Examiner's Report
Principal Examiner Feedback

Summer 2017

Pearson Edexcel GCE
In Design & Technology (6FT02)
Paper 01: Food Technology

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General Observations

Centres continue to prepare candidates well for these examinations and are benefitting from the past papers available. However it should be understood that questions will always vary in their focus and students should be aware of this. The questions on this year's paper enabled students to demonstrate detailed knowledge in a variety of topics. The use of technical vocabulary increases and enables students to access the higher marks. Many good examples of essay plans were seen helping candidates structure their responses to these extended writing questions.

Question 1

(a) A straightforward knowledge question which was answered correctly by most students. Some were not able to name a method of size reduction for cereals.
(b) lye peeling is stated in the specification. Those who could recall this method described it well and gained full marks. The method involves the use of caustic soda (not "lye") so it was not possible to guess this answer
(c) The command word here is "Describe". Many candidates answered this well and showed their knowledge of both the equipment used and the reason – prevent demixing.

Question 2

(a) This question differentiated well. It needed to be read very carefully as the focus was on the **monitoring** of temperature. Part (i) was well answered by many with the use of sensors, probe thermometers and random sampling being popular answers. Part (ii) was more challenging. During the transportation of food, temperature would need to be monitored by computer control e.g. use of an alarm if the temperature increased.
(b) Part a of this question looked at temperature and so the stem of this question made it clear that this part was asking for three **other** quality checks. Candidates should be reminded to read questions very carefully – most did so in this case and many gained full marks. Common responses were physical condition, size and date marks.
(c) Many students demonstrated a good knowledge in this question. The benefits to both the consumer and food producers could be discussed. Each benefit was usually explained rather than stated, enabling most candidates to achieve full marks.

Question 3

(a) A good differentiation question. Whilst most candidates were able to state two sensory effects of the Maillard reaction, only higher ability students were able to gain the additional marks for describing each change. Some stated that the texture would soften, whereas the Maillard reaction leads to potatoes crisping and is responsible for the crust on bread.
(b) Candidates demonstrated a good knowledge of the functions of xanthan gum and many gained full marks in this question. The thixotropic effect in salad dressings was explained well. In ice-cream most students focussed on

its ability to prevent the formation of large ice crystals and the consequent effect on texture stability.

Question 4

(a) The focus of this question was the characteristics of different fats. To gain the marks it was therefore necessary to give specific characteristics, not more generic responses. For part (i) most candidates stated that essential fatty acids cannot be made by the body. It should be noted that to gain a mark for “brain development” students had to add that this is only true in infancy. The most frequent response for part ii were that saturated fatty acids are solid at room temperature and that they have all single bonds. To gain the mark for part iii candidates had to state that a diglyceride consists of a glycerol molecule and two fatty acids. On the whole a very well answered question.
(b) Many students performed very well in this question and frequently gained full marks. Hydrogenation as a process has been examined before and it is clear that students have benefitted from looking at past papers.
(c) As a 4 mark question, this enabled candidates to demonstrate detailed knowledge of the uses of antioxidants. Higher ability students gave comprehensive answers which referred to the absorption of oxygen and the ability of antioxidants to prevent the formation of free radicals. Some candidate lost marks because they did not explain the consequence of an antioxidant absorbing oxygen i.e. that it prevents oxidative rancidity.

Question 5

(a) The powers of environmental health officers was explained well and many students gained full marks. Others gave comments that were too vague e.g. the use of the word “unsafe” or inaccurate e.g. - EHO’s do not themselves impose fines on food businesses – this is done by the courts.
(b) In this question, it was vital that candidates read the stem. The intention here is for students to discuss the effect of each factor on each type of micro-organisms. At AS level pupils should be aware that each micro-organism requires slightly different conditions for growth. For example - part i of this question required candidates to know which pH each micro-organism preferred. In part ii students needed to have knowledge of and use the terms anaerobic and aerobic.

Question 6

This asked for descriptions of three of the basic processes that occur when heat is applied to foods. It was pleasing to see many students able to describe these process in depth and gain high marks. Gelatinisation in particular (part i) is clearly well taught and most students described the process in detail. Part ii (caramelisation) was more challenging. Whilst most candidates could achieve 2 marks for stating that sugar is heated and then browns, very few stated that this could occur with or without the addition of water. Coagulation (part iii) was not always explained well. Marks were lost for not stating that whilst the secondary structure unravels, the primary structure remains unchanged. This question asked for a description of the

process whereas some candidates focused on its effect on a particular food e.g. eggs.

Question 7

(a) This was a question which needed to be read carefully by candidates and responses which were planned at the start tended to do better. A plan enabled candidates to stay focussed on the question and to structure their response effectively. This question not only asked for an evaluation of packaging – i.e. the advantages and disadvantages of each material BUT to focus this on frozen foods. If students failed to do this, their responses discussed generic properties which did not always apply to frozen foods. A significant number of students deviated from the question discussing sustainability. Good responses were able to link the properties of each material to their knowledge of the effects of freezing leading to a more specific evaluation.

Summary

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

- Familiarise students with all topics on the specification prior to the examination.
- Encourage students 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 students 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 students 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, students need to realise that the focus will change and ensure they are answering the question that has been set in their examination.

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