

# FOOD STUDIES

Paper 9336/01

Theory

## General Comments

There were some excellent scripts in the allocation. However, many candidates lost marks carelessly. A frequent mistake was to read the questions but not take any notice of the mark scheme. This resulted in sometimes including too much information in a section and sometimes too little. Candidates who include too much irrelevant information are using up valuable time from other questions, candidates need to read the questions carefully as candidates lost marks by writing information which they assumed was required rather than fulfilling the requirements of the question. They need to think more carefully and make brief plans for their essays to avoid going away from the subject in hand.

It would be helpful, where there is an area for question numbers, for candidates to complete this section. Where candidates are tying their answer booklets and paper together they should resist from tying them so tightly that the papers cannot be turned without tearing them.

It was pleasing to note that candidates managed their time correctly, attempting the correct number of questions and all sections of each question.

## **Question 1**

- (a) This section was probably answered better than any other. Most candidates scored full marks. The main problem in this question was candidates including too much information. The section had 6 six marks available and some candidates wrote 4 or 5 pages, a great deal of which was unnecessary. Marks could be attained by stating that fats and oils are made up of carbon, hydrogen and oxygen, are esters, and are made up of glycerol and fatty acids. Answers could include the definition of a triglyceride and include the differences between fats and oils e.g. due to different fatty acids in their structure. Definitions of saturated, mono, di and polyunsaturated fats could be included with examples of each.
- (b) Candidates scored well in this section. They were able to state that fats do not melt over a range of temperatures as they are a mixture of fatty acids with different melting points. They were able to explain the term 'spreadable' and show how plasticity is important in cooking. Most candidates scored half marks or over.
- (c) Nearly all candidates were able to explain the difference between trans and cis fatty acids correctly.
- (d) Again this section scored well. Candidates seemed to either know this or become very mixed up. Most candidates were usually able to describe in detail the digestion of fat. Digestion was explained more fully than absorption.
- (e) This section did not score well. Many candidates gave a very comprehensive list of ways of reducing fat in the diet. The information required, however, was about a high fat diet causing obesity which can lead to coronary heart disease, strokes and hypertension and the discussion about obesity and how it causes such problems.

## **Question 2**

- (a) This section was rather disappointing as candidates tended to include only nutritional points and the question required points such as the importance of developing a routine – to form good eating habits at an early age and eating at the same time every day. Other points which were credited included, the required amount of food is spread throughout the day, to prevent overfeeding/overeating, to avoid snacking between meals which is often junk food, to know the type of food to expect at certain times of the day etc.

- (b) Most candidates failed to score full marks here as they did not take note of the mark allocation. Therefore, did not include sufficient points. It was relatively straightforward to score highly in this section as the question required nutrients and their functions which are important in children's diets. It is important in this type of question to include those nutrients which are relevant to the diet of children. Other factors that were credited included: food should be served attractively, snacking on fruit and vegetables, food which is easy to eat, the introduction of new foods etc.
- (c) (i) Most answers were not specific. They tended to be generally the same as kwashiorkor. They needed to include that the child had too little to eat and that it usually occurred in children under 1 years old etc.
- (ii) This was well done, with candidates covering lots of causes and symptoms. These included a lack of HBV – protein, children fill up on carbohydrate, it happens after weaning when the next baby is born.
- (iii) Again this section required more points. It was disappointing that many candidates did not seem to know that scurvy is caused by a lack of vitamin C, although they did acknowledge symptoms such as bleeding gums.
- (iv) Candidates knew that the cause was a lack of calcium and/or vitamin D and that the weight of the body cannot be supported by the soft cartilage, thus resulting in bones bending.

### Question 3

- (a) (i) The functions of water in the body were usually answered in full. Candidates were able to list sufficient functions and examples, where appropriate.
- (ii) Candidates became confused in this section. Many did not define 'water balance' although they were able to discuss the importance of water.
- NSP and possibly glycogen being converted into glucose needed to be discussed in order to score highly.
- (b) (i) It was very disappointing that so many candidates were unable to explain the importance of NSP. They included the same information in sections (i) and (ii). Candidates were required to discuss how NSP aids the process of excreting solid waste which is potentially toxic to the body. Suitable answers included a discussion of how it absorbs water in the colon making the waste soft and bulky and binding waste making it easier to expel regularly. Peristalsis could also be mentioned and explained.
- (ii) Candidates were able to name the diseases associated with a lack of NSP but those who scored highly explained the causes and symptoms of the various diseases.
- (iii) Most candidates included fruit and vegetables. More information, however, was required to score highly. This included skins of fruit and vegetables, whole grain breakfast cereals, bran, wholemeal flour, brown rice, oats, wholemeal bread, nuts, dried fruit, pulses etc.

### Question 4

- (a) Many candidates mixed up fats and carbohydrates in this section. Definitions of monosaccharides, disaccharides and polysaccharides were required along with examples of each. Polysaccharides were to include available and unavailable examples.
- (b) Most answers gave the function of carbohydrate as 'energy'. In order to score well scripts needed to include examples of the ways in which the body uses the energy e.g. for BMR, mechanical, electrical, mechanical, chemical, for growth etc. Candidates could also include that energy is released more slowly from starch. NSP should have been discussed and glycogen being converted to glucose could have been mentioned in order to score full marks.

- (c) (i) Nearly everyone scored full marks in this section as they were able to describe the sauce in detail.
- (ii) Again nearly everyone was able to include sufficient points to attain full marks describing dextrinisation.
- (iii) This section was poorly answered. Candidates mentioned pectin but were unable to explain what it was and the role it played in the setting of jam. Information on the release of pectin when cooking and how pectin forms a network of molecules which entangle water was required. Sugar slowing down this process and, therefore, being added after the fruit is cooked is important. Examples of fruits rich and poor in pectin and the fact that over-ripe fruit contains pectic acid scored marks as did information about increasing the pectin content in the jam.
- (iv) As this section had only 2 marks allocated most candidates were able to score full or nearly full marks.

### Question 5

- (a) Candidates failed to include enough points in this section. They tended to mention income, climate effects on available food supplies (e.g. cyclones), seasonal foods, different foods available during summer and winter and that locally food would be available more frequently at markets than food which is imported. Other answers could have included: the availability of transport to bring foods from other areas; poor countries depend on staple foods, they cannot afford to import foods, they cannot afford agricultural developments, therefore, there is little variety whereas wealthy countries import food, have developed new preservation methods, the people have home freezers etc. Candidates could also mention that more women are working outside of the home which gives more disposable income etc.
- (b) In this section candidates failed to explain in detail the points that they put forward. They gave examples of religion affecting the choice of food that people eat. They discussed how Jewish people do not eat pork but often failed to elaborate further by stating that their religion finds the meat unclean. Answers could have included examples of the different staple foods that countries eat e.g. pasta in Italy, rice in China. They could have mentioned turkey being eaten at Thanksgiving in the USA or Christmas cake in the UK. Dishes associated with different occasions e.g. birthday cake, wedding cake etc.
- (c) Candidates tended to mention that consumers are heavily influenced by advertising and that children are often targeted. However, they needed to develop their points regarding advertising e.g. mentioning displays in shops, taste testing in stores, free gifts, and money off coupons or special offers. Packaging needed to be discussed – it gives information telling consumers what is in the package. It often provides serving suggestions, nutritional information, health claims etc. Consumers may be influenced by environmental issues e.g. a lot of packaging is a waste of resources. Candidates could have commented on storage – packaging often makes food easier to store and it protects food from damage and, therefore, contamination which can influence consumers.
- (d) Again the problem in this section was that candidates failed to expand upon points put forward. Most mentioned that the amount of money a family had determined the type of food they could buy. However, although they commented on the fact that wealthy people could choose any food, they could have developed this and stated that convenience and processed foods, which are often expensive and bought by the well off, usually contain high levels of fat, sugar and salt and low levels of NSP with the relevant health risks. They could have given suggestions of cheaper nutritious food, cheaper sources of HBV protein foods, discussed the complementation of 2 LBV protein foods. Budgeting was another area which could have been explored.
- (e) Candidates did mention that people with some nutritional knowledge would make more healthy food choices. They commented on the importance of gaining this knowledge from school. They did seem to struggle with this section. However, there were lots of areas in which marks could be attained. Areas in which one could gain nutritional information regarding different foods could be mentioned e.g. in magazines or from the television or from publicity campaigns in the media. Other points could have included: knowledge of the functions of nutrients in order to choose wisely, the dangers of excess fat/sugar/salt and low NSP, the importance of daily consumption of fruit and vegetables, cheaper sources of HBV protein foods, and complementary proteins. Few candidates

elaborated upon the importance of skill. Areas which could have been covered in more detail could be taught at home and at school, younger people may lack cooking skills, the increase in use of processed and convenience foods which reduce the need for preparation and cooking skills, that they may be skilled in a limited number of dishes and, therefore, there is a lack of variety.

### Question 6

- (a) (i) This section was answered well. Candidates were able to give a range of points which often gave them full marks. Nearly all the candidates included advantages and disadvantages which, of course, is essential to gain full marks.
- (ii) Again this was a successful section for most candidates. They were able to include points such as the large variety of convenience foods available and give examples, the growth in the number of women working outside of the home which meant a lack of time to prepare and cook foods, the lack of skill required, they give consistent results, there are cooking instructions and serving suggestions on the packet, they are easy to store, have a long shelf-life, can shop less often, and an increase in freezer and microwave ownership lend themselves to using convenience foods more often etc.
- (iii) This section was a good deal less successful than the previous two. Candidates found it difficult to include sufficient enough points to score well. Relevant advantage points included a readily available food supply in case of illness, bad weather etc. can freeze when food is plentiful for times of shortage, freezing is suitable for almost all foods, retains nutritional value, flavour and texture, can store a wide variety of commercially frozen food, it saves time, prevents waste – left-over food can be stored for later use, can batch bake to be used when short of time but can still enjoy home-made products, can buy in bulk, shop less often etc. Disadvantages included the high cost to lots of people of buying a freezer, the need to budget for running costs and increased electricity usage, cost of packaging materials, space is needed in the home for a freezer, food may be wasted during power cuts, some foods change texture e.g. cheese, need to allow time for foods to thaw to allow thorough cooking in order to avoid food poisoning, should understand the theory of freezing, development of large ice crystals within cells which cause the cell walls to rupture etc. temperatures of storage, importance of labelling food etc.
- (b) Candidates failed to read this part of the question carefully and discussed, in general, the preparation, cooking and storing of food. Those who attempted to answer correctly (i.e. discussing traditional methods) mentioned the use of cooking over wood fires, the use of drying, salting and pickling. Occasionally, a candidate mentioned the passing down of local knowledge through the generations. Other areas which could have been discussed include: the possession of knowledge of traditional methods makes one part of a community as it is part of the culture, different methods of preservation, unnecessary to rely on modern methods of preservation, lack of need of modern pieces of equipment, design of storage shelters, reasons for designs, understanding of the use of available resources, traditional tools, uses made of indigenous foods which are usually nutritious etc.

### Question 7

- (a) Candidates needed, on the whole, to include more points in this section. They tended to name enzymes, yeast, moulds and bacteria but failed to discuss the conditions needed for growth. Points to include with reference to enzymes were autolysis, oxidative rancidity in fats, enzymatic browning and the loss of vitamins C and the B group. With regard to yeast, fermentation could have been mentioned, moulds bring about a change in appearance and flavour, and bacteria contaminate food and can be toxic. Micro-organisms require a source of food, moisture, warmth (not heat), a temperature of 37° C is ideal, they need time to multiply, some require oxygen, and a suitable PH. However, other areas such as the infestation by pests/weevils/rodents/birds were applicable and contamination by insecticides. Food may also be spoilt by damage during harvesting, transportation and storage. Examples were credited in all areas.
- (b) It was very disappointing that candidates did not look at the number of marks available in this section. The points that candidates made were usually relevant but they failed to include enough information and, therefore, scores were often low. Many candidates did not deal with the three areas, preparing, cooking and storage. Several marks were available in the area of personal hygiene – hair tied back, short/clean fingernails, clean apron, washing hands after visiting the toilet etc. which some candidates did not touch upon. In the cooking section, candidates should have

included details on the destruction of bacteria e.g. salmonella in poultry as well as etc. Storage points included covering food, relevant temperatures in the refrigerator and various methods of home preservation etc. In each area statements could be illustrated with examples, explanations etc.

- (c) This was the area which candidates seemed to find difficult. Reasons which were credited included that meals are often away from home now, in restaurants/fast food outlets and, therefore, the consumer has no control over preparation, cooking or storage conditions, food is kept warm in catering establishments – canteens/restaurants, there are more take-away foods/hawker centres etc. There has been an increase in factory farming – eggs/chickens/fish, an increased use of convenience foods – sauces/soups etc. People shop less often as there is more food storage at home and in food stores. Homes are often very warm – ideal condition for the growth of micro-organism. There is a lack of knowledge of safe storage conditions. There are untrained staff handling food in shops/restaurants/stalls, poor/no hand washing facilities, dirty clothes etc. There is more mass catering in schools/hospitals etc. Shopkeepers want to sell all their food to prevent waste and make more profit. Large supermarkets cater for large population – one batch of contaminated food will affect lots of people etc. Explanations, examples and reasons for the points would also have been rewarded.

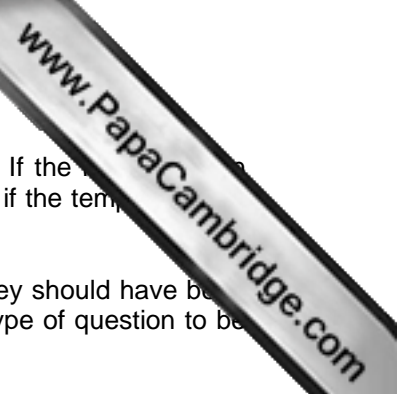
### Question 8

- (a) (i) Throughout this question there was a lack of detail in all areas. In this section most candidates mentioned plain flour and margarine. Correct answers however, should have included information on soft flour which has a low gluten content, white flour as wholemeal flour is heavy, and hard fat should be used to prevent melting in rubbing-in. Butter and margarine give a good colour and a good flavour whilst lard gives a short/crumblly result but lacks flavour and colour. White vegetable fat is suitable and can be used for vegetarians. A mixture of lard or white fat and margarine is preferred as it will give the qualities of both.
- (ii) Candidates mentioned plain flour but hard/strong flour was an important point as it is high in gluten which helps develop layers and give structure to the puff pastry. Wholemeal flour is not suitable as it has a low gluten content and will produce heavy pastry. Again it is necessary to discuss the type of fat in detail - hard fat will not melt easily. One could mention plasticity and the changing of shape when rolling and folding. Again the qualities of the different fats need to be discussed.
- (b) (i) Some scripts included very good answers in this and the following section. It was important to discuss the introduction of air when sieving and rubbing-in and most of the flour particles being coated with flour. Uncoated flour absorbs water and the gluten strands form. The stickiness binds the dough together and kneading gives a smooth dough. Gluten is stretched by rolling, enabling the pastry to be rolled thinly. The pastry needs to relax stopping shrinkage in cooking, and the fat melts by being absorbed by starch granules which gelatinise. Air expands and water changes to steam which expands, separating the pastry into crumbly layers. Gluten coagulates and the pastry becomes crisp and dry. Dextrinisation takes place on the surface causing browning etc. All of these facts were applicable and would be credited.
- (ii) Many of the points mentioned in the previous section are applicable in this section. However, there is a lot of additional information which could be included, such as air being trapped when fat is added and edges are sealed. Air is enclosed between the layers when folding and rolling. During cooking the air and the steam produced from the water expand and force the layers apart.
- (iii) This section did not score well as there were insufficient problems given. Points which were credited included: shortcrust pastry - the fat was too hard to rub in leaving lumps of fat in the mixture and too much flour is left uncoated leading to too much water being needed. Over handling the pastry causes the fat to become sticky meaning the pastry will be difficult to roll. Other problems include too much or too little water, pastry kneaded heavily, too much flour for rolling, over-stretching the dough when rolling, pastry shrinks when baked etc. The results of these problems would also be credited.

Points credited for puff pastry included many of those mentioned in the previous section but there are lots of others which are specific to puff pastry e.g. fat too soft which means it blends with the flour instead of remaining in layers which results in a close texture as air is lost. If a rectangular shape is not maintained the pastry will not have the same number of layers and, therefore, will not rise evenly when baked. Edges not sealed when rolling and folding results in air escaping during

rolling, a sharp knife is used to trim the edges of the pastry before baking. If the pastries are not properly sealed they cannot separate into layers during baking. Problems are caused if the temperature of the oven is too high/too low etc.

If the candidate thinks through the preparation and cooking of the pastries they should have been able to include sufficient points to score a high mark. It is important in this type of question to be methodical, thinking through the methods employed in practical work.



# FOOD STUDIES

Paper 9336/02

Practical

## General comments

The quality of the written answers was generally good. Scripts were clearly set out and candidates seemed to have had sufficient time to complete all sections of the paper. Occasionally, pages were assembled in the wrong order. Each of the carbonised sheets is numbered so there should be no difficulty in putting them in order. It is the responsibility of each candidate to check that this has been done correctly and that pages are fastened together securely. Each page should clearly indicate the candidate's name and number and the number of the test chosen. Most sets of pages were held together with a paper clip and although it is easy to re-arrange the order of pages it is also possible that individual pages can become mislaid. Staples are more secure but it is important that checks are made to ensure that pages are in the correct order before the work of each candidate is stapled.

Teachers who undertake the marking of practical examinations are reminded that the mark scheme published by CIE must be followed accurately. Reference must be made to the list of dishes planned on page 1 of the Preparation Sheets. If a dish lacks skill, the maximum mark available for that dish must be reduced; the marks left over cannot be transferred to other dishes; consequently, the total mark for Results will be less than the maximum possible mark. In some Centres, teachers used half marks as the maximum mark possible for dishes. This is not necessary. The maximum mark available for each dish, together with the mark awarded, must be clearly indicated on the Individual Mark Sheet. Some candidates chose dishes that were not appropriate or were not sufficiently skilful for an Advanced Level practical examination. Stuffed baked potatoes, macaroni cheese and fried rice are examples of such dishes. If a candidate has chosen a simple dish, the maximum mark possible for that dish must be reduced. It is clearly stated in the Confidential Instructions that marks for each dish should be awarded according to the degree of skill demonstrated. Where dishes show insufficient skill, the maximum mark must be reduced. It is clear that teachers who are undertaking the examining of practical work do not always follow this guidance. It is possible that none of the candidates in a Centre will have their dishes marked out of the maximum mark; it should not be assumed that the maximum mark would be appropriate for everyone. Teachers must use their discretion and their professional judgement to ensure that the maximum mark fairly reflects the complexity, or otherwise, of the dish. Detailed comments must be written to justify each mark awarded. It is not satisfactory to use single words to describe results. Dishes must not be stated to be 'satisfactory' or 'good'. Reference should be made to colour, flavour and texture of dishes and perhaps to consistency if appropriate. Sometimes the mark awarded seemed to be too high when comments suggested that there were many negative points to be taken into account when deciding on a mark for the dish. If a dish is inedible because it is undercooked or overcooked it should be given zero.

Any dish planned but not served must also be given zero and those marks cannot be transferred to other dishes. Any dish prepared and which is not on the original plan made under examination conditions cannot be awarded a mark. It is unlikely that all dishes prepared by a candidate will be worthy of full marks; indeed it is rare for any dish to be worth full marks so examiners should not use the maximum mark without careful consideration. All of the work carried out in the Preparation Session is marked externally; this is clearly stated in the Instructions to Centres but occasionally local examiners have made comments on choice and have marked the Order of Work and the written answers.

It was important that examiners gave as much information as possible on each candidate's Method of Work in order to justify the mark awarded. Candidates who demonstrated few skills cannot score high method marks. In some Centres every candidate was given an exceptionally high method mark; it is difficult to imagine that every candidate was able to work to such a high standard throughout the Practical Test.

Time plans were generally very good and gave clear instructions on methods, cooking times and temperatures, and, in most cases, the method of serving. Better plans gave details on garnishes and decorations. Most candidates listed an appropriate amount of work to be carried out in the half an hour preparation time before the start of the Practical Examination. Candidates should be reminded that they

must not include any processes that are part of the preparation of dishes. Occasionally, candidates remarked that a candidate had planned inappropriate work for Preparation Time. Many times the plans were much too detailed, giving precise information for every stage of preparation. This is not necessary and takes up too much time during the Preparation Session. It results in a plan, which is not useful during the Practical Examination, because the candidate finds it too complicated to follow. Some time plans were not realistic. Some methods were not broken down into stages and the whole method was written out as in a recipe. Again, this would not be useful in a Practical Examination because it would not indicate any work done while a dish was cooking. Sometimes there was insufficient time for cooling a dish before decorating, or a dish to be served cold was the final dish to be prepared. Many candidates listed too much work for the last half an hour of the test. This allowed no time for 'over-running' during the first two hours of the test and may result in some dishes not being properly cooked or served. Some candidates were unable to 'dove tail' their dishes and listed all stages of each dish, one after the other. It was expected that all plans would note that washing up would be done at least twice during the test and then a time for washing up would be included at the end of the test.

Some candidates did not use actual times in their order of work; they broke down the available time into blocks of 20 minutes, 15 minutes or whatever was appropriate for the processes being carried out. Although the times, when added together, totalled the two hours and thirty minutes allowed for the Practical Test, the value of such an order of work during the practical examination was doubtful. Candidates need to be able to compare the time on their plan with the actual time on the clock in the room in order to judge whether they are working ahead of time or behind time. The Examiner also needs to be able to make such judgements.

The section of the written work requiring candidates to give practical reasons for their choice of dishes was not generally well answered. Sometimes comments were made about the type of meal for which the dish would be suitable or perhaps suitable accompaniments for the dish. These are not practical reasons for choice. It was expected that perhaps candidates would mention that the ingredients for a dish were easily available or that the cost was not high. Sometimes it was noted that seasonal produce or garden produce would be used or that a dish can be cooked and served in the same dish thus saving washing up time. Other points could have been that a dish was to be served cold and did not require the use of an oven or that the use of labour-saving equipment was demonstrated. There were numerous possible practical reasons why particular dishes could be included in a Practical Test and every point made by a candidate was carefully considered. Candidates were asked to comment on the nutritional value of the dish chosen in part (b) of the question paper. There were many excellent accounts but sadly there were also a number of vague responses. Precise information is required at Advanced Level. It is expected that candidates will note, for example, that egg contains fat, which is a source of energy, or that HBV protein, which is important for growth, is obtained from milk. Nutrients must be linked to ingredients and to functions. It is not enough to state that the dish contains iron or that vitamins and minerals are found in a dish. Several candidates attempted to calculate the nutritional value or the number of kilocalories in the dish chosen in part (b). The question did not require this information.

### Comments on specific questions

#### **Question 1**

This question was a popular choice and those who attempted it usually chose an appropriate range of dishes to show different methods of cooking. Some candidates, however, incorrectly identified setting (of mixtures which included gelatine) and melting (of margarine for a cheesecake base) as methods of cooking.

Although cooking in a microwave oven is a recognised method the dishes chosen to illustrate the method were often inappropriate. Sometimes the same method of cooking was used in more than one dish. The majority of candidates, however, demonstrated four different methods of cooking and chose skilful dishes to illustrate the methods chosen. Baking, frying, boiling and steaming were the most frequently chosen cooking methods. The range of skills included was generally good although a few candidates chose dishes that needed to be baked at different temperatures but at the same time, so they often experienced problems with oven management.

The written part of the paper was not well answered by most candidates. Many were not able to identify two moist and two dry methods of cooking. Frying was incorrectly identified as a moist method of cooking by a large number of candidates. Consequently, many found it difficult to give advantages and disadvantages of different methods of cooking. It was expected that mention would have been made of the effect of heat on colour, texture and flavour as well as the effect of moist methods of cooking on water-soluble vitamins. Sadly, many answers were limited to whether methods were quick or time-consuming.



Most candidates were able to give a few examples of the use of raw foods in family meals. It was known that the nutritive value of raw fruit and vegetables is higher than when cooked. Few noted that fruit and vegetables are crisper and can be thirst quenching. The use of raw fruit and vegetables for decorating and garnishing was mentioned and the preparation of salads was the most frequently cited example given of their use. Other raw foods were rarely mentioned. Although occasionally it was mentioned that raw egg can be used in the preparation of mayonnaise and cake decorations such as marzipan and royal icing. A few candidates knew that sushi sometimes contains raw fish. Milk, cheese and yoghurt are not considered to be raw foods because they have undergone heat treatment.

## Question 2

This question was chosen by a large number of candidates. Although most of them were able to plan and prepare dishes which showed a range of different types of milk and milk products, some failed to identify which product was being used. A wide range of cooking methods was illustrated. Occasionally, the same product was used in more than one dish. The most frequently chosen ingredients were milk, cheese, butter, yoghurt and cream, although credit was given if candidates chose, for example, cream cheese and Cheddar cheese or single cream and double cream because their uses differ. Condensed milk and dried milk were sometimes chosen and their use was appropriate for the dishes made.

The written part of the paper was well addressed. Candidates were usually able to name a range of different types of milk and milk products and were able to give clear instructions on the storage of fresh milk. It was expected that candidates would identify drying, sterilising, condensing, evaporating and Ultra Heat Treating as methods of preserving milk. The principles involved usually related to the use of heat, high concentrations of sugar and the removal of moisture, to prevent the growth of bacteria. Pasteurisation is not a method of preserving milk; it is a method of destroying bacteria that make milk unsafe to consume. Most candidates scored well on the written answer.

## Question 3

This question was the least popular although it was answered by a number of candidates. Although most of the dishes chosen did include herbs or spices it was evident that many candidates were not familiar with their use. Some dishes used herbs for garnishing; others appeared to include a long list of different herbs in their ingredients. Some ingredients identified as herbs or spices were neither. Onions, garlic and vanilla are examples of ingredients sometimes mentioned. Some of the comments made by teachers examining the Practical Test referred to the fact that sometimes candidates did not include the planned herbs and spices in the dish chosen. It would have been helpful if candidates had identified the herb or spice they were using in a particular dish because occasionally there was repetition. Many candidates gave too little detail about their ingredients. Recipes and shopping lists should not contain meat or fish; they should specify the type or cut of meat and the name of the fish required. It is expected that items such as minced beef, chicken breast and stewing steak are specified and not general terms like frozen fish. Some dishes lacked skill; it is always possible to include pastries, cakes and sauces to demonstrate skills.

The written part of the paper was fairly well answered. Candidates were able to give some examples of dishes using named herbs and spices although few could give four examples of each. It was well known that artificial colourings and flavourings can be used and that cocoa, cheese, fruit and vegetables are useful. It was rarely noted that brown sugar and wholemeal flour change the colour and flavour of dishes. Better answers included information on dry methods of cooking, caramelisation, dextrinisation and Maillard browning, all of which play an important part in the colouring and flavouring of food.

There were many excellent choices of skilful dishes, which used yeast as the raising agent. Savarin and stuffed meat loaf were popular. Some candidates chose to make pizza or a loaf of bread and although they do indeed use yeast they do not offer the opportunity to demonstrate the level of skill afforded by other dishes.

Candidates should be encouraged to consider questions carefully and look for key words to help them when making choices. In part (b), the emphasis is on the demonstration of skill; dishes, which are appropriate at Ordinary Level, are rarely demanding enough at Advanced Level.

# FOOD STUDIES

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**Paper 9336/03**  
**Unsupervised Work**

## **General Comments**

Most of the individual studies were well presented and were both interesting and informative. It was evident that most candidates had spent a great deal of time and effort on their work, although there were some which were little more than a project covering only a few pages. Some of the topics chosen did not lend themselves to investigative work; others were too broad in their scope because clearly defined parameters had not been set. However, most of the topics had clearly defined titles set within realistic boundaries. The poorest studies had titles that did not reflect the nature of the investigation and showed little relationship with the results and conclusion. Candidates should be reminded that the title of the investigation must be an accurate reflection of its content.

It was most helpful when the framework set out in the syllabus was followed. This clearly identifies each section of the investigation in a logical order and gives useful information on the criteria used to award marks under each heading. It is available to all Centres and should be used for guidance. It would be useful for all candidates to have their own copy of the marking framework for reference. The mark allocation for each section is clearly set out. Some candidates ignored whole sections, so the marks available for that part of the investigation were lost.

## **Choice / Reasons for Choice**

In almost every case, the topic chosen was relevant to the syllabus although, as previously noted, parameters were not always clearly defined. It is essential that the title indicates the limitations of the study; this can be illustrated by considering two titles, both of which were presented. 'Do Teenagers have a Sufficient Supply of Protein in their Diet?' and 'An Investigation into the Amount of Protein in the Packed Lunches of candidates in Class X of College Y'. Some studies did not lend themselves to a range of investigative procedures. Occasionally, topics were chosen which gave no opportunity for individual research. An example of this was 'Milk'. There is a vast amount of information already available on this topic and the title did not suggest that a new approach would be taken. Candidates should be aware that their choice of topic and the methods of investigation undertaken would have a direct influence on the marks available to them. Candidates should be encouraged to choose a topic that will allow them to demonstrate their ability to collect data in a variety of ways. Reasons for the choice of topic for investigation must always be addressed. Most candidates gave at least one reason, although better candidates gave several. Many candidates, however, gave no indication of why a particular topic had been chosen. Appropriate reasons for choice could be that a subject is of special interest or that the participants of the study are fellow candidates and will be easy to contact.

## **Planning**

It is important that the aims and objectives of the study are clearly set out. The main aim is always to investigate the problem as set out in the title; the objectives are practical tasks that can help to achieve the overall aim. There should be several objectives since they are the benchmarks against which the success of the investigation is judged. Sometimes objectives were set out in such a way that they could not be made into tasks to undertake. Candidates frequently cited one of their objectives would be to educate fellow candidates on a particular subject. It would be impossible to quantify the success of such an objective. Many candidates listed their proposed activities and suggested dates when they could be carried out; actual dates were often added later. This was an interesting approach since it shows the importance of thorough planning and an appreciation of the amount of time, which needs to be allocated to certain procedures. When evaluating the investigation it was useful to highlight areas which took less or more time than expected. It allowed contingencies to be discussed, making for an interesting investigation. Candidates often commented that data analysis was a long, tedious process; sometimes the time estimated for this was too short.

Each method of data collection should be considered in detail. Candidates should justify the methods chosen. When questionnaires are used, candidates should indicate how respondents are selected. When interviews are to be conducted, it is important that the reason for selecting particular individuals is stated. This section should be used by candidates to demonstrate that their planning is logical and that methods of data collection have been used which best suit their needs. In most studies the methods of data collection were well justified.

### **Theoretical Research**

This was the weakest section of many studies. Sometimes it was too long because it contained every available piece of information on a topic. Occasionally, pages were included which had been downloaded from web sites; while the Internet is an invaluable resource, any information gathered in this way should be incorporated into the report written by the candidate in his or her own words. It is usually obvious when text has been directly taken from textbooks because the writing style is different from that found in the rest of the investigation. If possible a variety of sources of information should be used and these should be acknowledged in the bibliography. Web addresses should also be listed. All quotations, charts and diagrams should be acknowledged. It is important to remember that the work must be of Advanced Level standard. Sometimes the bibliography lists books, which lack depth of information, so are normally used at lower levels of study.

Although there is no recommended length for this section of the investigation it should be remembered that all investigative work is based on material which is already in the public domain. The research 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 used five or six different methods. Suggestions are included in the syllabus and the Assessment Scheme indicates the range of marks available according to the number of methods chosen; those who chose only one or two methods limited the marks, which could be scored in this section. Some candidates visited factories and farms; others observed, carried out interviews and conducted questionnaires. Many candidates collected information from markets and shops and several set up tasting panels to assess the popularity of their cooked dishes. Photographs were particularly useful because they ensured that the study was unique; they added interest and enhanced the overall attractiveness of the presentation. It was expected that for each investigation candidates would state how, where, when and with whom the investigations were carried out. Most candidates correctly included a blank copy of the questionnaire used but few included a list of questions used in their interviews. Copies of letters sent and received were usually included. It was often stated in the planning section that interviews would be conducted but in several studies there was no evidence that those interviews had taken place; sometimes no further reference was made to it.

It was a matter of some concern that candidates interviewed busy professionals to gather information that is widely available in textbooks. There is no need to ask a doctor to list the symptoms of anaemia, for example. Candidates should be reminded that questions need only be asked when they result in data which can be collated. Questionnaires rarely need to ask for information on family income or on any other area, which has no overall bearing on the topic being investigated. Sometimes there was a questionnaire item on family income when the respondents were young children. Conversely, adults may feel that it is an imposition to ask about income and may be less cooperative than they might have been.

This is an important section to which many marks are allocated. High marks can only be achieved by those candidates who can demonstrate a detailed knowledge of each of the methods of investigation used. Those who merely name the methods they plan to use can gain few marks.

### **Collation of Data Collected**

This section is as important as the previous section since each of the methods of data collection must be taken in turn and the information presented. Candidates usually presented data well, demonstrating their skill at computer graphics as well as their ability at presenting data without the use of a computer. The best studies showed many different methods, although most studies showed several different methods of presenting data. The range included line graphs, bar charts, pie charts, comparison charts, prose and photographs. Spreadsheets were used where appropriate. Most of the data was well presented, although titles and keys were often omitted from charts. Data should always be presented separately from summaries and conclusions. Occasionally, a collection of recipes was included for no obvious reason. Cooking dishes for evaluation and comparison is, however, to be commended. Many candidates presented their information

in a wide range of different ways – sometimes in as many different ways as their computer. Again, there is nothing to be gained from this. It is better for the reader to have information presented in a consistent way.

Sometimes the value of prose was overlooked. It would be perfectly acceptable to state that 50% of a group preferred, for example, one dish. This is more straightforward than producing a pie chart with two differently shaded halves.

### **Analysis / Conclusions / Recommendations**

This section was often either omitted or dealt with very briefly. It is essential that candidates present an accurate summary of the evidence based on the data collected. It was expected that evidence would be interpreted and conclusions drawn. It is inappropriate to state the ‘the data shows that...’ without giving supporting evidence. The conclusions drawn should lead candidates towards making recommendations for further action. These recommendations could be for implementation by individuals, families, organisations or governments. They may or may not be practical but they should demonstrate the candidate’s ability to develop solutions based on the evidence of his or her study. Weaker candidates listed recommendations that had only very tenuous links to the investigation. An example of this could be that a candidate who is investigating the amount of fat in a packed lunch goes on to list ways of reducing fat in the diet. This information is in the public domain; new ideas are expected even though they may not always be practical.

### **Evaluations**

This section was not well considered. Some candidates made no reference to their original aims and objectives so were not able to comment on the worth of their investigation. The success or lack of success of each of the methods of investigation used in the study should be assessed since this would be valuable information for future investigations; suggestions could be made for improving weak areas. Candidates sometimes included in their list of weakness that respondents did not return questionnaires or did not take the questions seriously. Others noted that because the study was on a small scale it could not be used to make generalisations on the rest of the population. The time plan originally made could be considered and a more realistic time scale recommended. Sometimes candidates described problems they encountered and described how they had dealt with them. Most candidates were able to express some personal benefits of the study; some said that they had gained confidence. Others became more proficient at using various programmes of computer software. Several stated that they had enjoyed meeting people from other backgrounds. All of these benefits were important.

### **Presentation**

The general appeal of the work was good. The majority of candidates often demonstrated their artistic talent on the cover of their work. A list of contents, acknowledgements and bibliographies were usually included. Pages were not always numbered, however, and this would be helpful to the reader. The majority of candidates included a diary of activities. They are to be congratulated on the presentation of their work. Occasionally there was more than one size of print or more than one font style was used. Care should be taken to ensure that there is uniformity throughout. Occasionally, candidates acknowledged the assistance of family and friends who helped with typing or illustrations. It should be remembered that the Investigation is part of the Advanced Level Assessment in Food Studies. It should be the candidates’ own work.