

FOOD STUDIES

Paper 9336/01

Theory

General comments

Overall this was a well answered examination paper with many candidates showing an understanding of the various topics covered. The most successful answers were those where the candidate had planned the answer and included facts, rather than irrelevant information. Nearly all candidates used the time sensibly in the examination period, with very few failing to complete the final answer. It is better to attempt four questions than try to answer less more fully. All candidates had adhered to the rubric and answered two questions from each section.

Overall, **Section A** was answered more successfully than **Section B**. Candidates explained their points more precisely and accurately in **Section A**, whereas in **Section B** they often tended to drift away from the requirements of the question. It is important that candidates develop their examination technique, as marks are often lost because candidates have not taken note of the mark allocation for each section of the questions. This can result in either irrelevant information or insufficient detail being included.

Section A

Question 1

This question was well answered. All candidates were able to define the term 'malnutrition'. Nearly all were able to define nightblindness, scurvy, anaemia and obesity. Several candidates, however, found defining kwashiorkor difficult, whilst some explanations of the prevention of these deficiency diseases were confused. Many answers, in discussing the prevention of obesity, used the umbrella term 'carbohydrate' instead of dealing with the reduction of sugar. Several candidates were very confused as to the causes of obesity or gave only one cause of obesity, which was then discussed in detail. However, most candidates explained the importance of reducing fat in the diet and taking exercise.

Question 2

This was one of the highest scoring questions on the paper. Candidates described in detail the primary and secondary structure of protein molecules. Many candidates scored full marks in part **(a)**. Part **(b)** was also answered in detail. Those scripts which scored poorly were those where the candidates confused the characteristics of globular and fibrous proteins. Part **(c)** was the least well answered part of this question. Few candidates were able to describe the changes which take place during coagulation and many concentrated on the action of heat in the coagulation of proteins. Methods such as addition of salt, addition of an enzyme, presence of an acid and mechanical action should have been included. Most candidates had a basic understanding of the Maillard reaction in part **(d)**, but several described caramelisation.

Question 3

Overall this question did not produce the same high quality answers as in the previous question. To some extent this was partly due to lack of attention to the mark allocation. Very few scripts included enough reasons for following a vegan diet in part **(a)** to allow the candidates to score full marks. There were five marks allocated for this part but many candidates briefly discussed only two or three reasons. In part **(b)** all candidates mentioned complementary proteins, although explanations of the term were sometimes confused. Many candidates thought that nuts and pulses were HBV proteins. All candidates recognised the importance of soya beans in a vegan diet and most knew they can be made into TVP. However, there was little mention of single-cell proteins. Part **(c)** was disappointing in that the candidates appeared not to have read the question carefully and many omitted to suggest ways in which nutritional problems of a vegan diet can be resolved. Again too few nutrients tended to be discussed in this part of the question, as well as very

little reference being given to non-nutritional problems such as lack of variety in the diet, diet too high in energy, too much bulk from cellulose, digestive problems and problems in dining away from home.

Question 4

Again, a very high scoring question, producing detailed and accurate answers. Candidates understood and explained clearly the differences between fats and oils. When diagrams were included they were usually detailed and labelled correctly. There was some confusion about the structure of cis and trans fatty acids. In part **(b)** candidates understood the terms 'hydrogenation' and 'smoke point', and usually included sufficient points to score well. On the whole, candidates were able to describe the digestion of fats and oils in detail but became muddled when discussing the absorption. In order to gain full marks for this part of the question there had to be some areas which were correct when explaining the absorption of fat.

Section B

Question 5

This was not one of the popular questions in this section. However, there were some very good responses, especially in part **(b)** which had the highest mark allocation. Too few points tended to be included in part **(a)**, with candidates concentrating on the nutritional value and failing to mention that cereals are filling and cheap, as well as being the staple food in many countries. As well as being easy to grow and transport, there are a wide variety of cereals and ways of using them. Candidates either scored very well or very poorly in part **(b)** as they had to know the different types of flour and their uses in detail. Several candidates clearly had this knowledge and were able to write concisely and accurately. Unfortunately, some candidates were ill-advised to choose this question as they did not know sufficient points in this high scoring section. Part **(c)** was also well answered. Many candidates scored full marks in part **(c)(ii)** although a little more detail was needed in part **(i)**. Nearly all candidates knew that parts **(i)** and **(ii)** referred to gelatinisation and dextrinisation respectively, and were able to give explanations of the terms.

Question 6

This question was the least well done on the paper. Candidates did not take note of the mark allocation. There were eight marks available in part **(a)** and, therefore, the choice of fat and flour for shortcrust pastry had to be discussed in detail. Usually only margarine was named as a suitable fat. This is too vague as there are many different types of margarine. Seldom was there any mention of other fats such as butter and lard. Candidates needed to include reasons for choice such as butter having a good flavour and colour but giving a hard/firm texture and lard giving a poor colour and flavour but a 'short' crumbly texture which is advantageous to shortcrust pastry. Dealing with the flour, students needed to discuss plain, soft and white flours. Many candidates gave an account of the method of making and baking of shortcrust pastry in part **(b)**, rather than a description of changes which take place during the making and baking of the pastry. Changes include coating the flour particles with fat, incorporating air, uncoated flour absorbing water, formation of gluten strands, the fat melting during baking, being absorbed by the starch which gelatinises, coagulation of protein, dextrinisation, etc. Part **(c)** was the most successfully answered. Most candidates were able to give several rules and reasons for rolling shortcrust pastry but in part **(d)** were unable to give many advantages or disadvantages of using frozen, ready-made pastry. Advantages could include no preparation required, saving time, good for working people, no skill required, useful in emergencies, etc. Disadvantages could include that ready-made pastry is more expensive than home-made, needs time to thaw, requires planning ahead, melts if thawed in a microwave, poor results, etc.

Question 7

Again this question was poorly answered. Many candidates wrote a lot but rarely included facts or details which could be credited. They tended again to ignore the mark allocation for part **(a)** and therefore this section of the question lacked detail with only a few reasons given for the use of convenience foods. Answers were often limited to saving time and being handy for working women. Part **(b)** was the most successful part of this question. Most students could give a few of the possible effects of processed foods on an individual's health e.g. high sugar, fat and salt, low fibre and the related health problems. However, there was little mention of the fortification of foods with minerals and vitamins and the foods which are fortified. Candidates did not score well in part **(c)**. Of the three parts, candidates scored best in part **(i)**,

emulsifiers, where they were usually able to explain the combining of oil and water. However, responses to part (iii) lacked detail, with little more than colourings being added to foods for colour being included. Only a few candidates understanding the term 'sweeteners' in (iii).

Question 8

This was a more successfully answered question. Many candidates scored full marks in part (a), giving several reasons for cooking and including explanations or examples for each reason. In the next part of the question responses were not so full or detailed. Factors which could have been included were time available, equipment available, health issues, quality of food, cost of ingredients, likes and dislikes of the family, etc. The answers to part (c) were often comprehensive in content and scored well. Those candidates who included an explanation for the greenish-black ring around the yolk of a boiled egg scored higher. Part (ii) was very well answered. Candidates were able to describe in detail the changes which take place when meat is cooked by a moist method. They discussed the reasons for colour changes, shrinkage, conversion of collagen to gelatine, coagulation of protein, implications on fat and water soluble vitamins, etc.

FOOD STUDIES

Paper 9336/02

Practical Test

General comments

The quality of most of the work presented for examination was good. Setting out was clear and candidates seemed to have had sufficient time to complete all parts of the written work. It should be noted that the pages of written work of some candidates were assembled in the wrong order; it is the responsibility of individual candidates to ensure that their written work is presented correctly. It is expected that the work of each candidate be held together with a paper clip to ensure that pages do not become separated or mislaid. Some Centres are despatching individual sheets and the examiner has to spend time assembling each candidate's work. This highlights the importance of noting candidate number, Centre number and the number of the test chosen on each page.

Teachers who mark Practical Tests are reminded that the Mark Scheme published by CIE must be followed accurately. Maximum marks for dishes are clearly stated and are not negotiable. The maximum mark possible for each dish must be decided after studying the dishes chosen. If dishes lack skill or repeat skills the maximum mark available must be reduced; the marks cannot be transferred to other dishes. In many instances the maximum mark which a candidate could gain is lower than the maximum mark possible because dishes have been chosen which lacked skill. The maximum mark possible and the mark awarded must be shown clearly on Individual Mark Sheets. It is a matter of some concern that some teachers use the maximum mark possible for each candidate when this is clearly inappropriate when considering the dishes chosen. Occasionally it appears that teachers allocate maximum marks at the end of the Practical Test because they fail to give a nil result for dishes not completed while allocating those marks to other dishes by increasing the maximum possible mark.

Detailed comments must be written on each Individual Mark Sheet to justify each mark awarded. It is inappropriate to use one word to describe a dish. Words such as 'excellent' and 'tasty' reveal little. Teachers are reminded that they must comment on colour, flavour, texture and presentation. If a dish is inedible because it is undercooked it must be given a nil score. It is often obvious from plans of work that dishes have been allowed insufficient time for cooking, cooling and decorating but generous marks are awarded.

Dishes planned but not made must be awarded zero, as must dishes presented but not planned. It is unlikely that all of the dishes presented by a candidate are worthy of full marks so teachers should allocate marks wisely. Many teachers write much too briefly on the performance of candidates during the Practical Test. They should comment on organisation, manipulative skill, tidiness, hygiene and use of equipment. Often the comments made convey little information. It is inappropriate to state that a candidate wants or deserves to do well; their success is based on the work presented for examination. All of the written work carried out during the Planning Session is marked in the UK; this is clearly stated in the Instructions to Centres. However, there are still instances where teachers have marked written work, even though a Mark Scheme and instructions for marking have not been given.

Time plans were generally very good and gave clear information on methods of preparation, cooking times and cooking temperatures. Improvements could sometimes have been made to the section which requires candidates to indicate the work they hope to carry out in the 30 minutes preparation time before the start of the Practical Test. Precise information must be given on each of the tasks planned; it is not enough to state that garnishes and decorations will be prepared; an indication of each garnish and decoration is expected. Some candidates incorrectly included the first stage of the preparation of a dish. Ovens can be preheated, tins greased and lined and ingredients prepared but mixtures cannot be made. Some plans of work were too detailed while others were too brief to be useful during the Practical Test. A few candidates had difficulty with 'dovetailing' processes and wrote out an order of work from beginning to end of a dish before going on to the next dish. Time plans were unworkable because of this but this was seldom reflected in the Method mark awarded for their performance in the Practical Test. In at least one Centre candidates did not use time on the clock in their time plan. Their time was broken down into 5- or 10-minute intervals, totalling 2 hours

30 minutes. Such plans cannot be useful during a practical test; it must be possible to check the clock against the time on the plan to judge whether work is progressing to schedule. Candidates were given guidance unless actual times are given.

The section of written work requiring candidates to give practical reasons for their choice of dishes was always answered well. It was expected that consideration would have been given to the availability and cost of ingredients, the equipment available and to oven management. Many candidates noted that they were including seasonal fruits and vegetables or were making use of garden produce; others mentioned that some dishes would be served cold or would not require the use of the oven, so oven temperature and space would be easier to organise. Other candidates explained that particular dishes were colourful, demonstrated skill, allowed them to show the use of labour-saving equipment or would be served in the same dish in which they were cooked, saving washing up. Credit cannot be given for stating that dishes can be served hot or cold, that they can be frozen or that children like them. Practical reasons do not include lists of meals or situations for which dishes chosen would be suitable. The section should allow candidates to give reasons for choosing their dishes bearing in mind the time available and the constraints of the test chosen.

Many candidates were able to give good accounts of the nutritional value of the dish chosen in part (b) of the test. Calculations were not required. Occasionally the information given was too vague; it was not enough to note, for example, that the dish contained a source of protein or would prevent anaemia. It must be remembered that precise information is expected at Advanced Level and that credit will not be given for general nutritional statements. It was hoped that candidates would be able to state, for example, that flour is a source of starch which provides energy or that eggs are HBV protein foods for growth. It must be emphasised that the nutrient, its source and one of its functions should be given.

Comments on specific questions

Question 1

This was a popular question and candidates chose a wide variety of dishes to illustrate the use of sugar in the preparation of dishes. Many candidates highlighted the use being demonstrated and this was both helpful to the examiner and to the candidate because it helped to avoid repetition. The test offered the opportunity to demonstrate a wide range of skills and most of the dishes chosen were appropriate for Advanced Level. Sugar was often shown to encourage fermentation, to sweeten, to aerate and to decorate.

The written part of the question was generally well answered. Candidates were able to state several types of sugar available locally. Although suggestions were made for reducing sugar consumption, answers were often very brief. It was expected that the consumption of cakes and sweets would be recommended and that artificial sweetener could be used in beverages, but few mentioned the need to check food labels so that similar foods could be compared. However, all valid points were credited. There were many excellent accounts of the health problems associated with sugar consumption; candidates wrote accurately about tooth decay, obesity and diabetes.

Question 2

This question was also a popular choice and a wide range of dishes were chosen to illustrate ways in which colour can be introduced to dishes. Although not required to do so in the test, candidates would probably find it useful to indicate, perhaps by underlining named ingredients or by stating the method of cooking, how each dish satisfies the requirements of the test. This would possibly avoid repetition or the need for the examiner to decide why a dish had been chosen. Various colourful fruits, vegetables, herbs and spices were included, as were chocolate and coffee. Candidates were less willing to include methods of cooking such as grilling and frying to brown food, although a number used caramelised sugar in one of their dishes.

The written part of the question was approached well. Candidates were able to demonstrate their knowledge of the uses and problems associated with artificial colourings. A few candidates wrote about additives in general although the question focused only on artificial colourings.

Question 3

Although this was the least popular question, there were many excellent choices of dishes, most demonstrated how time could be saved when preparing meals. Electrical equipment, for example blenders, food processor, liquidiser and mixer, were often used. A few candidates chose to use a pressure cooker, microwave oven, and most of them made some use of convenience foods. It was rare for candidates to note that tender cuts of meat, chicken or fish had been chosen because of their short cooking time. Unfortunately some candidates demonstrated the use of a particular piece of electrical equipment in more than one dish.

Although the written part of the question afforded candidates the opportunity to discuss a wide range of ways to save money, answers were often too brief. They could have mentioned seasonal foods, locally grown produce and buying foods in markets rather than shops. Many candidates encouraged bulk buying and taking advantage of special offers. Few explained ways of saving fuel, thus saving money when cooking. It was hoped that candidates would note that lids on pans conserve heat and that flames should not be too high; steamers, pressure cookers and microwave ovens are economical of fuel; baking several dishes at the same time is recommended. Some candidates named cheaper sources of HBV protein and explained that complementary proteins provide HBV protein economically. All answers included correct information but were often too short.

Most of the pastry dishes chosen were skilful dishes. Candidates tended to make dishes using puff pastry but other pastries were equally acceptable. It must be emphasised, however, that the whole dish should have demonstrated a high degree of skill. It would seem that some candidates considered that having chosen a pastry, which requires expertise for its success, the rest of the processes involved in making the dish were less important. The skill refers to the dish as a whole so perhaps the emphasis could have been on decorating and presentation. The range of appropriate dishes was wide and most dishes chosen had the potential to demonstrate a high level of skill while including the preparation of pastry.

FOOD STUDIES

Paper 9336/03
Unsupervised Work

General comments

The individual studies were generally well presented, interesting and informative. It was apparent that the majority of candidates had devoted a great deal of time to their chosen topic. There were, however, a few studies, which showed little evidence of investigation; they consisted of information, which was already available in the public domain. Candidates who produced such an individual study were not able to demonstrate original thoughts or to show their own work. All of the topics chosen were clearly linked to the Advanced Level syllabus but some titles were too broad. It is important that realistic boundaries for research are set to enable candidates to focus on their particular area of study. Some studies did not appear to relate to the title and in some cases the conclusions drawn were not supported by the evidence gathered. Candidates must be reminded that the title of the individual study should be an accurate reflection of its content. The quality of the work presented has improved. Most candidates followed the framework set out in the syllabus. Centres are reminded that the syllabus is not a confidential document and each candidate could have their own copy of the Scheme of Assessment for the Individual Study. The suggested contents of each section are clearly set out and the criteria used for awarding marks are included. Some candidates omitted or gave brief information in one or two areas so the marks available were lost. In order to maintain the balance of the study, marks cannot be transferred between sections.

Choice/Reasons for Choice

As previously stated, all of the topics chosen were related to the syllabus. In many instances, however, the limitations of the study were not clearly identified. This can best be illustrated by considering two titles presented for examination. "Do Packed Lunches Contain an Adequate Amount of Protein?" and "An Investigation into the amount of Protein in the Packed Lunches of Children in Class 5 of _____ School". It is not possible, for example, to compare urban and rural areas although it would be possible to compare a small rural group with a small urban group. It is wise to choose an investigation that can easily be carried out by the individual candidate and which will allow them to demonstrate their ability to collect data in a variety of ways. Reasons for choosing a particular topic must always be addressed. Most candidates gave at least one reason, but better candidates were able to give several reasons for choice.

Planning

The aims and objectives of the study must be set out clearly. The aim of the study must always be to investigate the problem identified in the title. The objectives should be a list of practical tasks which can be carried out in order to achieve the aim. There should be several objectives since they are benchmarks against which the investigation is judged. The objectives should be achievable tasks which the candidate plans to carry out. In some studies the objectives were not operations to carry out or were not achievable. It would not be possible to educate a section of the population on a particular topic. For example, a candidate may state that one of the aims of their study is to ensure that elderly people in a particular area know the importance of calcium in their diet. Apart from being outside the scope of the study, it would be impossible to provide supporting data. Some candidates gave an outline of their proposed plan of action, suggesting dates for each part of the work. By keeping a diary throughout the course of the study they were able to give actual dates for each section and comment on reasons for the differences. This is a sound approach since it demonstrates the need for thorough planning and shows that many processes need a greater time allocation than was planned. This is important when candidates are evaluating their study since it enables them to highlight areas which took more time than expected and vice versa. It allows contingencies to be considered and makes the investigation interesting to read. A common observation was that analysing data was more time-consuming than expected and that it was a tedious process. Each method of data collection should be considered in detail and candidates should be able to justify each method chosen. The majority of candidates used questionnaires but few indicated how respondents were selected. When interviews are carried out, the reason for selecting particular individuals should be clearly stated. This section should

demonstrate logical planning and show that the methods of data collection chosen are those which meet their needs.

Theoretical Research

This was the weakest section of many studies. It was often too long and consisted of pages directly copied from textbooks without acknowledgement. Occasionally web pages were printed out and included. Candidates should read as much as possible about their topic, select relevant information, then write an account in their own words. Many accounts were disjointed because the material from one source was followed by that from another so there were differences in writing style and presentation. Often the material was not relevant to the area of study or was too simplistic, having been taken from a textbook not used at Advanced Level. It is commendable if candidates include topical information, perhaps from newspaper articles or from the Internet. This information should, however, be incorporated into their account; newspaper articles should not be included in their entirety. The importance of acknowledging sources must be emphasised. Occasionally this section was very brief, indicating little or no research. Candidates should be reminded that this section carries 10% of the marks so should be given due consideration. Although there is no recommended length for this part of the study it should be remembered that all investigative work is based on information which is already available in the public domain. The Theoretical report should set the scene for whatever is to follow.

Investigative Methods

The most successful studies used a wide range of methods to collect data. Many candidates chose five or six methods. Possible methods are suggested in the syllabus and the Assessment Scheme indicates the range of marks available according to the number of methods chosen. Clearly, if a candidate chooses three methods of investigation, the maximum score possible will be lower than that of a candidate who chooses six methods. Some candidates visited farms or factories, others interviewed, observed and conducted questionnaires. Information was gathered from markets and shops and photographs were taken as a record or to illustrate the study. Photographs are particularly useful since they enhance the presentation of the study and add interest. Tasting panels were sometimes set up, if appropriate, to assess the popularity of dishes. It was expected that for each investigation the candidate would state where, when and with whom the investigations were carried out. Most candidates correctly included a blank copy of the questionnaire used although a list of questions asked in interviews was not always included. Sometimes candidates noted in the Planning section that visits would be arranged or interviews carried out, but there was no evidence that some of these activities had taken place. Candidates should try to avoid arranging interviews with busy professionals. Sometimes the information received could have been found easily in a textbook. There is no need, for example, to ask a doctor the causes of coronary heart disease. This information is readily available elsewhere. Questionnaires should not include questions on family income. This is rarely relevant to the topic being studied. Candidates should give careful consideration to each question and consider whether its inclusion is necessary. High marks can only be achieved by those candidates who are able to demonstrate a wide range of methods of data collection and can show a sound understanding of each method used. Simply listing the methods of data collection to be used will score few marks.

Collation of Data Collected

This section is very important because each of the methods of data collection should be considered in turn and the information collected by each method presented in a clear and interesting way. Candidates usually presented data well, often demonstrating their skill at computer graphics. Those who were not able to use the computer to present their work were equally successful. The best studies showed a variety of methods of presenting information. Some used prose, others used graphs, tables, charts and photographs. Spreadsheets were used when appropriate. Many candidates, however, failed to give titles or keys to their charts. Data should always be presented separately from summaries and conclusions as this makes the study flow more logically. Sometimes a collection of recipes was included although no reference had previously been made to recipes. Candidates should be encouraged to give careful consideration to everything included ensuring that it is necessary or appropriate. Candidates often used a different method of presenting information for each part of the investigation. This adds nothing to the final study and tends to lack uniformity. There is nothing wrong with using a bar chart, for example, to show different results. This looks better than including a variety of bar charts, pie charts and cones. Sometimes bar charts were presented horizontally instead of vertically. On many occasions information was presented without reference to the investigation. If the information relates to a questionnaire it would be helpful to set out each question before presenting the results. The reader should not have to refer to the questionnaire in the appendix in order to understand the data presented. The importance of using prose to present information should not be overlooked. It allows facts to be presented concisely and in a manner which is easy to understand.

Analysis/Conclusions/Recommendations

This section was not often well approached. Some candidates omitted this part of the study or dealt with it in a cursory manner. The conclusion must be based on the evidence collected. On many occasions there was no evidence to support the conclusions drawn. It was as if the outcome had been established without taking any evidence into consideration. Credit cannot be given to conclusions not supported by facts. The summary must be an accurate reflection of the data presented. The conclusions drawn should lead the candidate towards recommendations which could be implemented by individuals, families, organisations or governments. Sometimes candidates merely listed recommendations, which could have been found in a magazine or textbook. A common example was that candidates who were investigating the consumption of fat or sugar by individuals concluded by listing ways of reducing fat or sugar in the diet. Although there is nothing wrong with such information, it is not original. It is expected that candidates will give their own ideas. Although some of their suggestions may not be practical, they will have demonstrated their ability to consider solutions. Weaker candidates often recommended re-educating large numbers of people on a range of topics related to nutrition. Suggestions should be realistic, although there may be time or financial constraints. Sometimes recommendations bore little or no relation to the topic or the results.

Evaluation

This section was not well addressed by the majority of candidates. The original aim of the investigation was rarely referred to, so candidates were not able to confirm that the aim or the study had been met or otherwise. Each study should include a reference to the original aim and a comment on the overall success of the study as a means of satisfying it. Each method of investigation and its success, or otherwise, considered. Problems encountered should be noted and strategies for overcoming them explained. Many candidates mentioned that the time allowed for some sections of the study was unrealistic and explained how they dealt with the problem. This highlights the advantage of making a time plan before beginning to collect information. Comparing this to the actual time taken gives the opportunity for useful comments to be made. If parts of the study progressed well, it would be valuable if the candidate tried to explain the basis for success. Any information given is important, whether related to success or disappointment. There were many good accounts of the benefits candidates themselves felt they had gained. Some noted that they had gained confidence, others had learnt to communicate with strangers without being shy, while a number of candidates stated that they had become more proficient at typing or in the use of particular computer software. All of these benefits are important and candidates should not hesitate to mention their own individual gains.

Presentation

The presentation of the majority of individual studies was good. Candidates had obviously spent a great deal of time ensuring that their work was attractive and they are to be congratulated on their efforts. Most studies included a list of contents and a bibliography and pages were numbered. Covers were often very artistic and gave a good insight into the nature of the investigation. Occasionally there was more than one font used and the size of print was not always consistent. Uniformity is expected at Advanced Level. Occasionally candidates acknowledged the assistance of family members with printing, typing or photography, for example. It must be emphasised that the Individual Study is part of the Advanced Level assessment in Food Studies so must be the candidate's own work.