. The command word "outline" required five factors to be identified from a wide

ranging mark scheme. Some candidates wrote at length about each factor which gained them no additional marks and sometimes meant they failed to outline enough different factors for full marks.

Question 4

4a – The focus of this question was the ability of both salt and sugar to make water unavailable to micro-organisms. Those who understood this wrote detailed responses referring to osmosis and described the process well. Some candidates inaccurately focussed on a change in pH.

4b – Many candidates performed very well in this question and frequently gained full marks. They demonstrated an ability to consider all relevant factors which lead to food spoilage. High ability responses included the effect of enzymes, moisture and oxygen as well as bacterial growth. Some candidates discussed at length the consequences of the fridge being at the wrong temperature which gained them no marks

Question 5

5a – This question examined part 2.3:4d (food fortification) of the specification. A significant percentage of candidates showed no understanding of this topic and could give neither an example nor a reason.

5b – The use of protein based gels is found in 2.3:4bii of the specification. High level responses demonstrated excellent knowledge of how gelatin forms a gel. It was disappointing to see many candidates gaining few marks because they described gelatinisation and the use of starch as a gelling agent. Centres are advised to make candidates aware of topics which are very different, but which could be mixed up e.g. by comparing and contrasting.

Question 6

6a – It was pleasing to see many candidates fully aware of this technique and its use of sterility. As well as being able to describe the process, some gave an example of its use and the need for a hermetic seal. Weaker candidates often described the canning process. Underlining the key words is good practice and may assist candidates to answer the question correctly.

6b – It is clear that computer control is taught well and many candidates scored highly in this question. The focus of the question was to explain how CAM assists in product inspection. The detailed knowledge demonstrated was a credit to centres. However, some candidates gave information that answered a question from a previous exam paper that was not relevant to this question. When using previous exam papers centres are advised to explore other aspects of the topic, reminding candidates to look carefully at the question being asked.

Question 7

7a – It was clear that the coagulation of protein is taught well in most centres. The use of technical vocabulary was pleasing and many candidates were able to write detailed explanations, writing much more than was required for 10 marks. Their detailed knowledge was a credit to centres. Whilst the effect of heat and mechanical action were most frequently discussed, many candidates also referred to the presence of acid, enzymes and salt. This question allowed for higher ability candidates to demonstrate accurate scientific information, whilst weaker candidates gained marks for describing the changes to and giving examples of relevant ingredients and foods. In a long response question candidates are advised to plan their response to ensure it is in a logical order.

Summary

Based on candidates' performance on this paper, the following points may assist centres in the delivery of this unit:

- Familiarise candidates with all topics on the specification prior to the examination.
- Encourage candidates to read the stem of a question and also to underline key words. This may focus their thoughts and ensure they give the correct response for that question.
- Ensure that candidates correctly interpret the command words used in the questions. Combine this with checking the number of marks allocated to assist in planning their response
- For longer response questions candidates may benefit from writing a plan so that their answer is written in a logical order.
- Whilst answering previous exam questions is a useful tool for examination preparation, candidates should try to realise that the focus will change and ensure they are answering the question that has been set in their examination.

Grade Boundaries

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

http://www.edexcel.com/iwantto/Pages/grade-boundaries.aspx