



General Certificate of Education

*Design and Technology:
Food Technology 2540*

Report on the Examination

2010 examination – June series

FOOD3: Design and Manufacture

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General

This was the first year in which this unit was offered and the response from candidates was encouraging. Very few candidates answered the incorrect number of questions and, in general, the answer booklet was effectively used. A number of candidates did not accurately state which question they were answering in the margin which can cause difficulties for the examiners, but otherwise candidates handled the new numbering system very well indeed.

Centres have clearly followed advice given for the previous FTY6 paper in encouraging candidates to be succinct and to the point in their answers. Many candidates were able to achieve well with fewer and better considered words.

Use of subject specific and technical language is an area to develop. Quality of written communication was generally of a very poor standard, particularly spelling which, in some cases, were simply not good enough (especially of technical terms) for candidates studying at this academic level.

The questions set differentiated well. Able candidates developed well considered and technically correct responses whilst less able candidates were able to access the questions and left very few parts unanswered.

QUESTION 1

01

In general the candidates who selected this question answered it well, though some candidates confused fats with carbohydrates. There was good understanding of the physical structure of monosaccharides, in particular. Many candidates were able to draw the ring structure for glucose with accuracy and knew the chemical formulae for monosaccharides and polysaccharides. Some candidates confused monosaccharides with disaccharides and disaccharides with polysaccharides. Candidates in general were not so knowledgeable about the physical structure of non starch polysaccharide.

Although the first part of the question was well answered, many candidates forgot to describe the differences in the nutritional composition of the carbohydrates, which meant that in some instances candidates were unable to gain marks in the top mark band. It remains vital that candidates answer the specific question set if they wish to achieve the highest marks.

02

Candidates overall displayed a good understanding of the diabetic condition, though many wrote excessive and irrelevant amounts about diabetes. Many were able to give commercial names of sweeteners and sugar replacers. Knowledge of the function of sweeteners and sugar replacers was often confused, though many candidates recognised that sweeteners were chemicals, with no nutritional attributes. A lot of answers did not really differentiate between the two. Understanding of the role played by sugar substitutes was less evident. Some good uses and examples were given, however.

03

It was evident in marking this question that able candidates planned well, achieving good results. However, many candidates mistook the food *diary* (retrospective) for a *plan* (forward)

planning) and were unrealistic about the nutritional analysis opportunities for the diary keeper. Some original and creative responses were made and the question differentiated effectively.

QUESTION 2

04

This was a popular question which candidates found accessible. Responses were well differentiated; the able candidates planning well and avoiding repetition, offering original and creative ideas. The weaker responses tended to state the obvious and repeated the same points. Examination technique was evident in this question. The candidates who sub-divided the quotation and wrote about each section in turn covered many fresh points and thus gained more marks. The candidature showed a good understanding of the topic, including the work of Jamie Oliver. Many good points were made, which centres would find interesting and enlightening!

05

This was well answered. The majority of candidates had a thorough knowledge and understanding of emulsifiers. Stabilisers were less well addressed. Relevant examples were given.

06

This was generally well answered, but a significant number of candidates did not mention food poisoning. Some candidates talked about preservatives preserving flavour and colour.

07

This question was again well answered by many, who clearly understood fats and rancidity. However, a significant number of candidates did not go beyond enzymic browning in their responses. A number of candidates spent a lot of time providing irrelevant information on cancer prevention, and thus completely missed the point of the question.

08

It was evident in marking this question whether candidates had a working knowledge of fortification or not. The marks were relatively easy to gain, with examples of relevant foods and names of nutrients used, if candidates knew what they were talking about.

In questions 05 to 08, very few candidates mentioned the role of the manufacturer in the use of these additives.

QUESTION 3

09

Candidates had a good understanding of this question, though only the more able candidates were able to describe the physical structure fully, using appropriate terminology. Only the most able candidates were able to provide a well explained reason for the best suited cooking method.

10

The majority of candidates were able to identify these as oily fish and some candidates were aware of the structure of fish – but not many candidates gained full marks with regard to grilling and barbecuing.

11

These were identified as white fish and again, some candidates were aware of the structure of the fish and the lack of oil in the flesh, but few were able to gain full marks in relation to the cooking method.

12

In general, this question was well answered. The majority of candidates demonstrated a sound understanding of the nutritional composition of the four foods. The more able candidates clarified points, such as chicken only being low in fat if the skin was removed. Weaker answers did not differentiate between LBV and HBV protein, and failed to discuss the micro nutrient content of these foods fully. Comparing and contrasting the nutritional differences was attempted by most, but only the more able students could carry this out effectively. Many candidates tabulated their response, which was an effective way of answering this type of question.

13

Candidates on the whole resisted the temptation to waffle in this question, which was generally not very well answered. Very few candidates gained full marks. The less able candidates tended not to go much beyond the obvious points, such as TV advertising and supermarket offers. The more able candidates provided a range of original and well considered points, with well extended explanations. Candidates should also be prepared to challenge the assertion made in questions such as this.

QUESTION 4

Questions 14 to 17 differentiated well. Many candidates had a clear and accurate knowledge of preservation methods, including times and temperatures used in processing. The weaker responses demonstrated a limited knowledge and the answers lacked detail. They tended to gain a mark by giving a food example, but often provided little more information worthy of reward. The role of bacteria, enzymes and food poisoning was not always explicit in answers and hence candidates sometimes missed top marks.

14

Generally this was well answered, with a good amount of detail and often correctly stated times and temperatures. Candidates were rewarded for reference to packaging and ambient storage temperatures until opening.

15

This was well answered in general. Sun drying was a popular option. Candidates had no difficulty in giving an example. Knowledge of microbial growth and the need for moisture was evident in only the more able candidates' responses.

16

In general candidates provided a somewhat confused understanding of the process, for example whether the food is cooked first and then canned or cooked in the can. There was confusion about forcing air out when the lid is applied and sealed. Less able candidates gained a mark by giving an example, but only the more able candidates explained the effectiveness of the method in terms of bacterial growth and enzymic action.

17

This was the least well answered of the four preservation methods. Many candidates confused vacuum packing with modified atmosphere packaging and gas flushing.

18

This question seemed to appeal to the candidates, who answered it relatively well. Many came to the question well prepared and were able to provide a range of points which were relevant, if not mostly negative points. There were some poorly explained concepts however; for example, UHT milk production reducing the need for cows to produce milk, and canning reducing the need for people to go shopping. In general candidates had a good grasp of environmental issues, recycling and materials not recyclable, global warming, air miles, emissions, destruction of environments and wildlife etcetera.

QUESTION 5

19

Gelatinisation was well answered on the whole. Candidates were able to make good use of key words to describe the changes that take place. More able candidates talked about sols and gels. Retrogradation was less well answered by some candidates, but the best answers could describe very clearly, often with reference to amylase and amylopectin, why this occurs.

20

This answer was a little sketchy at times. The more able candidates provided examples of the different methods of modifying starch and gave accurate examples of foods containing them. Only the more able candidates could explain why manufacturers use modified starches. The weaker responses tended not to go beyond the examples, such as Pot Noodle and Angel Delight.

21

This question lent itself to a wide range of possible responses. The more able candidates talked about pre and pro biotics; functional and novel foods; methods of production, packaging and promotion which has aided new product development; use of the internet for market research etc. The less able candidates appeared to find it hard to structure their responses. Many would have benefited from spending some time planning their answer before beginning writing. As a result, some candidates strayed from the scientific and technological and went off at tangents, gaining few marks.

QUESTION 6

22 to 24

In answering questions 22 to 24, it was evident whether the candidates had covered and learned the topic or not. Those that knew and understood the methods gained marks by providing a confident answer based upon text book research. Candidates appeared not to be overly confident with these questions but were able to give appropriate examples of foods.

25

Candidates appeared to write confidently in this question and were able to respond generally well. Many candidates gained full marks, displaying a good knowledge of the reasons for popularity along with nutritional considerations. It was interesting to note however that the least covered area was that of food safety in storing, cooking and re-heating frozen ready meals.

26

The responses to this question were on the whole generalised and less able candidates tended to provide a list of information which is to be found on a food label, without explanation in relation to the question. Able candidates looked at key areas and justified them in relation to the question.

Mark Ranges and Award of Grades

Please see the following link:

<http://www.aqa.org.uk/over/stat.html>