CONTENTS

Group V

Creative, Technical and Vocational

FOOD SCIENCE

Paper 0635/01

Paper 1

General comments

The overall standard of work this year was very satisfactory. Some questions were answered well, indicating a sound understanding of the topics and an ability to apply information. Candidates should be reminded that mark allocations are for guidance; they indicate the amount of time to spend on a question or part question and give a guide to the amount of detail required. Some candidates did not seem to read questions carefully and gave all the information they knew on a topic rather than the appropriate information. Key word should be noted such as name, explain and describe. Often marks were lost because explanations were not given when asked for. Answers to questions in ***Section C*** were often very brief and showed little evidence of planning. There were few rubric errors.

Comments on specific questions

Section A

Question 1

Most candidates were able to name two festivals and to name a dish associated with each one. Sometimes religious festivals such as Christmas, Easter and Ramadan were named, some mentioned weddings and Thanksgiving. All festivals and appropriate dishes were credited.

Question 2

(a) Many factors were known to affect local food production. Most candidates gained full marks. They mentioned the weather, the type of land, lack of money for seeds and fertiliser, war and available manpower.

(b) Home-grown vegetables were known to be cheaper and more convenient. It was often stated that they may have been grown organically and that fresh vegetables have the highest nutritive value.

Question 3

(a) Many candidates suggested the use of pressure cookers, microwave ovens and steamers to save fuel. Others noted that lids should be used on pans, flames must not spread up the sides of pans and that it is better to choose pans which have a base the same size as the hotplate. A few correctly suggested that different foods could be cooked together, for example potatoes and carrots.

(b) Many good ways of saving fuel when using the oven were mentioned. Some suggested using the oven for several dishes at the same time or to batch bake the same item. Some could be used and some stored for use later. It was encouraging to note that many advised that preheating the oven for more than ten minutes must be avoided and that opening the oven door too often must be avoided.

Question 4

Many candidates found difficulty with all parts of this question. Some suggested changing the method of cooking to frying would add colour, flavour and texture but the question specifically stated that steamed fish was to be served.

(a) It was hoped that the use of a garnish such as parsley or lemon would be suggested to add colour. Serving colourful vegetables, for example peas and carrots would have been acceptable.

(b) Flavour could have been added by serving parsley sauce, cheese sauce or lemon wedges. Many other suitable accompaniments to add flavour were possible.

(c) Full marks were scored by those who suggested that crunchy vegetables and baked or roast potatoes might be served.

Question 5

Answers to this question tended to be excellent or very poor suggesting that candidates had either learnt the topic or had no knowledge of it.

(a) Full marks were scored by those who were able to state that glucose, galactose and fructose are monosaccharides and that maltose, lactose and sucrose are disaccharides. Pectin and cellulose were less well known as unavailable carbohydrates. A mark was gained by those who were able to state that unavailable carbohydrates cannot be digested and that the nutrients cannot be absorbed.

(b) Not all candidates were able to state that starch is digested in the mouth, the duodenum and the ileum. The stages in the digestion of starch were not well known. Few candidates were able to gain full marks. Good answers noted that in the mouth, cooked starch is converted to maltose by salivary amylase and in the duodenum, pancreatic amylase converts starch to maltose. Finally glucose is produced in the ileum by the action of maltase on maltose.

Question 6

(a) Few candidates were able to explain why cooked meat should not be stored with raw meat. It was expected that they would state that raw meat contains bacteria which are destroyed by cooking. If the meats are stored together, the raw meat will reinfect the cooked meat.

(b) There were some reasonable explanations for the shorter shelf-life of whole-wheat and brown flour. Good answers noted that the latter contain fat which becomes rancid during storage due to the action of oxygen.

Question 7

(a) It was well-known that biscuits should be stored in an airtight tin or in a sealed container, otherwise they will absorb moisture from the atmosphere and become soft.

(b) The majority of candidates were able to state that milk should be stored in a cold place but were unable to give a reason. It was expected that they would state that bacterial growth is slowed down at cold temperatures. It is a matter of some concern that many candidates believe that bacteria are destroyed at low temperatures, as this is not correct.

Question 8

This question was not answered well. There was a lack of knowledge of both ingredients and proportions. It would have been sufficient to state whether the flour used is plain or self-raising flour, and to note that lard and margarine can be used for shortcrust pastry and margarine or butter for a Victoria sandwich cake. It was expected that caster sugar would be named as a suitable sugar for each cake. Temperatures in Celsius or Fahrenheit and gas marks were credited.

Section B

Question 9

(a) It was known that the main elements in protein are carbon, hydrogen, oxygen and nitrogen and that the smallest unit of protein is amino acid.

(b) Most candidates could state that HBV protein contains all the indispensable amino acids but were often unable to state why LBV proteins differ. It was necessary for them to note that LBV protein lack at least one of the indispensable amino acids. It was often incorrectly stated that LBV protein contains none of them.

(c) The functions of protein were well known. Most stated that it is needed for growth and repair. Some mentioned that it is important for the production of enzymes, hormones and antibodies and others stated that it can be used for energy. It was pleasing that the majority of those who chose to answer this question were able to list four factors which affect the daily protein needs of individuals. The factors listed included age, state of health, whether male or female, whether a female was pregnant or lactating and the occupation of the individual. No explanations were required.

(d)(i) The digestion of protein was well known by many candidates although answers sometimes lacked detail. Full marks were gained by those who stated that in the stomach rennin clots milk and pepsin converts proteins to peptones or polypeptides. In the duodenum trypsin from pancreatic juice continues the breakdown of protein to peptones. Finally, erepsin from intestinal juice breaks down peptones to amino acids.

(ii) The meaning of deamination is not familiar to the majority of candidates. It was expected that they would state that it is the process during which nitrogen is removed from amino acids in the liver. It is excreted as urine from the kidneys.

Question 10

(a) The storage of eggs was usually well explained. Candidates correctly stated that eggs should be kept in a cool place to slow down bacterial growth or to keep them fresh for longer, and should be stored away from foods with a strong smell; eggs can become tainted because of their porous shell. It was advised that eggs were not washed before storage otherwise the protective covering on the shell is removed. Some candidates mentioned that eggs should be stored with the rounded end uppermost to keep the yolk in the centre.

Candidates were not good at describing the appearance of a fresh egg which has been broken onto a plate. A simple description would have scored full marks. It could have been mentioned that the yolk is spherical and prominent and that the egg white nearest the yolk is thicker than the rest. A fresh egg does not spread much.

(b) Candidates were able to name two main dishes made from eggs. The most popular answers were quiche, omelette, scrambled egg and Scotch egg. The importance of eggs in a main dish was well discussed. Many candidates named the nutrients in eggs, others noted that eggs give colour, are not expensive and have many different uses in meal preparation. It was often stated that eggs give shape and structure to a dish because protein coagulates on heating.

(c)(i) It was expected that candidates would give an example of the use of egg for glazing, such as bread or pastry. They usually stated that it is brushed onto the surface of the food before baking. Further credit was given for stating that protein coagulates on heating, denaturing with further heat. This causes the surface to become brown and shiny.

(ii) The usual examples given for the use of eggs for coating were fish and Scotch eggs. It was noted that breadcrumbs are used in addition to beaten egg before frying. The egg protein coagulates with the heat of the fat, forming a protective layer which prevents both the absorption of fat by the food and the breaking up of the food. It also protects the food from the intense heat of the fat.

(iii) It was expected that a whisked sponge would be named as an example of the use of eggs as a raising agent. Many candidates incorrectly gave a creamed mixture as an example; the main raising agent is the carbon dioxide from baking powder. Those who named a whisked mixture gave good accounts of the process. They correctly stated that air is trapped when eggs and sugar are whisked together. It was rarely noted that the presence of fat, either in egg yolk or in the bowl, prevents egg white from holding air.

(iv) The accounts on the use of egg as an emulsifier were disappointing. Mayonnaise was usually given as an example. The best answers noted that egg yolk contains lecithin which enables oil and water to combine without separating to give a thick mixture. Mention was usually made of the hydrophobic and the hydrophilic qualities of lecithin which allow oil to be broken into small droplets when the mixture is agitated vigorously.

Question 11

(a) Candidates were usually able to give two reasons affecting the choice of refrigerator. Those mentioned were cost, the amount of space available, the size of the family and features such as colour. Good reasons were given for freezer ownership. It was often noted that it is cheaper to buy food in bulk and that there is less need to shop regularly. Many candidates stated that freezing left-overs prevents waste and that a supply of food will be available for emergencies.

(b) Many candidates are not aware of the effect of low temperatures on bacteria; it was often stated that they would be unable to survive in a refrigerator or a freezer. It was expected that candidates would be able to note that bacteria will multiply more slowly in a refrigerator because they need warmth and that in a deep freeze bacteria will be dormant; the water required for growth is not available and the temperature is too low.

Very few candidates were able to give correct information on the importance of freezing food at -25 C. The answer expected was that at that temperature, the water inside the cells freezes into many small crystals which do not rupture the cell walls. When the food is defrosted the shape and texture of the food will be retained. At higher temperatures one large crystal is formed which is bigger than the space inside the cell.

(c) It was well known that cross-contamination is the result of storing food containing bacteria beside food without bacteria, for example raw meat and cooked meat stored together. It can occur when food in a refrigerator is not covered allowing bacteria to come into contact with it. The term 'freezer burn' was not known. It occurs when either uncovered food is put into a freezer or the air is not properly removed from a pack before freezing. Water evaporates from the surface leaving dry, white patches; it is an irreversible change.

It was correctly suggested that cross-contamination can be avoided by covering foods and by storing raw meat below cooked foods to avoided juices dripping onto foods. Foods should be used in rotation and according to 'use by' date and must not be stored too close together. Spills should be wiped up immediately.

(d) It was well known that poultry may contain Salmonella bacteria. There were many sound explanations of the need to defrost meat before cooking so that the centre will be heated to a temperature which will destroy bacteria. If ice is still present when cooking begins, the heat of the oven will melt the ice and give ideal conditions for bacterial growth. The bacteria will infect the cooked meat and cause food poisoning.

(e) Most candidates were unaware of the fact that blanching vegetables before freezing destroys enzymes because enzymes are protein and are denatured by heat. They were unable to state that the deterioration of the vegetables would be halted and that colour, flavour, texture and nutritive value would be retained.

All answers contained some instructions for packing vegetables for freezing after blanching but the process of blanching was not known. It was expected that candidates would state that after preparation, small quantities of vegetables would be plunged into boiling water for a number of minutes, depending on the type of vegetable. They would then be placed in iced water to cool them quickly. After draining they would be packed and frozen.

Question 12

(a) It was well known that the roux is made from flour and margarine. Candidates were able to give good descriptions of the method of making a roux although they often went on to describe the addition of milk. The place for this procedure was in the next part of the question. However, the process was well understood.

(b) The recipe given in the question was for a pouring sauce. An 'au gratin' dish uses a cheese coating sauce. Candidates could have advised that the quantities of flour and margarine should be doubled and finely grated cheese added to the finished sauce.

Most candidates advised that addition of sugar and cocoa to the sauce to be served with a steamed chocolate pudding. Others recommended the use of cornflour instead of flour and noted that if drinking chocolate was used instead of cocoa, the sugar should be omitted.

Suggestions for reducing the energy value of the sauce were satisfactory. Popular methods were to reduce the amount of margarine, to replace it with low fat spread or to miss it out of the recipe, and to use either skimmed or semi-skimmed milk instead of whole milk. It was incorrect to suggest the reduction of flour since the thickness of the sauce would be altered.

(c) Explanations of the thickening of the sauce were usually very good. Full marks were gained by those who stated that the starch grains absorb water and soften. When heated they swell and burst, thickening the sauce.

(d) Marks were scored for naming other types of sauces for example egg custard, blended sauce, mayonnaise, fruit puree and jam or syrup sauce. Sauces were known to add flavour, colour and moistness to foods and to improve appearance. Some candidates commented that nutrients were added and that the richness of some foods would be counteracted by the addition of a sauce. Good examples were given in support.

Section C

Question 13

This was a popular question and was well answered by those who chose it. Many types of bread were listed; candidates were obviously aware of what was available in their area. Many points were made to emphasise the importance of bread. Some points related to the nutritive value, others to the fact that bread is cheap, versatile, easily available and filling.

There were many excellent accounts of the making of bread at home and explanations for each stage of the process were given by many candidates.

Question 14

Candidates who chose to answer this question were able to explain that bacteria can be given suitable conditions for growth and can spread during shopping and food storage, preparation and cooking. In addition, they emphasised the need for high standards of personal hygiene. All of these areas were considered in detail and facts were generally supported by explanations. Credit was given for naming types of bacteria, for outlining suitable conditions for their growth and for describing symptoms of food poisoning.

Question 15

This was the least popular question although there were a few competent answers. It was usually suggested that low calorie diets could be required by sedentary workers, those who were ill, the elderly and individuals wishing to lose weight.

Any suggested methods of reducing calorie intake were credited. Candidates suggested ways of reducing fat and sugar in the diet by making particular food choices and by changing methods of cooking. Suggestions were made to increase the intake of NSP since this gives a feeling of fullness which will result in a reduced intake of other foods. The health implications of reducing fat and sugar in the diet were often discussed.

The main observations concerning answers in this section are that in most cases, there was little evidence of planning the answer, there was a lack of detail and sometimes the main points were omitted. Candidates should be advised to read the questions carefully and to highlight key words so that their answer can be planned to address the main points. Sometimes it seems that candidates write all they know on a topic and much of their answer is irrelevant. They must make every effort to select fact and explanations more carefully.

Paper 0635/02

Coursework

General comments

There were many very good pieces of Coursework demonstrating very sound application of knowledge. The Coursework component differentiated well between candidates. Teachers, for the most part, gave very helpful comments on the mark sheets, justifying the marks awarded for each section. Sometimes it was remarked that candidates had not taken advice or had not followed the guidelines given on time allocation. Comments of this nature are very useful because they further justify the marks of the Teacher.

Although each candidate is responsible for his or her own Coursework, it is important that everyone is aware of the guidance given in the Distance Learning Manual. This is valuable because it clearly identifies the sections to which marks are allocated and gives an indication on the content of each area.

Teachers and Moderators find it easier to assess Coursework which is set out in sections. Folders were generally very attractive, indicating that much time and effort had been devoted to the task. Candidates should, however, be reminded that their report should not normally be in excess of eight sides exclusive of charts and diagrams. Some reports were presented in thick folders. This is not necessary; it increases the cost of sending the work to the UK, as well as the cost of purchasing the folders. Candidates must be reminded that they should not include samples in their folder; photographs are preferable although not always appropriate. This year, for example, there were samples of seeds and fertilisers.

Introduction

Introductions were generally good, clearly identifying the topic to be investigated. Reasons for choice were given in support. It is important that the aims of the investigation are stated; it is difficult to evaluate the success or otherwise of a piece of work if the original purpose is unknown. It was useful when candidates discussed the methods they planned to use to carry out their investigation. Sometimes a plan of action was added and this was an advantage because it set out what was to be done and how it was to be carried out. The most informative reports added reasons for choosing a particular course of action. The advantage of a plan of action is that it encourages candidates to be logical in their approach.

Investigation

Each study included a clear statement of what was to be carried out. Sometimes a time schedule was included. This was especially useful in the later stages of the investigation because it allowed candidates to make comments on the feasibility of the original plan. They could identify problems, justify changes and demonstrate their ability to adapt to changing circumstances. Most candidates correctly included copies of any letters they had written, replies to their letters and blank copies of questionnaires; they should be reminded that if they plan to use interviews to collect information, a list of the questions asked should be included. Many candidates included all the questionnaires which had been returned to them. These do not form part of the report; they provide the data which is presented in the appropriate section of the study.

Summary of Findings/Conclusion

This was the weakest section of many studies. Candidates were able to produce satisfactory evidence of their data collection from a variety of sources but often made little attempt to analyse their results. They were not often able to use their results to support the original focus of their investigation. Their conclusions were drawn with little reference to the data which had been collected. There were, however, many examples of very thorough analysis of results leading to a conclusion.

Evaluation

It is suggested that this section should be about eight pages long although this figure is only a guide. A few extra pages are acceptable if the quality of a candidate's work would be compromised. These pages should not include:

- letters, copies of questionnaires, interview schedules, surveys;
- data presented in lists, charts or tables;
- acknowledgements and bibliography.

It is essential that candidates draw their own conclusions from the data they have collected. Many seem unwilling to express their own opinions. They should be encouraged to develop this skill since it allows them to apply their knowledge and to reflect on the work they have carried out. The studies are the work of one individual so that impressions and opinions are an important part of the study.

The studies were appropriate to the syllabus and for the level of examination. Sometimes candidates chose topics on which there was little published information; the result was a study which was very subjective. Occasionally studies were too wide in their scope. It would be better, for example, for a candidate to entitle a study:

'Do girls in my class include sufficient protein in their packed lunches?'

rather than:

'Do girls include sufficient protein in their packed lunch?'

That latter would result in a report which was unrepresentative and would not lend itself to the formulation of conclusions. All studies are, by their nature, limited so the title should serve as a reminder of this.

Those who used interviews in order to collect data usually listed appropriate questions but sometimes the questions in a questionnaire were not well structured or were unnecessary. There was little evidence that pilot studies had been carried out so ambiguous questions were not modified. Often there were questions which led to a YES or NO answer. This type of questioning is not very useful since it does not allow responses to be analysed. The most interesting reports included observations and anecdotes; they make for interesting reading and make the study unique.

The presentation of information in a variety of ways also adds interest and demonstrates a candidate's skill. It should, however, be appropriate. It is a waste of time to draw a pie chart or a bar chart to show the responses to a simple question. A sentence will convey the information clearly enough. Occasionally graphs and charts were untitled. It is always better to insert graphics into text at an appropriate place to avoid turning pages when reading. Although the majority of candidates word processed their reports and used computer graphics to display their data, they must be reminded that the use of a computer will not automatically gain marks. Many competent studies were presented in the candidate's own handwriting and were enhanced by excellent hand-drawn graphs. Some candidates used a variety of fonts and print sizes within their study; this is a distraction. It is better to use the same style throughout.

Occasionally candidates drew conclusion from their research for which there was no evidence. Reference must be made to data in support of any conclusions drawn. The most successful studies were those which guided the reader through the data towards a conclusion.

Candidates who analysed diets in order to calculate the intake of particular nutrients were not always successful because they did not request the weighing of foods. This made their calculations invalid although the plan to analyse food intake was usually appropriate. Food diaries should give enough space for a description of each food; Meat could be chicken or beef, for example, which have different nutritive values. Similarly, whole milk and skimmed milk should be identified. The use of food tables was noted and this was encouraging because candidates usually related the intake of individual nutrients to RDIs. Conclusions were well expressed.

Evaluations were satisfactory. It is always interesting to find out how candidates have benefited from their investigation. Some commented that they had developed more confidence, others had become more proficient at using the computer and others had learnt how to be better time-managers. In the evaluation section reference should be made to:

- the quality of work, its relevance, clarity and accuracy;
- aspects of the study which have been successful or less successful;
- problems which arose and how they were solved;
- the usefulness of the findings;
- ways in which the study could have been changed, improved or further developed.

The studies were well presented. Many had covers which had been designed and illustrated by the candidate. It was apparent that a great deal of time and effort had been given to the investigations and candidates should be congratulated on their work.

Paper 0635/03

Paper 3 - Alternative to Coursework

General comments

The overall standard of work was very satisfactory. Some candidates, however, had difficulty is answering questions based on an investigation suggesting that their experience in work of this nature was limited. There was clear evidence of factual knowledge but often explanations were omitted when asked for. Better candidates were able to demonstrate their understanding of the subject by applying their knowledge to given situations and by illustrating their answers with appropriate examples. Candidates should be reminded that mark allocations and the amount of space provided for answers are an indication of the time to spend on and answer and the amount of detail required.

Comments on specific questions

Question 1

(a)(i) This part of the question was answered well by all candidates. Bar charts were well constructed, in each case the scale chosen was suitable for the amount of space given and each bar was coloured or shaded neatly. Occasionally a title was omitted and a few candidates failed to label each axis.

(ii) Some useful points were given to evaluate the bar charts. Some candidates noted that by colouring each bar they could distinguish one from another, others commented on the appropriateness of the scale chosen and the neatness of their result. A few stated that a bar chart allows comparisons to be made easily. Credit was given to all points which were appropriate.

(b) Candidates suggested various methods of finding out the most popular breakfast cereal. One idea, for example, was to list all the breakfast cereals known, ask respondents to say how many times per week each cereal was eaten and record the results on a tally chart. Any other idea which would work gained marks but full marks could only be gained if the method was well explained.

(c) The reasons for not eating breakfast were well known. They included not having time, not being hungry, not liking breakfast and preferring to eating something at school. There was, however, a wider range of possible reasons.

(d)(i) Candidates were generally well aware of the need for breakfast and correctly noted that it could provide hot food in cold weather and provides energy for daily activities. Better answers noted that breakfast starts daily metabolism and keeps the body alert, especially in demanding jobs and in the case of children. It was sometimes observed that breakfast prevents lethargy and the risk of fainting.

(ii)(a) It was expected that a nutritious breakfast would consist of a drink, a source of protein, a food to provide energy and some fruit or fruit juice.

(b) Most candidates scored well in this section. They were able to list the foods in the meal and correctly name the main nutrients found in each food. Marks, however, were only awarded when nutrients were correctly linked to particular foods. It was acceptable to state that cereals contain starch and iron, orange juice contains vitamin C and eggs are a good source of HBV protein. It was not enough to note that the meal would contain starch, iron, vitamin C and HBV protein.

(e) Suitable items for a packed lunch were selected by the majority of candidates. Drinks and fresh fruit were suggested as were sandwiches, salads, quiche and yoghurt. The range of items listed was very wide and most suggestions were sensible. There were problems, though, because reasons for choice were asked for. Suitable reasons could have been related to the nutritive value of an item, the fact that it was easy to eat and easy to carry or that it was refreshing.

Question 2

(a)(i) It was expected that a cross section of a wheat grain would be drawn and labelled to show the endosperm, germ and bran. Surprisingly few candidates gained full marks.

(ii) The part which produces white flour is the endosperm. This fact was not well known.

(iii) Several different reasons for sieving flour were acceptable. It was usually stated that sieving aerates flour and that it removes impurities or lumps. Some noted that the process allows the flour to mix with other dry ingredients. All of these points were equally acceptable.

(iv) Many candidates had problems when they attempted to compare white, brown and wholemeal flour. The nutritive value depends on the percentage of the whole grain used to make the flour. It was expected that candidates would be able to state that wholemeal flour contains NSP because it is made from the whole grain therefore it contains the bran layer. White flour is mainly starch because the bran and germ have been removed. The flours which contain the germ will contain calcium, iron, and B group vitamins although white flour is fortified with calcium, iron, thiamine and nicotinic acid. The protein content of white flour is greater although the percentage depends on the type of wheat. Full marks would have been achieved by those candidates who gave several points of comparison.

(v) A few candidates were able to state that wholemeal flour does not have a long shelf-life because it contains fat which turns rancid during storage.

(vi) It was well known that flour can be made from maize or corn, rice and rye. It was less well known that flour can be made from Soya beans and potatoes. These marks were seldom scored.

(b)(i) Gluten was known to be the protein found in flour.

(ii) Candidates had difficulty in explaining the importance of gluten in breadmaking. They should have noted that it absorbs water to form an elastic substance which stretches as the mixture expands during rising and baking, preventing the escape of gases. Since it is a protein it sets on heating, giving structure to the baked product.

(iii) None of the candidates were able to describe experiments to find out which type of flour contains most protein. This can be done by weighing the same amount of different types of flour and mixing each to a firm dough with an equal volume of water. Each sample should be kneaded thoroughly, tied in a muslin bag and washed gently under cold running water. The process must be continued until the water runs clear. The contents of the muslin bags, which are gluten balls, are dried and weighed. The heaviest gluten ball will have come from the flour with most protein.

(c)(i) This section was often omitted. Candidates could have listed the types of flour available locally. Respondents would state the types of flour bought in the last week or month and the frequency would be recorded on a tally chart.

(ii) Another chart could have been produced which listed common foods which involve the use of flour, for example bread, pastry, cakes, biscuits and sauces. Different types of flour could have been listed on the other axis. Respondents would indicate the dish made and the type of flour used, and this data would be recorded in the appropriate square on the chart. Any chart which would work was acceptable.

(ii) It was important that candidates mentioned that a sample should be made up of similar people. Additional points for this particular survey might be that respondents would be of a similar age, have similar shopping facilities and be regular cooks. Perhaps they would all be female if women do most of the cooking. It might have been noted that a random sample would be chosen.

Question 3

(a)(i) The investigation involved the making of small buns using the creaming method. Candidates were expected to list the basic ingredients for the mixture therefore margarine or butter, sugar, egg and self-raising flour (or plain flour and baking powder) should have been stated.

(ii) Few candidates were able to mention three different ways of producing carbon dioxide in creamed mixture. Although the purpose of the investigation was clearly set out in the first sentence of the question, several candidates gave yeast as one of the methods.

Self-raising flour, plain flour and baking powder or plain flour, cream of tartar and bicarbonate of soda were the methods expected.

(iii) The method of making small buns by the creaming method was well known by many candidates. Most of them were able to give good reasons for the method followed. It was disappointing that the method for making other items such as scones or bread was sometimes described.

(b)(i) The criteria for evaluating the buns could have included appearance, flavour, colour, texture, height and aftertaste. Most candidates mentioned flavour but few gave a range of criteria.

(ii) It was hoped that candidates would suggest that a tasting panel would be used, with the tasters chosen at random. They could have listed ways of making the test fair, for instance the tasters could be in separate booths, they should be given the same amount of each product and be given water to cleanse their palates between samples. They should have clear instructions to follow and a chart for recording their results. Candidates could have stated how results would be recorded, for example on a scale of 1 to 5 or by the use of descriptive words. The results from each taster would be combined for an overall result.

(c) Some very good charts were produced for recording the results of the investigation. Credit was given for mentioning each type of raising agent and each quality tested. It was expected that there would be instructions on how to complete the chart and an indication of the symbols, scale or words to use to evaluate each sample.

Paper 0635/04

Practical

General comments

All candidates attempted all parts of the Examination Paper and generally wrote at reasonable length in all sections. Some Centres arranged the work of their candidates correctly but it would be helpful if all Centres would ensure that all the work is arranged in order, with the examiners mark sheet attached to the front of the work of each candidate. All work should be fastened together securely. It would also be helpful, though not essential, if a photograph of the finished results was included with the work. This would help to verify the marks awarded to the results section. Photocopies of mark sheets for recording the work of individual candidates were sometimes used. This is not recommended because the lightly shaded sections can become very dark when photocopied and they are then impossible to use for the recording of marks and comments.

In the section on choice of dishes candidates should choose dishes appropriate to the task. Sufficient work must be planned to occupy all of the time available and all of the washing up must be completed. Candidates must demonstrate their skills in as many ways as possible, simple dishes cannot score as highly as those with more skill. Dishes should be clearly named and detailed ingredients listed alongside each dish. Although it is not essential, if the dishes are to form a meal it is helpful to arrange the dishes chosen in the order of the meal. Repetitive choice of dishes e.g. two salads should alert the candidates to the possibility of unwise choice, as skills will be limited with repetition. It is unwise for candidates to choose dishes which have never been made before as they may be unfamiliar with the process of making the dishes and how the finished dish should look. Choice of familiar dishes would be sensible so that candidates have confidence in their own abilities and would not have the extra stress of making something new.

The plan of work must include a detailed order of work with an indication of the methods used, including the cooking times and temperatures. It is not expected that methods are written out in detail, as recipes can be referred to during the examination. A simple list of dishes and times is not sufficient. Sequencing within the order of work is essential. There may be times when candidates are waiting for items to cook e.g. potatoes to boil, when the candidate could be making some preparations for another dish. The shopping list should show total quantities of all the ingredients required under the correct headings. Sometimes candidates did not total their ingredients and gave no indication of the amounts required. Often no special equipment was stated when it was obvious that some would be necessary.

It was often difficult to see when method marks could be justified. Examiners should familiarise themselves with the mark scheme and follow instructions for completing the mark sheets. Single words or short phrases were often used to describe the candidates' work. It is not helpful to state that the candidate is "confident", "in control" or "methodical" or that the work was "satisfactory" or "could not be faulted". Suggested method marks for good, average and poor candidates are given for guidance in the instructions for marking. It is a matter of concern that some Examiners were awarding high marks to most of their candidates yet gave no satisfactory explanation in their comments. Some candidates stated in their evaluation section that the processes did not go well and this sometimes conflicted with the high marks awarded for method.

The mark scheme states clearly that where candidates are preparing very simple dishes the maximum marks must be reduced. This instruction was ignored by many Centres with the result that candidates were often awarded high marks for dishes which involved little skill. Sometimes each dish was awarded similar marks although one dish was clearly more complicated than another. There are no circumstances in which a quiche or a fruit pie could be awarded the same mark as a salad or a soup. Dishes which were planned but not completed should not be awarded marks. Any dishes which were made but were not in the original plan should also not receive marks. The space provided on the mark sheet next to each named dish should justify the mark awarded. It is unsatisfactory to use simple phrases such as "nice texture", "well baked" and "exceptionally good". The instructions clearly state that the Examiner must refer to colour, flavour and appearance or whatever qualities are appropriate to justify the marks awarded. If a dish is under or over cooked or poorly shaped it cannot be awarded a very high mark. Candidates usually comment on their results in their evaluation section and on many occasions their comments contradict what the Examiner has written.

In the evaluation section most candidates read the questions carefully and made some attempt to supply the correct information. Sometimes this was a little short and could have included more detail and relevant examples. The personal evaluations tended to be weak, often a simple account of the work completed. Candidates should make detailed and critical comments on their own work during the examination, whether positive or negative. Slight changes made to the ingredients used or to the order of work should be explained fully and reasons given for the changes made.

Comments on specific questions

Question 1

This was the most popular question with most candidates choosing some different vegetables. It was expected that candidates would prepare at least three dishes which would show a variety of skills and a variety of tastes, colours and textures. The dishes chosen could have been included as parts of family meals e.g. as a starter, as a main course for lunch, part of a packed meal, etc. Most candidates however did not choose dishes which showed a range of skills. There were many vegetables which were prepared in the same way for several similar dishes. Many candidates chose soups and salads which showed little skill. Some candidates included canned vegetables, which needed no preparation, while others used mixed vegetables when it was not clear what would be included in the mixture. Flavours were often repeated, particularly the use of cheese in several dishes. A wide variety of fresh vegetables could have been prepared in a variety of ways. Different methods of cooking and the incorporation of pastries or sauce making would have increased skills. Most candidates knew about the importance of vegetables in meal planning but methods of preservation were not known. Candidates could have listed drying, pickling, freezing or canning as suitable methods. Evaluations were adequate but could have been more detailed.

Question 2

This was the next most popular question but was not usually answered very well. It was expected that at least three dishes would be made, each to show a different ingredient rich in NSP. Candidates could have used fruit, vegetables, wholegrain cereals, bran, wholemeal bread, nuts, etc. Many candidates chose dishes which used the same type of NSP in each e.g. several dishes using vegetables. Others chose dishes in which NSP was a minor ingredient. Some candidates chose one dish showing skill e.g. a fruit pie while another dish chosen showed little skill e.g. salad. The functions of NSP were well understood but candidates could generally name only one problem of a diet low in NSP. The usual example given was constipation but cancer of the colon, diverticular disease, haemorrhoids or varicose veins could have been listed. Some ways of increasing NSP were given but candidates were unable to give a wide variety of sources. Again evaluations were adequate but not detailed.

Question 3

Very few candidates chose to answer this question. Candidates seemed to be unsure about how mixtures are thickened or set and so they often made unsuitable choices of dishes. Eggs, starch or gelatine could have been used as thickening or setting agents. A variety of dishes could have been prepared including egg custards, sauces, cold puddings, mayonnaise, etc. The importance of stirring well, heating carefully, the gradual addition of ingredients, etc. could have been discussed. A lack of understanding led to poor evaluations for this question.