

**GCE**



**Chief Examiner's and  
Principal Moderator's Report  
Nutrition and Food  
Science**

**Summer Series 2019**





## Foreword

This booklet outlines the performance of candidates in all aspects of this specification for the Summer 2019 series.

CCEA hopes that the Chief Examiner's and/or Principal Moderator's report(s) will be viewed as a helpful and constructive medium to further support teachers and the learning process.

This booklet forms part of the suite of support materials for the specification. Further materials are available from the specification's microsite on our website at [www.ccea.org.uk](http://www.ccea.org.uk).



## Contents

<b>Assessment Unit AS 1</b>	Principles of Nutrition	3
<b>Assessment Unit AS 2</b>	Diet, Lifestyle and Health	6
<b>Assessment Unit A2 1</b>	Option A: Food Security and Sustainability Option B: Food Safety and Quality	8
<b>Assessment Unit A2 2</b>	Research Project	11
<b>Contact details</b>		13



# GCE NUTRITION AND FOOD SCIENCE

## Chief Examiner's Report

### Overview

Analysis of candidate performance highlighted similar issues across AS and A2. In relation to examination technique, a significant number of candidates were unable to access the top band marks because they did not read the question carefully.

Quality of written communication was an issue for some candidates who did not demonstrate an ability to organise their information clearly and coherently, using specialist vocabulary. There was evidence in both AS modules that candidates may be over-dependent on GCSE knowledge rather than raising their standard to AS.

Finally, candidates should note the assessment objective weightings in Table 4.3 on Page 21 of the specification and in particular the heavier weighting for AO2. Candidates must demonstrate an ability to use their knowledge in the way directed by the command word. A number of candidates were unable to discuss or explain their points which impacted negatively on their final outcome.

## Assessment Unit AS 1 Principles of Nutrition

### Overview

It is clear that many candidates have a comprehensive knowledge of nutrition for this unit. However, some are not using this knowledge effectively in the examination such as not addressing the command word or using the number of marks to guide them when responding. Other examples of poor examination technique include not tailoring the response to suit the life-stage given and giving a long list when the question asks for two examples. Candidates could improve their performance by practising techniques to help them read and respond to the question.

- Q1**
- (a)** This was generally answered well with most candidates correctly circling honey as the source of free sugar in the diet.
  - (b)** A significant number of candidates discussed the impact on health of free sugars rather than the focus of the question, which was to explain the term. A few wrote very brief responses, which did not merit the maximum marks. Candidates should note the marks awarded for each question and use this as a guide for length and depth of answer.
- Q2**
- (a)** Disappointingly, this was poorly answered with many not able to accurately identify the fatty acid from the diagram provided.
  - (b)** This was well answered. Most candidates accurately identified a type of fatty acid to decrease in the diet. The quality of descriptions on their effect on blood cholesterol levels was a little more varied but the majority demonstrated good level of knowledge.
  - (c)** Responses to this question demonstrated a good level of knowledge and understanding in relation to the functions of fat as a nutrient. Highly competent answers remained focused on two functions, providing detailed and adequate explanations. Weaker responses tended to list several functions with little or no explanations.

- Q3 (a)** The standard of responses for this question was variable. Candidates were generally well informed regarding the harmful effects of marlin, shark and swordfish to the foetus. However, many candidates focused on the benefits of oily fish during pregnancy, rather than why it should be limited.
- (b)** Many candidates applied good specific knowledge and understanding to the question and focused on issues such as menopause, loss of oestrogen and PMT. Weaker candidates discussed general functions of calcium, usually in relation to bone health and did not focus specifically on adult women.
- Q4 (a)** This was generally well answered with most candidates applying good relevant knowledge to the needs of an infant. A significant number of candidates suggested 'high activity levels' as a reason for dehydration, which demonstrated their confusion with toddler stage. It is important to remain focused on the context of a question in order to achieve maximum marks.
- (b)** This yielded a variety of responses. Some candidates only focused on one nutrient which limited their mark. Highly competent responses related the benefits specifically to teenagers.
- (c)** This was answered quite well with many candidates demonstrating good precise knowledge of the effects of water intoxication in the body. A few candidates over-explained the process, rather than presenting the actual effects.
- Q5 (a)** This question received a variation in quality of responses. Weaker candidates described the data or made general comments such as 'figures rise as children get older' and their analysis did not really go beyond female adolescents. Highly competent candidates were able to analyse all or most of the data and explain the reasons behind the differences in various ages and gender.
- (b)** This was very well answered. A minority of candidates misread the question and identified sources of haem iron. A significant number of candidates identified more than two sources and at times, this appeared as an attempt to guess the correct answer. This approach should be discouraged. Sources need to be distinctly different for example, broccoli and dark green leafy vegetables did not gain separate marks.
- (c)** This was answered well by the majority of candidates. As in Question 5(b), candidates should be advised when asked for two sources, only two should be given.
- Q6 (a)** This question produced a good standard of knowledge and understanding across the majority of papers. Highly competent candidates remained focused on the nutritional need for zinc in relation to teenage years and demonstrated a good breadth of knowledge.
- (b)** This question was poorly answered by the majority of candidates and the lack of specific knowledge was disappointing. Responses focused on practical issues such as low income, poor nutrition and isolation as reasons for deficiency of B12 in older adults. These are not specific to B12.
- (c)** This was answered well by the majority of candidates. Most responses were accurately summarised the effects of excessive intake of sodium by linking hypertension to a range of associated disorders.
- (d)** This was a straight-forward nutritional question and most answers were highly competent.

- Q7** The standard of response was generally very good indicating an appropriate knowledge and understanding of the functions of magnesium and valuable food sources. As previously stated, candidates need to be encouraged to adhere to rubric of the question and limit their response to two valuable sources.
- Q8** This was a popular question but poorly answered overall. A significant number of candidates discussed the importance of growth, or physical activity in relation to energy but rarely both. A large proportion of responses discussed protein as a source of energy which does not constitute good dietary advice for this age group. The second part of the question expected candidates to explain how these energy needs could be met through healthy food choices. This often appeared as a general discussion of the broad nutritional needs of the school-age child with little focus on healthy food choices. A highly competent response clearly described the need for energy for this age group, followed by a clear explanation of the foods to include in the diet to meet these needs.
- Q9** This was not a popular question. Overall, it was completed with reasonable success. Weaker candidates described some key nutrients present in both fish and pulses but did not make direct comparisons between the two. Highly competent responses demonstrated the ability to directly compare the nutritional value and health benefits of fish and pulses concurrently.
- Q10** The quality of responses varied for this question. Some candidates missed the word 'starchy' in the question and discussed all carbohydrates and a significant number of candidates suggested that all starchy carbohydrates provide fibre rather than just wholegrain types. It was evident that candidates from some centres were not prepared for this question even though it is clearly stated in the specification. Nutritional significance of carbohydrates are those health benefits beyond the functions of carbohydrates.

## Assessment Unit AS 2 Diet, Lifestyle and Health

### Overview

Many candidates were able to display specific knowledge and understanding and include relevant terminology in each section of this unit. However, there are still a significant number of candidates who are not displaying a depth of knowledge appropriate for AS nor addressing the command word. Candidates should also be advised to answer questions in Section A in the spaces provided and not in the separate booklet.

- Q1** (a) This was generally well answered with most candidates correctly defining the term obesity.
- (b) (i) The majority of candidates accurately stated a reason why the body requires energy.
- (ii) Many candidates were able to demonstrate some knowledge and understanding of energy balance. Top band marks were awarded to those who could fully explain the term.
- (c) (i) Knowledge of the physical exercise guideline was generally good. Candidates are advised to use the information on NHS and WHO websites for specific detail for each stage of the lifecycle.
- (ii) There were mixed responses to this question. Some were highly competent as they focused specifically on older adults and considered both bone and joint health. Basic responses tended to only address the benefits of physical health in relation to bone health only.
- Q2** (a) This question was poorly answered by a large number of candidates. Many were able to explain how excessive alcohol consumption may affect weight gain but were unable to demonstrate knowledge and understanding of the affect it has on fat metabolism and iron status.
- (b) The majority of candidates accurately stated two health problems associated with Foetal Alcohol Syndrome.
- Q3** (a) This was a well answered question with many candidates able to describe the possible influence of sun exposure in the development of cancer. Full marks were awarded to candidates who displayed specific knowledge of cancer development, using specific terminology.
- (b) By comparison this was a poorly answered question with candidates focusing on the areas of the body affected by smoking rather than how smoking causes cancer. Many candidates did not display specific knowledge and understanding of chemicals associated with tobacco smoke and how they damage DNA, causing cancer.
- (c) This was a very well answered question. Most candidates achieved marks in the competent/highly competent bands as they were able to describe how fruit and vegetables may prevent cancer from a couple of perspectives such as antioxidants and fibre.
- Q4** This was a popular question. Those who scored highly showed very good knowledge and understanding of how limited resources may impact on healthy food choices. These candidates fully explained by expanding each point and including specific examples linked to a range of different consumers.

- Q5** This was the least popular question in Section B and not well answered. Many students demonstrated basic to adequate knowledge and understanding of the lifestyle advice to prevent Type 2 diabetes. Candidates are advised to read questions carefully and plan their responses as some referred to *dietary* rather than lifestyle advice or discussed the *management* rather than the prevention of Type 2 diabetes. Centres should ensure that candidates are provided with the most up to date information relating to guidelines on alcohol consumption. This may be accessed on the Drinkaware website.
- Q6** This was generally well answered although some candidates simply listed problems or described obesity generally. Low band marks were awarded to candidates who described, at length, health problems associated with overweight in adulthood rather than childhood. This was an example of candidates not taking the time to read and understand the question before planning an answer.
- Q7** There were a broad range of responses to this question, with the most capable candidates displaying their use of specific terminology for AS and clearly discussing the effects of saturated and unsaturated fatty acids, hypertension and overweight and obesity in the development of cardiovascular disease. Lower band marks were awarded to candidates who addressed fatty acids generally or displayed inaccuracies in their knowledge. Hypertension and overweight were not as well answered with repetitive information. Candidates are advised to plan their response addressing each aspect separately.

## Assessment Unit A2 1 Food Security and Sustainability (Option A)

### Overview

Responses in this unit demonstrated, in many cases, highly competent student engagement with the topics. This is most encouraging as it impacts positively on candidate understanding and subsequently on their ability to accurately respond to the questions. Despite this, overall the standard for this unit was down on last year as a result of increasing weaker responses where candidates have not grasped the complexity of issues surrounding food security and sustainability.

- Q1 (a)** All candidates were able to demonstrate a knowledge of the two labels listed. However, only a minority accessed the highly competent mark band. These candidates had the ability to explain how choosing these labels could help the environment. They had focused on the question and applied their knowledge appropriately. Candidates who scored in the adequate mark band were unable to support their points with valid examples and facts.
- (b)** Overall this question was well answered with the majority of candidates demonstrating a very good knowledge of the benefits of buying local food. There were some examples of highly competent student engagement with the topic supported by extensive use of specialist vocabulary. These candidates were able to discuss the issues confidently and competently.
- Q2** This was a popular question and it was clear that many candidates had a sound understanding of food security and the impact of potential threats such as climate change and intensive farming. Top band marks were awarded to those responses that provided sufficient detail to support full explanations. Adequate responses tended to list points with brief explanations and limited reference to food security. It was most encouraging to see a number of candidates answering the question from a knowledge of the whole specification rather than restricting themselves to one area.
- Q3** This was the least popular question in section B and overall it was not well answered. The quality of written communication tended to be adequate with reasons for food poverty in the UK suggested in very general terms. Similarly, consequences of food poverty were described in a limited way. Some candidates discussed those at risk rather than maintaining the focus on reasons for food poverty. There were a small number of centres where candidates had been prepared to an exceptionally high level. These candidates had a detailed understanding of social issues in the UK and the impact of social security reform on poverty. The depth of research was most impressive.
- Q4** This was a popular choice but not always well answered. Many candidates read sustainable food choices as healthy food choices and proceeded to discuss barriers to choosing healthy food. As a result, they were unable to discuss accurately in the context of the question. Others focused on barriers to food choice in general and so were unable to demonstrate an ability to apply knowledge and understanding to the question. Even in the highly competent answers there was a limited understanding of what constitutes a sustainable food choice.

**Q5** This question had 2 parts. *Explain* why consumers waste food and *outline* the environmental consequences of such waste. Some candidates changed the command words around to outline the reasons and explain the consequences. Candidates should be encouraged to follow the command words accurately as this is part of the skill being assessed in the examination. The best answers were those where the candidate had engaged with the topic as their explanations were clear and coherent and used specialist vocabulary throughout. By comparison, less competent answers included a list of reasons and consequences which the candidate was then unable to explain with much meaning.

## Assessment Unit A2 1 Food Safety and Quality (Option B)

### Overview

Overall the standard achieved in this option was similar to last year. A good number of candidates demonstrated their knowledge, understanding and skills effectively. Quality of written communication was usually good in these scripts with a wide range of subject specific vocabulary used confidently and accurately. Weaker candidates often had some accurate knowledge but insufficient understanding to explain or discuss their responses. This resulted in short, superficial answers.

- Q1 (a)** Many candidates were confident in their knowledge of the risks associated with preservatives. The command word is *outline* and long introductory paragraphs on the benefits of preservatives were not appropriate. When candidates produced a general discussion of additives and did not remain focused on preservatives, they only achieved scores in the lower mark bands.
- (b)** There were many competent answers to this question and it was pleasing for examiners to see such good knowledge and understanding of the role of the EFSA in relation to safety evaluation and authorisation of additives. Highly competent responses displayed excellent quality of written communication with relevant terminology. Candidates were not able to access the higher mark bands if they provided general descriptions of EFSA in relation to the safety of additives.
- Q2** This was a popular question and overall it was well handled. Adequate responses presented a limited range of challenges, often discussing food poisoning and its consequences in-depth which was not the focus of the question. It was encouraging to see current challenges such as food integrity and environmental pollution being discussed by candidates who were clearly fully engaged with this issue.
- Q3** This was also a very popular question with many candidates demonstrating a comprehensive knowledge and understanding of the breadth of work carried out by the Environmental Health Practitioner. Others limited their explanations to food safety inspections and Food Hygiene Rating Scheme only and as a result were not able to achieve higher mark bands. Some simply identified areas of work with little explanation. It is important that candidates have sufficient understanding of the topics to enable them to explain their knowledge clearly.
- Q4** In this question, candidates appeared to have a more extensive knowledge and understanding of veterinary medicines than animal feed. Lower mark band responses did not consider the command word *to assess* and instead described a list of health implications.
- Q5** Overall the standard of responses for this question was disappointing as many provided very general food hygiene rules with little specific knowledge and understanding of each of the food categories. This led to a repetitive and unfocused response. To access the highly competent mark band answers needed to make reference to the relevant microbial contamination with clear explanation of how consumers can reduce risk from each of the foods.

## Principal Moderator's Report

### Assessment Unit A2 2 Research Project

The moderation team were encouraged to see that teachers are making considerable efforts to guide students through the process, and the quality of the scripts were of a similar standard to last year. The importance of teacher guidance throughout the study cannot be over emphasised, and it is apparent from some centres that students respond well to structured guidance which challenges their thinking.

Whilst many titles are chosen from AS1 and AS2 of the current specification GCE Nutrition and Food Science, it was encouraging to see some centres exploring areas from Option A and B of the specification e.g. food poverty and food waste. Some centres still allowed candidates to continue with investigations clearly based on secondary sources or heavily weighted on knowledge testing. Students should be directed to focus the investigation on behaviour/practices to help establish reasons for the habits/patterns. The topic of 'alcohol consumption' is only related to adults and not underage, and 'breast feeding and reasons for decrease in uptake' is no longer part of the current specification.

**Abstracts** on the whole were highly competent but some centres are still permitting students to refer to secondary findings, this should be discouraged. Overall findings need to include more depth rather than a 'sweeping statement'.

The **Introduction** continues to prove challenging for many of the students, although some improvement was noted. Some highly competent candidates had a good grasp of the process and reports showed evidence of sound rationale and clear discussion of the research problem. Weaker candidates had difficulty discussing what they intended to find out and, for some, a conclusion had already been arrived at rather than questioning. Ethics and limitations are mainly generic with only the very good candidate capable of tailoring their thinking to their specific study. This is a section that is leniently assessed. The aim for many of the reports was better phrased than the title, yet many students are reluctant to re-visit their title and rephrase more succinctly. Objectives have also become lengthy with secondary research documented.

As in previous years, the **Literature review** is a highly competent section for many centres, where evidence of extensive research, accurately referenced, focused on target group and pertinent issues identified. It is nevertheless evident that the high level skill of being able to show critical understanding of the issues and their relevance to the study is frequently missing, yet little difference is evident in the marks awarded.

Most candidates produced a **Methodology** section which addressed all the required elements in sufficient detail to allow for replication. Similar faults of generic justification and tool comparison was less evident this year. Pilot details need to be included and a relevant/appropriate target group. Some centres mainly used school staff which, for example, may not illustrate socio-economic differences.

There was evidence of improvement in both the design and structure of the **Research Tool** with many achieving focused questionnaires. However, the quality of the questions (some leading/knowledge testing) limited the response and hence the data collected. This differentiation in the standard of the tool was not evident in the marks awarded.

The **Results** section of the report varied with many centres awarding full marks, even though inaccurate presentation of graphical material and no reference to the chart in the main text were evident.

Many candidates are very capable and displayed higher level skills of analysis, accurate interpretation of data, and integration of discussion of results. These are skills expected in a top Band 4 report. For the weaker candidate, there is still a tendency for assumptions, especially when the tool was very 'closed' and hampered the depth of data collected.

The full range of assessment criteria should be considered when assessing the quality of **discussion and analysis**. Very few centres are prepared to use Band 2/Band 3 marks in the assessment of this section.

In drawing **conclusions**, top candidates are capable of summarising their most significant findings in reference to the aim succinctly. However, many candidates do not display this high level skill, yet are still awarded full marks.

The student/teacher guidance booklet provides clear direction on the desired elements for the **Recommendation** section of the report. Top Band 4 candidates were able to reflect on the study, identify the shortcomings of the investigation and project the study forward by suggesting valid ideas. Many other candidates ignored the evaluation of the investigation and recommendations appeared contrived and unrealistic. Assessment was lenient and lacked differentiation between top candidates and those less able.

Teachers' annotation varied, while some were realistic and informative, others, although helpful, were not followed through with a related mark. Weaknesses as well as strengths should be highlighted or where support/guidance was given. It is pleasing to note that many students have been well guided through the process and the student/teacher guidance handbook has been used effectively. Many centres have applied standards fairly and consistently.

Centres can avail of additional support through CCEA in the form of portfolio clinics, agreement trials, exemplar materials, online support to assist and reassure them in the delivery of the process.

## Contact details

The following information provides contact details for key staff members:

- **Specification Support Officer: Nola Fitzsimons**  
(telephone: (028) 9026 1200, extension: 2235, email: nfitzsimons@ccea.org.uk)
- **Officer with Subject Responsibility: Dorothee Wagner**  
(telephone: (028) 9026 1200, extension: 2218, email: dwagner@ccea.org.uk)

