

# FOOD STUDIES

Paper 9336/01

Theory

## Key Message

Candidates should plan their time carefully. It is helpful to take notice of the mark allocation for each part of the question and allocate time accordingly.

Candidates need to read the questions carefully and take care to answer accurately and concisely. Writing unnecessary information takes up valuable time and does not score credit.

## General Comments

Some candidates this year did not complete their final question. Often, candidates wrote at length on their first two questions and had insufficient time for the others, especially the last one. Candidates should work out the time to spend on each essay and make a determined effort to keep to this. They should also consider the time spent on each section within each essay. Obviously, more marks allocated to a particular section warrants more time being spent on that section. Many candidates did not get the balance right within the sections writing at length in a section which had allocated a few marks taking up valuable time from parts which were worth more marks.

Choice of essay is important. Many candidates were able to write well on only one part of an essay and did not have sufficient knowledge to write on each part. There is a tendency for candidates to choose questions in Section B which they think are easier but then find it difficult not to keep to the subject in hand but digress into areas which are not applicable to the question. Often it would have been more advisable to choose an essay where facts and specific details were required.

It would be helpful if candidates did not tie their papers together so tightly as it makes it extremely difficult to turn the pages. Where there is a space for the essays chosen on the front page of the answer book it would be helpful if candidates would fill them in. Some candidates this year made it very difficult to find sections of their answers as they grouped the extra sheets in the wrong order so that answers from different questions were all muddled up together.

Questions which were answered particularly well included 1, 2 and 5. Those which were answered least well answered included 3, 7 and 8.

## **Section A**

### **Question 1**

- (a) (i) Many candidates were unable to define the term 'balanced diet'. A balanced diet contains **all** the nutrients in the **correct proportions**. It is insufficient to write just nutrients or variations of the word 'plenty'.
- (ii) This section was well answered. Many candidates included lack of knowledge, poverty and the cost of food especially meat, poor transport, food not available due to famine, drought, poor harvest etc. Other points included vegans lacking HBV protein, peer pressure, snacking, elderly people not wanting or able to cook.
- (b) (i) Most candidates made a good attempt at giving reasons for limiting sugar in the diet but some did not give any reasons for limiting the amount of salt in the diet. The most popular answers for limiting sugar were causing obesity and diabetes. Other candidates included causing dental caries. The most frequent reason for limiting salt was that it gives rise to hypertension. It is important that candidates expand upon the points e.g. obesity is caused by excess glucose being converted to fat

and stored in the adipose tissue under the skin. The results of excess sugar and salt needed to be expanded upon in order to score highly.

- (ii) This was the least well answered section of this question. 'Ways of limiting salt' was answered better than 'ways of limiting sugar'. A common mistake was to include examples of reducing fat in the diet which had come from mentioning obesity in the previous section.
- (c) Some candidates failed to answer the question accurately. Several candidates wrote unnecessary information about NSP being found in whole wheat cereals or the skins of fruits and vegetables. The question required discussion of how NSP functions in the body.

#### Question 2

- (a) (i) The main problem in this section was including irrelevant information and, therefore, writing for too long. Some candidates wrote several pages on this section alone and took valuable time away from the rest of the paper. Others wrote concisely, included correct information and were still able to score full credit.
- (b) Candidates were successful in discussing problems which could arise if there was an excess of glucose in the diet but most forgot to include what would happen if there was an excess of NSP in the diet. Some candidates misread the question and wrote about a lack of NSP. Candidates needed to include information about NSP interfering with the absorption of minerals due to the phytic acid / phytates and the shorter transit time for food in the digestive tract.
- (c) This was another well-answered section of the paper. Most candidates were able to score full or nearly full credit. Digestion was explained more fully than absorption.
- (d) Candidates seemed to either know this completely or not at all. Many scored full credit although some candidates mistook BMR for BMI.

#### Question 3

- (a) Many candidates mistook the Recommended Daily Intake (RDI) for a 'balanced diet'.
- (b) This section was not well answered. Most candidates did not make any comparisons between a teenage girl and a moderately active elderly woman; they merely listed nutrients and their functions. For example a teenage girl needs more iron as she loses blood each month due to menstruation whereas the elderly woman will have gone through the menopause and have stopped losing blood each month and consequently does not usually need as much.
- (c) (i) Again, this question was not answered correctly as it required discussion relating to one's own country. Many candidates discussed general malnutrition in the elderly.
  - (ii) This was linked to the previous section. If the candidate stated correct examples in (c)(i) then they tended to answer this section well and gave suggestions such as preparing meals at a central point and delivering them.

#### Question 4

- (a) (i) This was often not answered correctly due to the candidate mis-reading the question. Candidates needed to discuss the nutrients in relation to the production and utilisation of energy in the body. Many just discussed functions of the nutrients without any reference to energy.
  - (ii) This section was well answered. Most candidates were able to name and describe the effects of a deficiency of the named nutrients.
- (b) Many candidates were not able to state the importance of the energy balance. Energy intake must be the same as energy output. However, the mark allocation shows that answers need to include more than a simple statement. Candidates were expected to discuss what happens if more energy and then less energy is taken into the body, that is, becoming overweight or underweight.
- (c) (i) Very few candidates were able to answer this section fully.

- (ii) Candidates frequently mixed up the effects of marasmus and kwashiorkor.
- (iii) Candidates were not able to suggest how PEM might be overcome. Suggestions could have included better education, government food supplements and agricultural programmes.

## Section B

### Question 5

There were some very good answers to this question but this was a question in which some candidates repeated the same points several times or included irrelevant information. It was necessary for candidates to plan their response carefully.

- (a) Most candidates were able to suggest that people should have a budget and that poorer people have to spend a higher proportion of their income on food.
- (b) Many candidates understood that the availability of food is often linked with the amount of money available both in the family and within the country itself
- (c) Very few candidates were able to discuss in detail how nutritional knowledge influences food choice. They stated that those without knowledge may make poor choices but did not develop the idea.
- (d) Not everyone understood the term 'marketing methods'. Some people thought it was buying food in a local market. In this section the candidate needed to discuss how choice is affected by how food is sold.
- (e) In this section some candidates just listed several different religions and what they could not eat. Some were incorrect. They could have considered other social habits that can influence food choices.
- (f) The environment was the section that candidates often found the most difficult to discuss. Responses could have included locally-grown produce, people living alone or working women; not merely the natural ecological environment.

### Question 6

- (a) This section had almost half the total credit available so it was important that the candidate knew the information required about different types of wheat flour. Some candidates were only able to name two types of wheat flour. Several candidates included cornflour – possibly caused by not reading the question carefully but just seeing the word 'flour'. If candidates were able to name the flours, then invariably, they were able to give examples of their uses and score well.
- (b) Candidates tended to name correctly, self-raising flour as an example of a flour which could be used for a rich cake. They knew that a raising agent had to be used with plain flour and that wholegrain would give a heavier result than white flour. Good answers included information about the low gluten content needed as the soft flour would give a tender crumb.
- (c) (i) The question asks for the reaction of a chemical raising agent during baking but of those who answered most included air and water vapour. The most popular chemical raising agent mentioned was bicarbonate of soda. A few candidates mentioned the production of carbon dioxide but very few related it to the presence of heat and moisture. The necessity of an acid to release all available carbon dioxide was mentioned very occasionally. Baking powder, surprisingly, was not discussed by many candidates. On the whole, this was not a high scoring section of the paper.
  - (ii) There were some very good answers in this section. Several candidates scored full credit. Some candidates incorrectly included the production of carbon dioxide which should, of course, have been in the previous section.

### Question 7

- (a) Nearly everyone who answered this question knew that enzymes are organic catalysts which speed up chemical reactions. Other information given by candidates included the fact that they are specific in their actions, they are proteins and gave the range of temperatures at which they work best.
- (b)(i) Digestion was an area that candidates seemed to understand well. Occasionally a candidate was unclear whether the enzyme was found in the stomach, the duodenum or the ileum. Very few candidates gave information on the absorption of proteins which indicated that they had read the question carefully. A few gave confused answers regarding trypsinogen being converted to trypsin but nearly everyone ended up with amino acids at the end.
- (ii) This section was not well answered. Some candidates did mention and describe autolysis. However, several scripts contained explanations on the spoilage of food by bacteria, moulds and yeasts. This was not relevant as the question was asking about enzymic activity. Information which could have been included were changes in colour, flavour and texture.
- (iii) Again this section was not well answered. Many candidates discussed the fact that vitamin C is water-soluble and described how it was lost in cooking with water e.g. boiling. A few did mention ascorbase causing damage to the cell walls when the vegetable is cut but very little extra information was added.
- (iv) This section was more successful for most candidates. Nearly everyone knew that papain from papaya, bromelain from pineapple and ficin from figs will break down the connective tissue. Occasionally a candidate mentioned that in the hanging of meat, glycogen is converted to lactic acid and the muscles are softened.
- (v) Most candidates understood that during fermentation, glucose produced by the action of enzymes was then converted into carbon dioxide and alcohol. A few were able to name the enzymes in the flour and yeast correctly.

### Question 8

This was a popular question but unfortunately not well answered in many instances and candidates did not score highly overall. Candidates seemed to have looked at the question, seen one area in which they felt confident, but not considered the mark allocation for all of the parts before attempting it.

- (a)(i) Many candidates concentrated solely on the addition of colourful fruits and vegetables in this section as a means of adding colour during cooking and presentation. Using garnishes and decoration were popular answers.
- (ii) This section was not well answered. Candidates tended to just mention the addition of food colours without explaining that they could be natural or synthetic. Good answers mentioned that colour is often removed or changed during manufacturing and consumers expect a certain colour in food. Candidates were expected to evaluate the various methods of adding colour. However, it was rare to find a candidate doing this.
- (b)(i) Nearly everyone mentioned the change from myoglobin to metmyoglobin and hence the change in colour.
- (ii) Most candidates did include correct information in this part of the question. Those who did not had not realised that non-enzymic browning is the Maillard reaction.
- (iii) Most candidates were able to give a very basic explanation of the causes and prevention of enzymic browning. They knew it occurred in cut surfaces of fruits such as apples and could be prevented by dipping in an acid. Better answers included the fact that enzymes catalyse the oxidation of polyphenol compounds and further oxidation gives melanoidins.

# FOOD STUDIES

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Paper 9336/02

Practical

## Key Messages

- To score full marks in the Choice Section, candidates must ensure that all of the dishes chosen relate to the statement which introduces the question. They must indicate how each of their chosen dishes is appropriate.
- A variety of skills, without repetition, is expected.
- The List of Ingredients for each dish must be precise; fish must be named and cuts of meat identified.
- Plans of Work should list the tasks to be undertaken in the 30 minutes' Preparation Time. Dishes must not be prepared in this time. The method of making each dish, its cooking temperature and time and its serving must be included in the plan.
- Time for washing up should be included in the plan.
- Candidates should read the written questions carefully and make sure that their answers are tailored to the question.

## General Comments

The quality of the written answers was generally good. Scripts were set out clearly and candidates seemed to have had sufficient time to complete all sections of the paper. Occasionally pages were assembled in the wrong order; each carbonised sheet has a page number printed on it, so it should not be a problem to put them in order. It is the responsibility of each candidate to ensure that their own pages are in order before the scripts are handed in.

Teachers who undertake the marking of the Practical Test 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. If a skill is repeated in other dishes, the maximum marks must be reduced on the second and any subsequent occasions. Left-over marks cannot be transferred to other dishes.

Before the Practical Test, the Examiner must prepare an Individual Mark Sheet for each candidate. The maximum mark available for each dish, together with the mark awarded, must be clearly indicated on the Individual Mark Sheet. Some candidates choose dishes that are not appropriate or not sufficiently skilful for an Advanced Level Practical Test. Apple crumble, fried chicken and fried rice are examples of such dishes. In this case, the maximum possible mark 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. Teachers who are undertaking the examining of practical work must always follow this guidance. It is rare for any dish to be worth full marks, so Examiners should not use the maximum mark without careful consideration. Teachers must use their discretion and their professional judgement to ensure that the maximum mark for each candidate fairly reflects the complexity, or otherwise, of the dish.

Detailed comments must be written to justify each mark awarded. It is not sufficient to use single words to describe results, e.g. 'satisfactory' or 'good'. Reference should be made to the colour, flavour and texture of dishes and perhaps to consistency, if appropriate. Occasionally, Examiners made one statement to cover all dishes. For example, 'Everything this candidate produced was excellent in every way'. This is inappropriate because it does not consider the merits, or otherwise, of individual dishes. Sometimes the mark awarded seemed to be too high when comments suggested that there were many negative points to be taken into account. A dish that is inedible, because it is undercooked or overcooked, should score zero.

Any dish planned, but not served, must also be given zero and those marks cannot be transferred to other dishes. Any dish prepared but which is not on the original plan made under examination conditions cannot be awarded a mark.

All the work carried out in the Preparation Session is marked externally, as 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 is important that Examiners give as much information as possible on each candidate's Method of Work in order to justify the mark awarded. Candidates who demonstrate few skills cannot score high method marks.

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-hour preparation time before the start of the Practical Test. Candidates should be reminded that they must not include any processes that are part of the preparation of dishes. It was found that some candidates were preparing puff pastry, whisking egg whites, creaming mixtures and dissolving gelatine during the preparation time. In some cases an inordinate amount of work was undertaken before the start of the actual Practical Test.

Many time 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 leaving less time for the written answer. Sometimes there was insufficient time allowed for a dish to cool before decorating. Sometimes a dish to be served cold was the final dish to be prepared. Many candidates listed too much work for the last half-hour of the test. This allowed no time for 'over-running' during the first two hours of the test and may have resulted in some dishes not being properly cooked or served. Some candidates were unable to 'dovetail' their dishes and listed all stages of each dish, one after the other. It is expected that all plans note that washing up would be done at least twice during the test and then a time for washing up included at the end of the test.

The section of written work requiring candidates to give practical reasons for their choice of dishes was not answered very well by many candidates. 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 candidates might 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 could 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. It was not appropriate to discuss possible variations or to mention that a dish could be made in advance and frozen for future use or could be used for a birthday party or taken on a picnic.

Candidates were asked to comment on the nutritional value of the dishes chosen in part **(b)**. However, some answers related to the dishes chosen in part **(a)**. There were some 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 particular vitamins and minerals are found in a dish. Candidates must state functions.

### **Comments on Specific Questions**

#### **Question 1**

This question was a popular choice and those candidates who selected it usually chose an appropriate range of dishes to show the use of different cereals. Many candidates used oats in the base of a cheesecake and different types of flour were used in a variety of cakes, breads and pastries. Rice was also used in the making of Biryani. Some candidates used cornflour to make crème patissiere. Although it was not asked for in the question, it was helpful if candidates noted the cereal they were illustrating in each of their chosen dishes.

The written part of the question was well addressed. Many candidates were able to give eight different types of cereals or cereal products. In part **(ii)** of the question many candidates were able to give many different points, stating that cereals are versatile, cheap, are a staple food, are easy to grow and can be stored for a long time. Candidates also mentioned nutritive value, and in many cases this was well done, but some

candidates mentioned NSP and then went into lengthy detail about its importance in the diet without mentioning any other points.

### Question 2

This question was the least popular choice, although it was still chosen by a number of candidates. It was often difficult to decide how the dishes chosen answered the question as candidates did not explain how the methods of preparation and cooking affected the texture of the dishes. Candidates baked, fried, steamed as methods of cooking and made cakes by whisking and creaming and also made bread and choux pastry.

As mentioned earlier, candidates did not always discuss how the dishes chosen answered the question and this part of the question was not answered well at all. Answers were vague in most cases, although some candidates did mention that the inclusion of air, when whisking and creaming, makes a mixture light and that baking and frying gives a brown surface that is crisp. In part **(ii)**, many candidates mentioned methods of preparation which should have been given in part **(i)**. Some candidates correctly mentioned the use of fruit and vegetables to give variety of texture.

### Question 3

This question was also a popular choice and many candidates chose appropriate dishes. Candidates used prunes, sweetcorn, pulses and different varieties of fruit and vegetables to answer the question, although in some cases the amount of fruit and vegetables used did not make the dishes chosen good sources of NSP. Some candidates also stated that they would use 'wheat flour' instead of 'wholewheat' and white rice was used when brown rice would have been the more suitable option.

Many candidates were able to write at length about the importance of NSP and in most cases were able to identify at least two or three other dietary guidelines. Less fat, sugar and salt were usually mentioned, with valid reasons, but many candidates inappropriately included less alcohol and smoking.

There were many excellent choices of skilful dishes which included iron. Many candidates chose to make a gougere with a liver filling and some candidates chose to make a lasagne with beef. A few candidates used spinach or made a sweet dish using dark chocolate.

Part **(b)** of the question specifically stipulated that the dish must be skilful. Marks were sometimes lost because the dish chosen was too simple.

# FOOD STUDIES

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

## **Key Messages**

The aims and objectives of the Coursework Investigation are clearly set out in **Section 6** of the syllabus. This is not confidential information and it is suggested that each candidate is provided with a copy of the relevant pages in order to assess their work as their investigation progresses. It is a valuable reference document and could provide a checklist at all stages of the investigation.

The mark allocation for each part of the investigation is given, together with indicators for scoring within each section. These mark allocations should be used to guide candidates on the amount of detail required at each stage. If a section is omitted, the marks for that section will be lost; they cannot be transferred to another section.

It is not necessary to print each page on card or to stick written pages onto card. This makes handling of the work more difficult.

## **General comments**

The majority of Coursework Investigations were well presented, interesting and informative. It was evident that many candidates had invested much time and effort and produced reports with clearly defined parameters and realistic boundaries.

Some of the topics chosen were too broad or did not lend themselves to an investigation of this type. For example, a study entitled simply "Fish" gives little opportunity for original work, since the information is already available in abundance. Sometimes candidates applied their conclusions to the wider population when results obtained from studying a small group cannot often be generalised.

It was helpful when candidates followed the framework set out in the syllabus. Some candidates lost credit by omitting or giving only brief information in one or two areas.

## **Choice and Justification**

In most cases the choice of topic was relevant to the syllabus and stronger candidates actually identified in which section in the syllabus content their ideas had originated. It is important that candidates state the reasons for their choice of coursework title. Most candidates gave at least one reason but better candidates gave several. Appropriate reasons for choice could be that a subject is of personal interest, relevant to world health issues, topical in local media or that the participants of the study are fellow candidates and will be easy to contact.

In this section candidates are expected to clearly but briefly, state the investigative methods and resources they intend to use to execute their study. There is a check list to help with selection in the assessment scheme. These points have a direct influence on the possible marks which could be gained. Candidates should be encouraged to choose a subject for their study in which they are able to demonstrate their ability to collect data in a variety of ways, indicate how it relates to the syllabus and why they have selected the topic for research.

Occasionally, topics were chosen which gave no opportunity for individual research. Some studies did not lend themselves to a range of investigative procedures. For example, a few candidates chose to investigate the importance of iron for teenage girls or the need for calcium for pregnant women. There is a vast amount of information already available on these topics and the titles did not suggest that a new approach would be taken. It is important that candidates bear this point in mind when choosing their area of study, parameters in the title need to be clearly defined to highlight the limitations of the study.

## **Planning**

The aims and objectives of the study must be 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 will be judged. Sometimes objectives were set out in such a way that they could not be translated into tasks. Candidates frequently stated that one of their objectives would be to educate members of a community on a particular topic. It would be impossible to quantify the success of such an objective. Many candidates listed their proposed activities and suggested dates when they would be carried out; often actual dates were 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 is useful to highlight areas which took less or more time than expected. It allows contingencies to be discussed, making for an interesting investigation. Some candidates produced a diary of activities. Although this shows how the investigation progressed, it does not constitute a plan. A plan of activities with suggested dates should be included in the planning section and a diary of actual procedures and dates in the evaluation section.

In order to achieve high marks it is important that each method of data collection and collation used is thoroughly considered and justified in detail. It is helpful to explain how each method will help to achieve particular objectives. Most candidates mentioned the methods they intended to use but gave no further information. When questionnaires or interviews are used, it is important to explain how respondents are selected and to justify the type of questions to be included. If observations or shopping surveys are to be conducted, justifications for choosing those methods of data collection should be given.

As indicated in the assessment scheme, samples of questionnaires, interview questions and so on should be included in this section.

## **Theoretical research**

The purpose of this section is to give candidates the opportunity to demonstrate their ability to research their topic widely before producing a chapter which contains information relevant to their study. All studies gave evidence of some research but the amount and quality was variable. It is essential that this is original work and is the result of consulting a variety of books, texts, articles and possibly web sites. In many studies this was the weakest section. Sometimes it consisted of numerous pages of text taken directly from books rather than a summarised account in their own words tailored to their title.

Many accounts were disjointed and too long because every available piece of information from one source was followed by that from another so there was considerable repetition of information, differences in writing style and presentation. This is not acceptable since it is not the candidate's own work.

It is commendable if candidates include topical information, perhaps from newspaper articles or from the Internet. This information should, however, be incorporated into their account. The article or extract can be included in its entirety in an appendix.

All studies included a Bibliography, but it is expected that sources are acknowledged within the text wherever appropriate and should include web addresses. If diagrams or charts are included they, too, must be acknowledged. Although there is no recommended length for the research section of the study, it must be remembered that this should form the basis for the investigative work. The research report should be a summary of all of the relevant information gathered. It is not the task of the reader to select relevant facts. The research report should set the scene for whatever is to follow.

## **Investigation skills**

This is an important section to which 20% of the marks are allocated. The most successful studies used a wide range of investigative methods to collect data. Many candidates used at least five different methods and so could achieve high scores. Possible methods are suggested in the syllabus and the assessment scheme indicates the range of marks available according to the number of methods chosen. Clearly, if a candidate chooses two methods of investigation, the maximum score possible will be lower than that of a candidate who chooses six methods.

Some carried out shop or market surveys, visited farms, factories, clinics and hospitals, individuals were interviewed, others carried out observations, many conducted questionnaires and several set up tasting panels to compare and evaluate cooked dishes. Photographs were often included and, as well as providing useful information and another dimension they also contribute to the attractiveness and uniqueness of the study.

It is expected that for each method of data collection used, candidates would explain how, where, when, why and with whom the investigations were carried out. When compiling questions to include in interviews or questionnaires candidates should give careful consideration to each question and consider whether its inclusion is necessary. Candidates should be reminded that questions must produce data which can be collated and that objective questions should be asked.

There were a few instances where all completed questionnaires were included; this is unnecessary. Only an analysis of the data collected from the questionnaires is required.

Although it was often stated in the planning section that interviews would be carried out, it was sometimes impossible to find any evidence that interviews had taken place. If planned work cannot be conducted, reference should be made to it in the evaluation section.

It was a matter of some concern that many candidates interviewed very busy professional people and appeared to ask questions which could have been answered by looking in books. There is no need to ask a doctor to list the symptoms of osteoporosis for example. Candidates should not expect to be able to visit hospitals and clinics to talk to patients. Confidentiality must always be respected. Questions on family income should never be included in questionnaires for the same reason. This is rarely relevant to the topic being studied. A few candidates carried out research in primary Schools explaining how children were weighed and measured and conclusions drawn. In more than one study a candidate planned to assess children for symptoms of a deficiency disease. Clearly this is unacceptable; candidates would have neither the authority nor the expertise for this work. Teachers must be aware of what their candidates plan to do during visits to other organisations and be prepared to intervene where necessary. Candidates often included recipes in their study without any justification. Every aspect of the investigation should have a purpose and should be part of the original plan.

### **Collation and presentation of data**

This section is worth 20% of the total marks awarded and is important since it must take each of the methods of data collection used and present the information collected in an appropriate form which is clear and easy to understand for the reader.

Candidates usually presented their findings very well and were able to demonstrate their skill at computer graphics as well as using methods of presenting data without the use of a computer. The best studies showed many different and varied methods of presenting data. The range included prose, tables, line graphs, bar charts, pie charts, histograms, comparison charts and photographs. Many candidates presented their information in a wide range of different ways– sometimes as many different ways as their computer would allow! It is sometimes better for the reader to have information presented in a consistent way. Most of the data was well presented, although titles and keys were often omitted from charts. Photographs were not always given titles and sometimes there were several pages of photographs without any explanation of their relevance

Spreadsheets were used where appropriate but sometimes included too much information

Sometimes prose would have been better than a chart to show simple information. It would be perfectly acceptable to state that a quarter of the respondents were 17 years old and three-quarters were 18 years old. This is more logical than producing a pie chart with two differently shaded areas.

On many occasions information was presented without reference to the investigation. If the information relates to a questionnaire it would be helpful to set out each question before presenting the results. The reader should not have to refer to the questionnaire in the planning section or appendix in order to understand the data presented. Some studies lacked explanations; data was presented without even a few sentences to summarise findings. Sometimes an interview was summarised in a few sentences. Conclusions can only be drawn if they are supported by facts. Data should always be presented separately from summaries and conclusions.

## Conclusions

This part of the study was often executed in a very superficial way. Many candidates seemed to attach little importance to it and wrote very briefly, some not much more than a few lines. It is essential that candidates present an accurate summary based on the evidence of the data they have collected and this should be set out separately not interwoven with the presentation of the data collected.

This is the section where the collated evidence will be interpreted by facts gathered and conclusions drawn. On many occasions there was no evidence to support the conclusions drawn. It was as if the outcome had been established without taking any evidence into consideration. It is not enough to state that 'the data shows that...' without supporting the statement with 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 the importance is in the fact that the candidate can develop solutions based on the evidence of their study. Weaker candidates listed recommendations which had little or no link to their study or suggested actions which are already well known, such as those based on following dietary guidelines. An illustration of this would be candidates who carried out investigations on the consumption of saturated fat or sugar by a particular group. It would not be expected that the recommendations would be a range of ways of reducing fat or sugar in the diet; these can be found in many books, magazines or websites and are not original. Recommendations should be the result of careful thought on the part of the candidate to develop solutions in the light of information gathered from their study. It is an opportunity for candidates to give their own ideas.

## Evaluation

This is an important section, worth 10% of the final mark for the study. Many candidates seemed to give little attention to it and wrote very briefly. As outlined in the assessment scheme reference should be made to original aims and objectives and plan of action so comment can be made on the success of the study.

The success or lack of success of each of the methods of data collection used should be considered since this would provide valuable information for future investigations. Suggestions could be made for improving weak areas and extending research.

Most candidates were able to state personal benefits they had gained from carrying out the study and these were very well expressed. Some mentioned that they had become more confident and had enjoyed meeting people from other backgrounds; others were pleased to have become more proficient at using particular computer programmes. Sometimes candidates described problems they had encountered and described how they had dealt with them. This was commendable since it is often considered that weaknesses should be overlooked. To acknowledge problems and to consider how to address them is important. Many candidates mentioned that the time allowed for some sections of the study was unrealistic and explained how they dealt with the problem. This highlights the advantage of making a time plan before beginning to collect information. All of these are important and candidates should not hesitate to mention their own individual gains. 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.

## Presentation

The general appeal of the work was good, attractively presented and logically organised. Content lists, acknowledgements and bibliographies were included. Candidates are to be encouraged to be wide ranging in their reading list and use books, websites, magazines, newspaper articles and so on which are appropriate for this level of study. The majority of candidates included a diary of activities. The covers were of a high standard demonstrating the originality and flair of many candidates. They are to be congratulated on the presentation of their work.

There were, however, several candidates who, in their acknowledgements, mention members of their family or friends who had helped with typing or illustrations. It must be emphasised that the special study is part of the Advanced Level assessment. Teachers must ensure that all work submitted is the candidate's own.

Candidates should be reminded that it is not necessary to have studies bound professionally, nor is it wise to mount each page on card. This makes the study more difficult to handle. Sometimes candidates mentioned the expense involved in printing their work. Although printed work looks professional, there is no reason why the investigation should not be written in the candidate's own handwriting, as the marks are awarded for content.

Some candidates had included pamphlets and posters that they had designed themselves to use in classrooms, canteens and meeting halls as a result of their investigation. This was an original and very interesting development to the study and showed commendable effort.