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# **EXAMINERS' REPORTS**

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**LEVEL 3 CERTIFICATE AND DIPLOMA IN  
FOOD SCIENCE AND NUTRITION**

**SUMMER 2019**

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# FOOD SCIENCE AND NUTRITION

## Level 3 Certificate

Summer 2019

### UNIT 1 – MEETING NUTRITIONAL NEEDS OF SPECIFIC GROUPS - EXTERNAL

#### General Comments

The marks awarded covered the whole of the mark range.

It is important that all areas of the specification are covered in the delivery of the curriculum, as all areas will be covered in one way or another on the examination paper.

Candidates should be advised about the reliance on giving a one word responses, candidates need to ensure that this is appropriate to the question being asked. Marks can only be awarded for explicit answers.

Where candidates clearly had a sound nutritional knowledge this enabled them to complete section A and go on quickly to utilise time in answering the questions in Sections B and C in the required detail.

Candidates would be advised to make good use of the reading time to read all questions thoroughly because many errors were made as a result of candidates' misreading questions and choosing the wrong focus for their answers. It would appear that some candidates are using this time to write their answers in an extension booklet and then copying them into the answer booklet. They would be better advised to use the time to ensure they have read the focus of the question correctly and plan points to include in their response.

The quality of written communication (QWC) was assessed in all questions that asked candidates to 'explain', 'discuss' and 'evaluate'. Many candidates answered these questions by making statements which, in the main, are correct but can only be awarded the lower band marks due to a lack of explanation, discussion or assessment. To access the higher band marks the candidates must explain the statements made and give examples, if appropriate. Exam technique sessions would really help support the candidates' learning and their approach to completing the exam paper to a higher level. Candidates should be encouraged to make use of paragraphs when writing a detailed response.

Candidates would be advised to make it clear when they have continued their answer in a continuation booklet to ensure answers are not overlooked. They should ensure they make clear the number of the question which is being continued and from which section. Some candidates continued their answer in the space under the lines. This is to be discouraged as if papers are scanned for marking work outside the allocated area could be overlooked.

Some candidates appeared to be unsure of either their candidate number or that of their centre. It is important that candidates record the correct centre number and their candidate number in the appropriate place on the front of their answer booklet.

## Comments on individual questions/sections

### Section A

- Q.1 (a) Where candidates had covered the area of the specification related to risks associated with food safety they were able to make appropriate responses related to food spoilage, incorrect food storage, undercooked food, pathogenic bacteria. Those candidates who had misunderstood the question gave examples of direct contamination.
- (b) Most candidates gained 2 or 3 marks. This question was generally well answered showing an awareness of the implications to food outlets of not following food hygiene regulations. Some candidates were seen to make a response about giving the customer food poisoning whilst this may be the case; in itself this is not an implication to the food outlet; the actions which may result as a consequence of it being reported are what will have implications to the food outlet.

Some candidates were seen just to give one word responses in either part (a) or in some cases part (a) and (b) of question 1. Candidates should be advised that marks can only be awarded for explicit responses.

- Q.2 (a) The majority of candidates were able to identify a good source of Thiamin. However, reference need to be made to red meat or fortified breakfast cereals rather than just meat or cereals.
- (b) Citrus fruits or a named citrus fruit were the main source cited; other good sources were accepted but again candidates need to be specific in the response which they give rather than just saying for example berries.
- Q.3 Most candidates were able to give two reasons why foods containing fat are important in the diet; it is important to encourage candidates to provide an appropriate level of response.
- Q.4 (a) Rickets or Osteomalasia were the correct response for the condition caused by a dietary deficiency that leads to soft weak bones.
- (b) Some candidates focused on an explanation of the condition rather than how it can be prevented. Whilst many candidates were able to gain some marks on this question explanations often lacked the detailed required to be awarded full marks. Specific reference needed to have been made to calcium and/ or vitamin D intake demonstrating knowledge of source. To be awarded full marks understanding of Vitamin D aiding in the absorption of calcium needed to have been included in the response given.

Where candidates had given an incorrect answer to part (a) of this question but were able to give a correct response to part (b) their response was credited accordingly.

- Q.5 Candidates were able to discuss why consumers are being advised to reduce the intake of sugar in the diet with the key focus of the responses being on tooth decay, energy imbalance, and weight gain with the potential for obesity, type 2 Diabetes. Fewer candidates were able to demonstrate explicit understanding of what is meant by the term free sugars or make reference to recommended daily amount.
- Q.6 Some excellent responses were seen where the candidates had recognised the importance of how good nutritional knowledge ensures the body receives the essential nutrients it requires which could become deficient if a strict vegan diet is not understood. Those who were able to make an assessment of the detailed examples which they had included were able to access full marks.

The focus of most of the responses seen was on the potential negative impacts this diet could have including examples related to lack of HBV protein, need for protein complementation, Iron, Calcium, Vitamin B12, Fat soluble vitamins and long chain omega-3. Fewer candidates were seen to include assessment around the positive implications of a plant based diet in relation to lower body mass index, less vulnerable to heart disease and type 2 diabetes.

Where this was done less well candidates were seen to write a paragraph about what a vegan diet without attempting any kind of assessment. Some candidates just listed points or made generic comments in relation to lacking protein vitamins and minerals. Candidates need to need to be made aware of the importance of the command word and how this should guide their response.

Where candidates had misunderstood the question they chose to spend time writing about animal cruelty, which could not then access available marks.

### **Section B**

- Q.1 (a) The candidates' responses varied depending on their knowledge of the importance of protein in the diet from the most simplistic answers just mentioning growth and repair without any specific reference to growth from childhood to adulthood or repair to muscles, to those which clearly had a more in-depth understanding and mentioned its importance as a secondary source of energy or role in relation to enzymes, antibodies and hormones.
- (b) A wide spread of marks were awarded for this part of the question. At the lower end it was clear that the candidates were not familiar with the range of functions which protein has in the body and as a result tended to repeat points made in their response to the previous part of the question.

The question was asking for candidates to discuss the consequences of not following the recommended daily intake of protein in the diet rather than just explain its function. The majority of responses focused on the consequences of a diet lacking in protein; very few responses provided a balanced answer showing knowledge of the consequences of both an excess and deficiency of protein in the diet. In order to be awarded marks in the top mark band it was expected that responses would include knowledge of the RNI for protein.

Q.2 This question was attempted by all candidates with most being able to access the middle mark bands. Where done well candidates gave detailed responses to both parts of the question applying their knowledge & understanding. At the lower end candidates were seen to focus on explaining the conditions of either Type 2 Diabetes or coronary heart disease rather than providing advice on food choices. Whilst candidates are required to show understanding of the conditions in their response it should not be at the expense of the focus of the question. Some candidates included advice in relation to exercise rather than food choices so were unable to be awarded marks for these comments.

- (i) The main focus of the responses given for a teenager with type 2 diabetes related to the reduction of foods high in sugar, the eating of more complex carbohydrates with some candidates mentioning the choosing of low GI foods, following the advice in the Eat well guide in relation to a balanced diet/ eating a diet rich in fruit and vegetables. In a question such as this where candidates are being asked to give advice on food choices it is important that they back up their advice with specific food examples.
- (ii) Advice generally focused around the reduction of saturated fat in the diet, processed foods and salt intake. Some excellent responses were seen which included advice around reduction of LDL. Again, it is important that the advice given is supported with specific food examples.

Q.3 Not all candidates attempted a response for this question. A wide spread of marks were awarded for those who did attempt. It would appear that in some cases this area of the specification had not been covered. Where the question had been misread or misunderstood candidates were seen to write a response about the role of micro nutrients in the body. Where done well, candidates were able to identify a range of food processing methods and support their response with specific food examples and discuss the effect of the method on named micro nutrients. Good discussions focused on both the loss of for example water soluble vitamins B& C as a result of preparation processes, exposure to water and heat and gain through fortification of example margarine with vitamins A&D. At the other end of the spectrum some candidates appeared to be unaware that vitamins and minerals are known as micro nutrients and that the most susceptible to food processing methods are the water soluble vitamins B & C.

Q4 This question was attempted by the majority of candidates with most being able to access the higher mark bands. It is important that as well as remaining focused on the inclusion of correct control temperatures to ensure safe storage, preparation and service of food that candidates also ensure that they are responding to the command word. In this case justifying the inclusion of the temperatures with an explanation as to how they ensure food safety. Some candidates were seen just to respond by listing key food safety temperatures. Candidates need to ensure that they show the appropriate level of application remembering that when they make a point in response to a question like this it needs to be explained and supported with specific examples. At the lower end candidates were able to show knowledge of the importance of temperature control but did not include any actual temperatures to back up their statements.

## Section C

- Q.1 All candidates' were able to access some marks with their response to this question; at the lower end candidates were able to use Abi's profile to determine her most obvious current and future nutritional needs. There were fewer candidates seen just to rewrite the information with which they had been presented. The emphasis in responses to this question needed to be on nutritional needs; both current and future. Some candidates had correctly calculated her BMI noting that it was at the lower end of the normal range and discussed this in relation to her active lifestyle and the need to increase her calorie intake in relation to her future activity levels in order to maintain an energy balance.

At this level; as was evident in the responses awarded marks in the higher mark bands; it is expected that candidates would demonstrate application of detailed understanding of source; function; deficiency of macro and key micro nutrients making clear reference to examples in Abi's profile; along with her specific dietary needs. The use of terms such as "unhealthy" or statements with no direct correlation or reference to examples given in Abi's profile were still seen.

More candidates were being awarded marks at the top of the middle band. Whilst the quality of response to the analysis of a given profile is showing an improvement some candidates are still failing to respond to the command word just identifying a list of points in the profile as opposed to analysing them. At the other end of the spectrum candidates are seen to be demonstrating good nutritional knowledge about source and function of key nutrients without giving examples from the profile. It is evident in candidate responses where they have been introduced to case studies during the delivery of the course; along with the technique of how to carry out an analysis a specific case study through pre examination practice.

The case study this year highlighted the importance of a wide variety of dietary needs being covered during the delivery of the course. As it was apparent that whilst candidates were familiar with the dietary needs of a female teenager they were less knowledgeable when it came to sports nutrition.

- Q.2 Fewer candidates were able to access the higher mark band with their responses to this question. A lack of detailed understanding about the lifestyle of somebody who takes part in competitive sports meant that candidates struggled with an assessment of how the need for physical fitness impacts in particular on her future lifestyle choices. In some instances the way the candidates had written their response restricted access to a particular mark band as implications were implied rather than being made explicitly. Marks can only be allocated to explicit responses. Most candidates were able to make reference to the most obvious factors relating to sleep, sacrificing of social life, mental health issues positive or negative, need to maintain a healthy weight, fluid intake. Where done well, candidates were seen to show an understanding of the difficulties moving away from home may have on her ability to maintain the nutritional requirements that her lifestyle demands in order to remain in peak physical fitness/ injury free/ free from illness due to cost, time factors. These responses included reference to avoidance of alcohol, smoking, along with the consequences which high impact sports could have in later life. Where candidates had made nutrition related points these were credited provided they were not just a repeat of a response given to question 1.

This question highlighted the importance of candidates remaining focused on the case study with which they have been presented some candidates were seen to include suggestions from previous studies which bore no relevance to Abi. Some candidates were seen still to be answering question 1 and 2 together making the task of allocating marks to each specific question more difficult for the examiners. There is a clear distinction in what is being asked in question 1 from question 2. Candidates need to be introduced to exam technique prior to sitting the external examination. This would facilitate the opportunity for candidates to meet the requirements of the higher mark bands particularly in the case of question 1.

- Q.3 Most candidates were able to provide some detail in relation to a dietary program for Abi. This question highlighted the importance of candidates using their reading time wisely, along with being made aware that what is being examined in terms of a response will not be the same each year. It was clear from the way some candidates responded to this question that they just expected to modify a given meal plan and had entered the examination with this in mind rather than reading the question and responding to its specific requirements.

Very few candidates picked up on that they were being asked to provide a dietary program for Abi to take into account changes which would need to be made for pre event and post-race recovery. Those who did had obviously been introduced to sports nutrition and provided some knowledgeable suggestions in relation to what foods should be eaten in the week running up to an event and the day of the event, followed by changes post event. Most candidates provided a pre-event and post event meal showing an awareness of the importance of complex carbohydrates pre event and protein post, along with the inclusion of more fluids fewer picked up on the inclusion of extra nutritional snacks pre event, inclusion of food containing B vitamins or that post event rehydration a priority with something light 15-30 mins after competing, with a full meal later. Some just adapted the meal plan which had been given for one day.

At this level it is expected that the types of foods/dishes chosen would demonstrate and understanding of meal planning; along with detailed knowledge of the role different commodities and nutrients play in ensuring a balanced diet to meet the needs of Abi's competitive sporting life style /life stage. It is expected that candidates would give specific named examples for the commodities being suggested for example skimmed milk; wholemeal bread. Candidates were seen to choose red meat for its health benefits without stating in what form it would take.

Good practice was observed where candidates clearly laid their choices out next to meal times as in the question or presented in table form.

- Q.4 Those candidates who had a good understanding of sports nutrition were seen to give excellent responses which justified in detail their chosen pre event and post event dietary choices in relation to fitness for purpose to Abi as a female teenager who takes part in competitive sports. These high level responses were well structured making use of connectives with points made clearly showing understanding of source; function of nutrients with named examples and evidenced in both ingredients and commodities used in their planning. At the lower end where candidates had just made minor adaptations to the example meal with which they had been presented which showed little understanding of Abi specific needs as a sportswoman; justification was weaker and tended just to focus on the general needs of a teenager girl. Where the question was misunderstood there was evidence of some candidates just repeating points made in the lifestyle changes question; making no reference to their dietary plan.



Candidates need to be discouraged from just making generic statements about the function of nutrients; responses need to show clear application to the case study. There was evidence of candidates having a detailed understanding of the function and source of nutrients but their responses lacked application in terms of justifying fitness for purpose of their chosen dietary program in relation to the dietary needs of Abi pre event or post-race recovery.

Where centres have encouraged candidates to answer question 3 & 4 together in table form whilst this makes responses clear to read; it is important to ensure that this does not restrict access to the top mark band which requires candidates to make an in-depth justification for their choices with sound reference to Abi's specific nutritional & personal needs.

# FOOD SCIENCE AND NUTRITION

## Level 3 Certificate

Summer 2019

### UNIT 2 – ENSURING FOOD IS SAFE TO EAT

#### General Comments

- Signposting of the assessment criteria on the work of candidates enhanced the marking process and is to be encouraged.
- It appeared that some candidates had copied and pasted lots of generic notes with information which may not be relevant.
- Use of the specification grid for Unit 2 which identifies the learning outcomes and content would clarify the information to focus on for each assessment criteria.
- Include a copy of the external assessment task mark sheet with the centre and candidate details on the front of the work for each candidate.
- The blue copy of the Attendance register is required to be sent with the work of the candidates.
- Please ensure that the work from candidates is both hole punched and treasury tagged or stapled in the top corner and not sent in plastic wallets.
- Some candidates were seen to include work which appeared too related to previous scenarios.

#### Comments on individual questions/sections

The majority of the work received for marking of this external Assessment Task was well presented with the correct Mark Sheet for each candidate and a blue copy of the Attendance register. Some centres did not include a copy of the front cover page Mark Sheet which made marking more time consuming. It would be helpful if centres could ensure that each candidate has a copy of this cover Mark Sheet on which the centre number and candidate details have been filled in with their work for next year to assist with the marking process.

The standard of the work produced by candidates was good. Where candidates had clearly covered the specification during their guided learning hours they were able to demonstrate their understanding of food hygiene and safety with clear application of the subject content to the scenario.

The scenario on which the external Assessment Task is based should always be the focus of the work which is completed. Those candidates who had interpreted the requirements of the Let's Celebrate external Assessment Task well were able to produce responses which remained focused on the scenario referencing specific examples; enabling them to access the higher mark bands.

The key element is the avoidance of the inclusion of and reliance on generic notes. Candidates need to be encouraged to demonstrate the application of their food safety knowledge to the Assessment Criteria which are being assessed and closely relate this to the scenario.

Candidates had mostly addressed all required criteria and thus had the opportunity to access the full range of the mark bands.

Candidates need to be aware that two of the Assessment Criteria are not assessed. These change each year, and time was wasted by some candidates on the inclusion of generic notes for AC1.1 describe properties of micro-organisms and AC2.4 describe the symptoms of food induced ill health. The way the scenario was written this year which included symptoms of food induced ill health exhibited by students and teachers who attended the celebration and ate from the Chinese buffet menu; it was anticipated that candidates would apply their knowledge of the symptoms of food induced ill health to support their coverage of AC2.1, AC2.2, and AC2.3.

Evidence of the 8 hours was logged on the timesheet with date and times that work took place and signed by the supervisor and the candidate.

See below for more detailed guidance for each AC section, which should enable centres to guide candidates successfully

The majority of candidates had completed Unit 2 Assessment following the two distinct tasks for The Let's Celebrate Scenario

**Task 1; A written report following a review of the menu; in which knowledge of how the symptoms of food induced ill health which were exhibited; could have occurred.**

**Task 2; A Food Safety Risk Assessment, in order to prevent food induced ill health in the future.**

### **Task 1: Report**

**AC1.3** explain how micro-organisms affect food quality.

Candidates had provided detailed descriptions of how of micro-organisms affect food quality covering bacteria, viruses and fungi; in relation to appearance, texture, smell/aroma, taste non-visible effects and nutritional content. Scientific terms were used effectively and some candidates had applied the information to the dishes on the Chinese buffet menu. It is essential to apply the information to the scenario and many candidates failed to address this in their report.

**AC1.4** Assess how preservation methods prevent the growth of micro- organisms.

A range of preservation methods to prevent the growth of micro-organisms were described well with examples including freezing, jamming, drying, pickling, salting and additives. Some candidates had still just provided generic notes with little application to the dishes on the menu; the information needs to be applied to the dishes. Where candidates were able to demonstrate knowledge and understanding of the methods they were describing with direct application to food sources on the menu they were able to access the higher mark bands.

**AC2.1** Explain the physiology of food intolerance.

Candidates were able to explain the physiological basis of food intolerances including wheat and lactose intolerance, some had referred to chemicals including caffeine, salicylates monosodium glutamate and histamines. Some candidates did not show clear understanding of the difference between a food intolerance and food allergy. For marks in the high band lactose, wheat and chemical intolerance need to be applied to the dishes on the menu. The majority of candidates were able to identify the relevant ingredients from the menu. Where candidates made an assessment of the symptoms exhibited by student 3 and presented detailed justifications as to what they ascertained to be the cause they were able to clearly demonstrate the application to the scenario which is a requirement of the higher mark bands. Some reference to food intolerance was also included in the risk assessment chart.

### **AC2.2** Explain the physiological basis of food allergies.

The majority of candidates were able to explain the physiological basis of food allergies and most were able to identify potential links with dishes on the menu. Some candidates were confused between food allergy and food intolerance. Those who gave a more detailed response were able to demonstrate knowledge of the foods which most commonly contain allergens as listed by the Food Standards Agency; apply this to the scenario with an analysis of both the dishes on the menu and symptoms exhibited by student 1. Some candidates just presented generic information about food allergies making no reference to the scenario.

### **AC2.3** Explain the physiological basis of food poisoning.

Where candidates showed understanding and application of knowledge about the physiological basis of food poisoning they were able to complete this Assessment Criteria to a high standard. The symptoms of food poisoning; foods which present a high risk of food poisoning and causative bacteria were identified with specific links to foods on the menu, followed by detailed assessment of the potential causes of the symptoms exhibited by students 2&4 along with teachers 1&2. The majority of candidates were able to correctly identify whose symptoms were a result of food poisoning with many going onto correctly attribute named pathogenic food poisoning bacteria to the symptoms exhibited or present detailed justification as to what they thought the likely pathogenic bacteria may have been. Further evidence for this criterion was also applied well in the risk assessment chart. Some candidates just presented information in a generic chart making no reference to the scenario.

## **Task 2 Food Risk Assessment**

The blank Risk Assessment chart from Appendix B or a modified version had been used well to address Assessment Criteria for L03. This was clearly structured in their work.

Some candidates had shown evidence of highlighting the key consideration points of the brief and the initial risk assessment on Appendix A; the Chinese buffet menu which assisted their focus on the scenario.

### **AC1.2** Assess how changing conditions affect growth of micro-organisms in different environments.

Evidence for AC1.2 was not always addressed well or only briefly with the inclusion of generic notes, some candidates had referred to changing conditions such as temperature, oxygen, water and nutrients but did not go onto included discussion in relation to environments. Where candidates had discussed conditions and environments and linked this successfully to the foods on the menu they were able to access the higher mark bands.

### **AC3.1** Describe food safety hazards in different environments.

### **AC3.2** Assess risk to food safety in different environments.

### **AC3.3** Explain control measures used to minimise food safety risks.

### **AC3.4** Justify proposals for control measures in different environments.

The risk assessment produced by candidates was very good and this section generally provided the highest marks from this task.

It is evident that there is a solid understanding of the application of knowledge when applied to the preparation, cooking and storage of food. The proforma chart provided in Appendix B or candidates own adapted version was used well to show the hazards, risks and control measures that apply to the preparation and serving of food when catering in relation to the purchase, delivery, storage, food preparation, cooking, reheating ,cooling , hot holding, cold display, serving, disposal of waste. Some candidates only provided generic information.

Where candidates were able to support this understanding of the H.A.C.C.P principles with a risk assessment in relation to specific foods on the menu including reference to specific temperature controls and timings for storage at the various stages; they were able to access the higher mark bands. As the scenario included a buffet menu; knowledge of potential risks with the display; service hot/cold holding was expected.

Some candidates did not complete a detailed justification of the control measures to minimise food safety risks which is a weak area.

# FOOD SCIENCE AND NUTRITION

## Level 3 Certificate

Summer 2019

### UNIT 1 – MEETING NUTRITIONAL NEEDS OF SPECIFIC GROUPS - INTERNAL

#### General Comments

In this third year of the qualification it was encouraging to see an increase in the number of centres delivering this qualification with entries received for this unit from 197 centres. All of the current Model Assignments were seen to have been chosen by candidates this year. This is the final year that the Western Avenue Model Assignment will be available. It should not be introduced to candidates submitting work for 2020. A new Model Assignment has been written to replace it; which some centres used this year. The majority of candidates had interpreted the requirements of the Model Assignment for Unit 1 well. An improvement in the application of information to the scenario was evident in work submitted. Where centres had acted on advice offered by moderators in their reports this had also helped to improve the quality of the work produced.

The majority of candidates started their reports with a brief introduction which demonstrated their understanding of the Model Assignment and enabled them to remain focused on the tasks.

#### Comments on individual questions/sections

##### Task 1

#### General comments

The majority of candidates included some coverage of Assessment Criteria 1 in a written section following on from their interpretation of task.

See below for more detailed guidance for each AC section, which should enable centres to guide candidates successfully.

**AC1.1** Explain how individuals can take responsibility for food safety.

**AC1.2** Explain methods used by food handlers to keep themselves clean and hygienic.

**AC1.3** Explain methods used to keep work areas clean and hygienic.

To access Mark Band 3, for AC1.1; AC1.2; AC1.3; AC1.4, candidates should explain with clear and detailed reasoning how a **range** of individuals can take responsibility for food safety; a **range** of methods which food handlers can use to keep themselves and work areas clean and hygienic; analyse a **range** of risks to food safety.

Candidates should be discouraged from just including generic notes. There needs to be a clear focus in the evidence which they submit to the environment within which the chosen Model Assignment is set.

An example of good practice as seen by use in some centres has been: Evidence for these criteria included in

- The written work at the beginning of Task 1
- Recorded on the production plan in the Mise-en place section; Critical Control Points column; which as well as identifying hazards includes explanation/analysis.
- Answers to interview questions. (which support evidence in the main body of work)

There was still evidence of some confusion in the distinction between food safety and personal accident/accident prevention; with candidates being credited marks by assessors in AC1.3 for control of personal injury/ accident prevention as opposed to food safety risks.

#### **AC5.1 Interpret recipes for complex menus.**

The menus presented by candidates demonstrated that many of them had a good understanding of the requirements for this task having chosen dishes to include on their menu which required complex preparation; cooking; and presentation skills; whilst meeting the requirements of the target group within their chosen Model Assignment.

There is no requirement for candidates to supply detailed reasons for choice justifying the complexity of their dishes as this will be determined by the assessor and the complexity of the skills being demonstrated should be evident in the detail on the candidates' production plans.

In some cases where candidates had opted for the Spa menu some choices were considered to be too high in fat/sugar considering the situation in which they were going to be served.

It is important that candidates have been introduced to a range of complex skills throughout the delivery of the course enabling them to build up a repertoire of dishes from which to choose once introduced to the Model Assignment. Some Centres were giving candidates credit here and subsequently in the practical skills test for dishes which would not be considered complex in relation to the level of this qualification.

The majority of candidates did use an email format to detail their requirements for the practical session and this is the preferred way of evidencing this section. Candidates should be encouraged to complete their shopping list in a composite format rather than for each course/dish.

#### **AC5.2 Plan production of dishes.**

All candidates showed evidence of planning but with varying degrees of detail. Those able to access Mark Band 3 produced some excellent production plans; with evidence of complex dishes being dovetailed in respect of preparation; cooking & presentation. The majority of these candidates also ensured that the layout of their plan facilitated/ supported the coverage of **AC1.1 AC1.2 AC1.3 AC1.4 AC6.3 AC6.7**

Some candidates were still seen to be including individual recipe & method sheets this should be discouraged. The production plan should contain enough detail for the chosen dishes to be prepared; cooked and presented by the candidate or a third party without the need for further instruction.

### **Suggested action point taken from all centres moderated are as follows:**

Centres should encourage candidates to introduce their task with a brief written explanation showing understanding of the requirements of the Model Assignment.

Evidence of good practice was observed where candidates followed this with some written explanations related to AC1.1 AC1.2 AC1.3. The inclusion of generic notes is to be discouraged candidates need to keep a clear focus on the environment within which the scenario is set.

A small number of centres were still seen to included excessive amounts of introductory writing; this is un-necessary and to be discouraged. Some centres approached the format in a similar way to GCSE Catering, meaning folders included research task details as part of the introduction, this is not in keeping with this Model Assignment and should not be encouraged, as the controlled 9 ½ hour time allocation is necessary to compose the production plan complete the practical skills test and to ensure the coverage of all the Assessment Criteria.

A detailed reason for choice relating to the aesthetics of chosen menu is not mentioned on the Performance Band Criteria. Whilst the inclusion of some sensory comment may support justification it is important to ensure that its inclusion is not at the expense of the required Assessment Criteria for the Task. Where candidates had included nutritional information higher Mark Banding could be agreed.

**AC5.1** It is anticipated that candidates will have been introduced to a range of advanced preparation and cooking techniques during the delivery of the course. Guidance regarding appropriate level three skills can be found on the WJEC open website > resources for teachers > Unit 1 Practical Skills dishes.

It is important that candidates are familiar with what constitutes a complex skill as the wrong choice in the initial stage can limit their ability to access the higher Mark Band in the practical skills test.

Some candidates were seen again this year making reference to recipe trialling please note that whilst candidates may wish to “practice” their dishes independently and outside the teaching and learning environment, this should not be included in the controlled assessment time. Once the Model Assignment is introduced to the candidates there should not be the opportunity for candidates to “practice” their dishes. It would be encouraged, as part of the curriculum, for practical skills to be perfected during specific skills based lessons (e.g., pastry work, meat cookery, sauces, setting of desserts and so on). The Model Assignment is a summative assessment and is to be conducted over consecutive sessions (i.e., Planning, Preparing and Evaluating), with minimal teaching time in between each of these sessions.

There is no requirement for a research plan or research into analysis of local restaurant menus. This is something which could have been done during the delivery of the course not within the ‘time limit’ of the Model Assignment.

**AC5.2:** general feedback is that some candidates could develop production plans to include a more detailed section for the mise-en-place tasks; (enabling them to address elements of **AC1.2 AC1.3**).



The inclusion of critical and quality control point columns will enable them to address **(AC1.4)** and also how they are going to ensure quality of materials **(AC6.3)** and in particular showing the presentation of dishes is considered **(AC6.5.)**. This can then enable the candidate to effectively facilitate a discussion in evaluative comments; demonstrate understanding in the interview if one is conducted.

The inclusion of a column ready for monitoring the production plan throughout the skills test would also enable candidates to satisfy the requirements for **AC6.7** more securely as evidence on the plan as a working document could be discussed in their written report. It was positive to see that fewer Centres were seen to have re- drafted the production plan.

The advanced preparation; cooking and presentation skills which are a requirement of the practical skills test in Task 2 should be evident in the production plans produced by the candidate to support comments made on the Observation Record Sheet about these having been witnessed.

It is not the intention that methods for each dish are submitted separately as production methods and quantities required will have been written into one detailed production plan; 'dovetailing' the preparation; cooking; presentation of each dish along with health and safety considerations. All elements of the practical skills test should be planned for and completed within the allocated 3hrs 30 mins.

## **Task 2**

### **General comments**

The practical skills test is an obvious strength for some candidates. Where candidates have been introduced to a range of complex preparation; cooking and presentation skills they were able to showcase their ability to produce some very high quality outcomes. This year moderators saw less practical outcomes at the other end of the spectrum; however in some cases practical work is still being credited as complex when it does not meet the requirements expected at this level of qualification.

The Observation Record Sheet is an important document; it is anticipated that the assessor will complete this in detail in order to evidence the level of skills demonstrated throughout the practical task. It would assist the moderation if a list of dishes being prepared was included on the Observation Record Sheet.

Many candidates worked hard to demonstrate technical skills during the skills test. Mark Band 3 candidates demonstrated a broad range of technically challenging tasks together with accomplished presentation techniques for example finer vegetable cuts such macedoine and brunoise, boning whole chickens, filleting fish; veloute sauces, vegetable turning, interesting and accomplished vegetable accompaniments, making of fresh pasta; enriched pastry, inclusion of sauces, chocolate decorations, sugar work. Mark Band 3 candidates were seen to present their dishes from their menu to a high end restaurant standard. There was a noticeable improvement in the complexity of the presentation skills used to enhance completed dishes by the majority of candidates moderated this year. Assessor annotation was also essential to confirm flavours were appropriate and balanced; and that working practices demonstrated by the candidate were also to a high standard.

In order to assist with the moderation of the final outcomes a large coloured image of the completed dishes from the menu served together is valuable to verify the marks awarded.

See below for more detailed guidance for each AC section, which should enable centres to guide candidates successfully.

**AC6.1** Use tools in preparation of commodities.

Evidenced by assessor has having been observed during the practical skills test on the Observation Record Sheet. Candidates will have shown knowledge of requirement for specialist tools in their email outlining their requirements for their practical skills test.

**AC6.2** Use advanced techniques in preparation of commodities.

Evidenced by assessor has having been observed during the practical skills test on the Observation Record Sheet. Candidates will have shown knowledge and understanding of the advanced techniques to be demonstrated in the detailed instructions for making provided on their production plan.

When preparing dishes using commodities e.g. chicken higher performance banding can be achieved if the candidate bones and joints the chicken and uses portions in their recipe. Similarly when working with fish removing their own fillets. When working with fish during the delivery of the course candidates could be introduced to recipes using seabass; mackerel; trout as a more practical option to filleting a whole salmon.

It is anticipated that at this level candidates will make their own pasta or pastry. Accompany dishes with complex sauces.

Centres could introduce candidates to a wider range of vegetable accompaniments/ garnishes/decorative techniques. It was evident that many Centres did indeed do this this year.

**AC6.3** Assure quality of materials to be used in food preparation.

Evidenced by assessor has having been observed during the practical skills test on the Observation Record Sheet. This should also be evident on candidates' production plan in their critical and quality control points section.

**AC6.4** Use advanced techniques in cooking of commodities.

**AC6.5.** Present cooked complex dishes using advanced presentation techniques.

Candidates need to be encouraged to cook for and present two covers to meet the requirements of the allocated/chosen specific target group within the Model Assignment.

Chosen dishes need to show case use of:

- Three advanced preparation techniques
- Three advanced cooking techniques
- Complex presentation skills

Guidance regarding appropriate level three skills can be found on the WJEC open website > resources for teachers > Unit 1 Practical Skills dishes.

It is anticipated that all completed dishes along with any chosen appropriate accompaniments will be presented together on the completion of the skills test. Some Centres appeared only to take photographic evidence of individual dishes. It is considered good practice to include evidence of both Centre and candidate number in the photographs submitted.

### **AC6.6** Use food safety practices.

Evidenced by assessor has having been observed during the practical skills test on the Observation Record Sheet. This should also be evident on candidates' production plan in their critical control points section

### **AC6.7** Monitor food production.

Monitoring of production plans needs to be explicit in candidates work. An example of good practice as seen by use in some centres has been the addition of another column to the plan for the recording of modifications; changes made during the practical. This would strengthen AC6.7 as these annotations could then be discussed by the candidate in their written report clearly demonstrating that it has been used as a working document.

### **Suggested action point taken from all centres moderated are as follows:**

Learners must be supervised by an assessor whilst completing the practical skills test. The planned practical work should be completed in one session with duration of 3hrs 30 mins, at the end of which all the completed dishes should be presented together.

In order to assist with the moderation of the final outcomes a large coloured image of the completed menu is valuable to verify the marks awarded/quality of completed outcomes. Good practice observed is where candidates also include colour photographic evidence of each completed dish.

Photographic evidence of process/technique is not a requirement as these skills can be authenticated in the Observation Record Sheet.

**AC6.7** It is not necessary that candidates redraft their production plan. The intention is that the production plan is completed during the planning session prior to the Skills test. (See advice above)

## **Task 3**

### **General comments**

Some centres completed this task exceptionally well and candidates underwent an interview after their practical skills test to support the written evidence which they had produced. Where candidate responses to interview questions had been included it assisted the verification of how marks had been awarded by the assessor. Reliance of coverage of the Assessment Criteria cannot be in the interview alone.

Candidates who had a good understanding of the requirements of the Model assignment produced detailed well-structured applied written evidence for this task which met the assessment criteria in relation to how their chosen dishes met the nutritional needs of their target group. However, for some centres the covering of the Assessment Criteria for this task was clearly more challenging. Some candidates were not able to access the higher Performance Bands due to lack of understanding; application of nutritional knowledge and information not being directly related to the target group in the case study.

All candidates should be encouraged to ensure that when evaluating the fitness for purpose of their menu that there is a direct correlation between the Assessment Criteria and how they meet the needs of the specific group for which they have been planning. Detailed sensory analysis of finished menu is not mentioned on the Performance Band Criteria. Whilst the inclusion of some sensory evaluation may support evaluative comment it is important to ensure; given that this is a time controlled assessment its inclusion is not at the expense of the required Assessment Criteria for the Task.

Some candidates were still seen to include work around costing. Costing is not mentioned on the Performance Band Criteria so candidates do not have to include this.

Candidates need to be encouraged to respond to the command word on each of the Assessment Criteria. On their own a list of generic issues is not sufficient to achieve the higher Mark Band Performance Criteria.

See below for more detailed guidance for each AC section, which should enable centres to guide candidates successfully.

**AC1.4** Analyse risks associated with food safety.

The use of HACCP charts applicable to the chosen dishes could be used to demonstrated knowledge of the risks associated with food safety.

**AC2.1** Explain how nutrients are structured.

Diagrams of nutrient structure could be used to assist candidates to give a clear and detailed explanation. Nutrients need to be relevant to the case study. The reliance on the use of generic notes is to be discouraged.

**AC2.2** Classify nutrients in foods.

Links with the case study and practical assessment are required when classifying nutrients in food. Candidates need to identify main and secondary sources.

**AC2.3** Assess the impact of food production methods on nutritional value.

Generic references should be avoided; discussion should be applied to the choice of dishes selected. Candidates should consider the loss and gain of relevant nutrients caused by production along with preparation methods and not just the cooking processes being demonstrated.

**AC3.1** Describe functions of nutrients in the human body.

Functions must be identified and related to the target group within the case study. Where candidates had included generic tables they often omitted to apply the information which they had included.

**AC3.2** Explain characteristics of unsatisfactory nutritional intake.

A clear focus should be kept on the target group and explanation of issues should relate directly to them. Encourage candidates to link nutritional deficiencies to those of Western cultures of 2019.

**AC3.3** Analyse nutritional needs of specific groups.

A clear focus should be kept on the target group in the Model Assignment and the analysis should focus directly on their specific nutritional needs.

**AC3.4** Assess how different situations affect nutritional needs.

A clear focus should be kept on the target group; a wide range of situations which could directly affect their nutritional needs should be discussed; these could relate to health, occupation, activity level, religious beliefs, vegetarianism, dietary restrictions such as Coeliac or lactose intolerance, time of year, and the weather.

**AC4.1** Evaluate fitness for purpose of diets.

The focus for this should be the chosen menu. Candidates may have access to nutrition analysis software to enable them to analyse and discuss the nutritional suitability of their menu to their target group.

**AC4.2** Calculate nutritional requirements for given individuals.

Candidates should discuss in detail the nutritional requirements of the target group for which they are planning. Candidates should discuss the nutritional intake for key macro and micro nutrients.

**Suggested action point taken from all centres moderated are as follows:**

**AC2.1 AC2.2 AC2.3 AC3.1 AC3.2 AC3.3 AC3.4 AC4.1 AC4.2**

The key element is the avoidance of the inclusion of generic notes. Candidates need to be encouraged to demonstrate application of nutritional knowledge of the Assessment criteria which is closely related to the target group.

**AC2.3** When evaluating their menu candidates need to assess how the food production; preparation and cooking methods which they have used have impacted on the nutritional value of their dishes. How production methods of commodities used may also affect nutritional value in relation to loss and gain of specific nutrients.

Where a candidate provides evaluative comments verbally in the interview; in addition to teacher annotation on the Observation Record Sheet an example of good practice as seen by centres is where a copy of the questions and candidate responses are included as evidence. This makes it clear to see how marks were awarded. A comment on the mark record sheet "discussed in interview" that a particular AC has been covered is not sufficient evidence on its own to enable higher mark band to be awarded.

There was evidence in some cases where students had included/used class notes in the interview for task 3 this should be discouraged, please refer to guidance outlined below.

The Assessor Information which is included in the Model Assignment; provides clear guidance as to resources which candidates' may have access to for the interview.

“For task 3, learners may access class notes to prepare for the interview, but cannot use them during the interview. They may however produce their own summary during the planning time which can be taken into the interview. This should be no more than one piece of paper.”

The interview is designed to support candidates in demonstrating a depth of understanding of the Assessment Criteria for this unit; the interview alone cannot be relied upon to facilitate/ credit Assessment Criteria coverage.

## **Summary of key points**

### **General Comment for Centre**

The Model Assignment is a summative assessment. Its purpose is to assess candidates' knowledge skills and understanding gained through the delivery of the course. It is not the intention that it is an extended piece of controlled assessment as it has an allocated time control of 9 hrs. 30 mins.

Before embarking on the Model Assessment the Assessor needs to be familiar Assessor information; WJEC Approach to Assessment found in the Model Assignment. This provides guidance regarding the resources candidates can have access to for each task.

Candidates should be encouraged to identify a target group at the start of their work and to make reference to this group throughout their report. Candidates should keep a clear focus on the Performance Band Criteria and avoid the inclusion of research unrelated to the case study and chosen menu particularly when time taken to complete this may have been at the expense of other required Assessment Criteria.

Candidates should be encouraged to use the Assessment Criteria as headings throughout their work as this enables them to ensure coverage and assists the moderation process when it comes to verifying where the Assessor has awarded marks.

In order to assist the moderation process it is helpful if candidates are encouraged to page number their work, An example of good practice as seen by use in Centres has been where assessor annotation on the Mark Record Sheet makes reference to page number along with signposting of Assessment Criteria on candidates work. It is not the role of the moderator to mark or search for evidence of the assessment criteria on the candidates work. Total marks need to be recorded on the front of the Mark Record Sheet not grades. It is important to ensure that candidate numbers are also recorded on the front page of the Mark Record sheet.

It is good practice for each Candidate to include a front cover with;

- Unit number and title
- Candidate name and number
- Centre name and number
- Model assignment which has been selected with photograph of complete dishes.

The individual Centre moderators' reports are an invaluable source of feedback. It is important that assessors read them in order to ascertain which areas if any require development with future learners before embarking on the Model Assignment.

## **FOOD SCIENCE AND NUTRITION**

### **Level 3 Certificate**

**Summer 2019**

#### **UNIT 3 – EXPERIMENTING TO SOLVE FOOD PRODUCTION PROBLEMS**

##### **General Comments**

In order to assist the moderation process it is helpful if candidates are encouraged to page number their work. An example of good practice as seen by use in other centres has been where assessor annotation on the Mark Record Sheet makes reference to page number along with signposting of Assessment Criteria on candidates work.

It is good practice for each Candidate to include a front cover with;

- Unit number and title
- Candidate name and number
- Centre name and number
- Model assignment which has been selected

##### **Comments on individual questions/sections**

It was encouraging to see an increase in the number of centres delivering this qualification with entries received for this unit from 128 centres. The majority had interpreted the requirements of the Model Assignment well with a variety of work from the three choices of brief. The most popular being The Artisan Bakery and Feasts Catering Company with experimental work addressing the problems during production.

Annotation on the Mark Record and Observation Sheets was clear and has aided moderation through signposting and annotation by the teacher as to where it is found within the candidates work. Some centres had included a time sheet to record the use of the 12 hours allocated to this assignment.

The interpretation of the specification enabled the candidates the opportunity to demonstrate their understanding and knowledge of the scientific principles of food. Candidates had addressed the initial issues in production well identifying the problems and focusing their practical experimental work on resolving them. Candidates achieving marks in the high band had produced the problem products using the original recipe and then evaluated the outcome before considering which modifications to make. This is to be encouraged as it allows candidates to use their understanding of the properties of food in order to plan and carry out experiments.

The use of the Unit 3 specification content as a guide for each of the assessment criteria was evident, this enabled candidates to address relevant information successfully and achieve marks in the high band.

Good quality photographs showing the textures and cross section of pastry/quiche fillings and bread enabled candidates to make meaningful observations and more detailed evaluations. It is essential to refer back to the original success criteria for the evaluation. The results of the experiments were used to propose options to solve food production problems. The majority of candidates carried out 5/6 experiments successfully with clear SMART measurable aims, hypothesis, variables, outcomes and scientific justification for the results obtained.

Areas for development are AC 2.1 set success criteria for scientific investigations, AC1.2 explain variables that affect physical properties of food, and AC2.5 review suitability of investigative methods along with Task 5 proposal and justification to the company.

*The following will address each Assessment Criteria in more detail:*

## **Tasks 1 and 2 Planning AC2.1, AC3.1.**

### **AC2.1 Set success criteria for scientific investigations.**

While candidates had clearly addressed the issues, the specific success criteria had not been set in the detail required allowing for the higher mark bands.

Many candidates had addressed the issues and set clear aims for success which were relevant to the production problems. In some cases candidates provided aims which were not specific enough and difficult to measure to give an accurate outcome. While candidates had clearly addressed the issues, the specific success criteria had not been set in sufficient detail allowing for the higher mark bands. Identifying the success criteria which is SMART - clear, measurable and appropriate is an essential part of this process, enabling candidates to evaluate the results of experimental work with clear focus.

It is important that candidates consider the desired successful outcome in relation to the problems identified in the brief during production. This will then give clear focus to the experimental work and provide a more measurable result in which to compare with. As part of the planning, each experiment carried out should state the aims to be achieved which are linked to the success criteria. Factors which are essential to include are appearance, aroma, flavour and texture.

Some candidates produced the 'problem product' using the original control recipe and then evaluated the outcome before considering which modifications to make. This is considered a good starting point and helps to clarify and develop more detailed aims in the experimental work and produce a more accurate measurable result on which to make valid conclusions.

### **AC3.1 Analyse food production situations.**

Information had been analysed relating to the food production situation. Candidates were able to categorise the issues to clearly identify what the problems are. The majority of candidates had given an explanation as to why each of the initial problems had occurred. Evidence of good practice was observed where candidates had clearly highlighted the problems from the brief giving a range of reasons for why each problem had occurred. This was successfully completed and candidates were able to demonstrate a thorough understanding of food production and scientific knowledge of ingredients. Good reference was made to variables – temperature, chemical reactions and manipulation of ingredients which supported evidence for AC1.2.

Identifying the problems and being able to understand the reasons why they had occurred also gave candidates a clear focus on what the success criteria should be as evidence for AC2.1, this information can be used to state the aims for the experimental work.



### **Task 3 Experimental work AC2.2, AC2.3.**

#### **AC2.2 Obtain outcomes from scientific investigations.**

All candidates showed evidence of practical work but with varying degrees of detail. The majority had successfully carried out a number of experiments (min of 4/5) to investigate the solution to each problem. The experiments were relevant to the aims identified from AC2.1. All candidates should be encouraged to ensure that the practical experimental work accurately records the amounts and methods which were used with a varied combination of different ingredients, many had omitted this in sufficient detail. The use of HACCP for the making is not a requirement for this assessment. Some of the outcomes were valid and reliable, for marks in the high band there should be clear evidence of scientific knowledge and a scientific explanation of the results. There should be a logical progression through the investigations that communicate valid and reliable outcomes. This is where identifying the success criteria which is SMART - clear, measurable and appropriate is an essential part of the process.

Candidates should be encouraged to use a suggested format for experimental work to include - aim, hypothesis, variable for this experiment, ensuring fair and reliable controls, method, photographs, results, and a conclusion.

Once all the experimental work has been completed to solve the production problems, it is good practice if time permits to make the improved recipe addressing all of the issues to support the recommendations to the company. Some candidates completed this successfully and this helped them to make well- reasoned justifications.

When obtaining consumer feedback candidates should explain how many testers were used and explain the method used to record the results e.g. ranking test, rating test.

The completion of the Observation Record supported the experimental work carried out with a description of candidate performance as well as a summative statement on the quality of that performance. The Observation Record Sheet is an important document; It would assist the moderation if a list of the experimental work carried out was included on the Observation Record Sheet.

#### **AC2.3 Record outcomes of investigative work.**

The majority of candidates had used a variety of suitable methods to record the outcomes of experimental work. The use of photographs, rating/ ranking tables, pie/bar charts and star profiles supported the results. It is recommended that a variety of different methods of recording are used for marks in the high band. Candidates need to ensure that data collected is accurate allowing for clarity of recording. It was useful to see photographs showing the quality of the textures and cross sections enabling candidates to make meaningful observations and more detailed evaluations.

### **Task 4 Properties of food, process data and review methods.**

#### **AC1.1 Explain how food properties can be changed.**

Candidates had used their understanding of how properties of food can be changed which were relevant to the production problems highlighted in the model assignment. The majority of candidates were able to provide detailed and accurate information on the scientific properties of the ingredients used in the product with a good understanding of the reasons for these changes. Candidates were able to explain how food properties can be changed due to denaturation of proteins from the effect of heat, acids, alkalis and the use of mechanical action including gelatinisation of starch, caramelisation of sugars and emulsification of eggs. The changes were applied according to the ingredients used in the recipe.

### **AC1.2 Explain variables that affect physical properties of food.**

To access mark band 3 candidates should relate more clearly to the ingredients used in the recipe and apply this information to the processing of the product. Some candidates provided generic notes on the effect of the listed variables on properties of food. A range of variables – temperature, chemical reaction and manipulation on the properties of food should be identified and explained. This information was provided to support evidence for AC3.1 'Analyse food production situations' and AC3.2 'propose practical options to solve food production problems' where the problems of production were analysed. An explanation of denaturation, coagulation, caramelisation and emulsification needs to be applied where relevant in relation to the ingredients used. Variables also included different types and ratios of ingredients, manipulation and temperature. To access mark band 3 some candidates could explain how variables affect shortening, coagulation, maillard browning in greater scientific detail, the use of scientific diagrams can aid this process.

### **AC2.4 Process data.**

A variety of different recording methods were used to show the results from the experimental work. The collected data should be analysed and evaluated conveying a basis on which to make valid reasoned judgments without bias. It should be clear how this data has been collected and recorded. The conclusions should be clearly presented as such and justified. To access mark band 3 it is essential that candidates show consistency and attention to detail. It was useful to see photographs showing the quality of the textures and cross sections enabling candidates to make meaningful observations and more detailed evaluations.

Candidates should avoid very large star profiles and pictures as it takes up too much space and cannot be linked appropriately for the analysis of data. It is also advised that candidates have more than one person to provide sensory feedback; it will improve processing of data and analysis if quantitative and qualitative data is used.

Most candidates had analysed each investigation referring back to the original success criteria allowing conclusions to be drawn.

### **AC2.5 Review suitability of investigative methods.**

The investigative methods should be reviewed with clear and well-reasoned conclusions. It should be clear how the evidence has been gathered and how it supports the conclusions. The methodology should be reviewed to explain how a fair result has been obtained. Some candidates had reviewed what went well/not well for carrying out each experiment explaining the limitations in relation to ingredients used, equipment and time. In some cases, this was addressed too briefly to achieve mark band 3. A review of the methods chosen identifying any problems during processing and baking or the use of equipment such as an ice cream maker could be assessed for quality of the end product. Candidates should also explore the limitations of the testing process. Fair testing methods should be reviewed. The reports that analysed each investigation, referring to the original success criteria, allowed succinct and clear conclusions to be drawn.

### **Task 5 Proposal and justification to the company.**

#### **AC3.2 Propose practical options to solve food production problems.**

Some candidates had presented this report successfully by recommending changes which need to be made to make a successful product but this needs to be more accurate and with sufficient detail. It is important to produce a revised detailed recipe and advice on the method of making for the product successfully addressing the initial problems. A written report to the manufacturer explaining clearly what the issues were during production with detailed suggestions for improvements is required to meet assessment for AC3.2 and AC3.3 along with scientific explanation for the changes recommended. In some cases, the information was not accurate or important details were missing such as a recipe, specific

measurements and temperatures, type of fat etc. Some candidates had successfully presented this information as a written report addressed to the company or as a power point presentation which could be used when feeding back their recommendations to the company.

### **AC3.3 Scientifically justify proposed options.**

Conclusions for this assessment criteria were brief. Some candidates had produced a revised recipe and advice on method of making for the product successfully addressing the initial problems. AC3.2 could be developed further by candidates producing a presentation/report to the Assessor explaining the proposed final product rather than an interview. Candidates can use scientific language within their report to support the proposed final product. Candidates have not fully addressed Task 5, the “Present practical options to the management in written format” part of the task in enough detail. It would be better to bring together all the outcomes of investigations in the form of a revised recipe and method which could then be directly compared with the original. A range of practical options should be proposed with suitable technical language used in a consistent manner. i.e., what is the best way to make the product?

To access mark band 3 it is expected that detailed scientific justification is related to each investigation and not added as a generic addition at the end of the report. Scientific terminology needs to be included when justifying the proposed changes.

# FOOD SCIENCE AND NUTRITION

## Level 3 Certificate

Summer 2019

### UNIT 4 - CURRENT ISSUES IN FOOD SCIENCE AND NUTRITION

#### General Comments

Entries for this Unit were received from 51 centres. It was pleasing to see that the majority of centres had successfully interpreted the requirements for Unit 4. The work was well presented by the candidates. Marking has been accurate for most centres and assessment had been applied accurately for the majority of Assessment criteria. Annotation on the Mark Record Sheet has been helpful for moderation, being signposted and written throughout the work.

The candidates' work followed a logical order, and the report was presented demonstrating a good understanding of the assessment criteria. The candidates had used the time allocated well in the planning, research and evaluation of the report. The work submitted has a guidance time to complete of 14 hours. It is not necessary to include all research as Appendixes, a summary would suffice.

Investigation topics were varied and topical with many candidates choosing a relevant current food issue. Some really interesting current topics were covered this year, some from personal experience with an increase in vegan diets, school meals and low income meal planning issues. The influence of social media was also popular, however these projects often focussed too much on the media content rather than the impact on food and nutrition.

Where the topic was quite theoretical and outside the experience of the candidates, outcomes were less successful. Projects with a large area of content can be difficult and a narrower focus may be beneficial allowing more focus on a particular issue.

Most hypotheses were written as a question as a starting point and this is key to a successful outcome and a wide range of primary and secondary research techniques had been used successfully to produce a report. Phrasing is important. Questions that start with "How much" etc. cannot be proved or disproved. It needs to say something like "Can" or "Does...." or "Is it possible to ...". The hypothesis should be concise otherwise research can be too broad and lack focus. Can the answer be "yes" or "no"? However, there must be a suitable range of primary research to be able to demonstrate a thorough investigation into the hypothesis.

Information and data was presented and analysed to produce clear and well - reasoned conclusions. These conclusions were well drawn and research projects clearly linked with current Food and Nutrition issues. Equally at the conclusion the candidate should refer back to the hypothesis and explain how it has been proved or disproved. Some candidates chose a suitable topic but then did not express their hypothesis in a way that provided a point to prove or it was too simplistic. Relevant issues have been proposed but the key point to be proved was often very subjective or simplistic. Aims are important but it is more important to focus on a particular issue and narrow the scope of the research produced. Equally at the conclusion the candidate should refer back to the hypothesis and explain how it has been proved or disproved.

Primary methods of research are essential. A wide range of secondary research had been used to successfully outline the issues but this should be followed up with relevant primary research. Sometimes the primary research was not developed or did not help prove the point. Primary research can be practical activities, sensory analysis, nutritional analysis, testing and other forms of investigation which will add relevant evidence based on facts. Secondary research is useful to outline the issues but this should be followed up with relevant primary research.

Good evidence was observed when candidates used clear sub headings as a useful way to structure the work and ensure criteria are covered.

In order to assist the moderation process it is helpful if candidates are encouraged to page number their work, An example of good practice as seen by use in other centres has been where assessor annotation on the Mark Record Sheet makes reference to page number along with signposting of Assessment Criteria on candidates work.

From an administrative point of view centres must ensure that work is identified with

- Unit number and title - Proposed current issue
- Candidate name and number
- Centre name and number

### **Comments on individual questions/sections**

#### **Task 1 Plan research into current issues affecting food science and nutrition.**

**LO1** Be able to plan research into a current issue relating to food science and nutrition.

##### **AC1.1 Propose research into a current issue related to food science and nutrition.**

Relevant issues had been proposed and described in detail and most hypotheses were written as a question. Many candidates were able to explain why the chosen topic was relevant and where the idea came from with suggestions for suitable research techniques to investigate. This gave candidates a sound starting point from which to begin their research. Some candidates had suggested several topics which would be suitable to investigate and justified the selection of the final choice. Clear project aims and objectives had been identified. Candidates awarded marks in the high band had explained why this research is important and who it will affect covering key stakeholders. Clear project aims with how they intend to carry these out had been identified. It was evident that the content and sequence of events should achieve project aims.

##### **AC1.2 Plan research into a current issue.**

The majority of candidates planned and recorded their research and investigations using a logical method, mostly in a table format. Relevant headings used were date/time, planned activity, purpose, modifications made and outcome. Linking in the aims from the introduction provided a focus for the research to be carried out. Methodology was included here and this was successfully reviewed showing the different methods for carrying out the project and their suitability. The plan also gave a clear indication of how the 14 hours were used for this task. Presenting the planned research in this way enables candidates to review their progress and make changes as well as provide evidence for AC1.3 and AC2.1. The majority of candidates had provided a wide range of both primary and secondary research which is important. Practical work is often appropriate but not always chosen when researching current issues and provides good primary research sources of information. For marks in band 3 a wide range of research methods are essential, as a guide, between 6-8 methods in total is expected. A minimum of 5 methods is acceptable for a Pass.

### **AC1.3 Justify plan for research.**

Candidates had justified their planned research by linking in to the aims identified in AC1.1 explaining why each research method was appropriate, relevant and how it will be used for the task.

### **AC3.1 Describe research methodology.**

The methodology should be described in detail. It is essential to identify whether research is primary or secondary. For marks in the high band candidates must explain their methodology. It must be clear why this method of research is suitable, relevant and how it will be useful for completion of the task. For example questionnaires should include how many people will complete each one, including their age and gender and how the random sample was chosen to restrict bias. The content and sequence of events should achieve the project aims. The explanations should be accurate and well-reasoned. Some candidates had discussed the merits of each type of research and selected which ever was most appropriate and practical.

### **AC3.2 Design primary research tools.**

Candidates had successfully produced a range of options this year, primary research methods used were surveys, questionnaires, interviews, practical taste tests, and shop/restaurant visits. It was encouraging to see more practical work carried out with supporting nutritional analysis and costing where relevant. This can demonstrate reliable and valid information on which to base conclusions.

Some good primary research tools were developed and linked with the project aims. An outline of any resources to be used can also be included. A blank copy of the questionnaire can be included. Photographic evidence is also very useful for providing evidence of the investigations and research completed.

## **Task 2 Investigate an issue in food science and nutrition.**

### **L02 Be able to manage the project.**

#### **AC2.1 Monitor project progress.**

It is essential to monitor the project at key stages (in between investigations) and change plans as they progress if needed and make decisions based on the results of research or investigations. For marks in the high band progress should be commented on throughout the project. Candidates have had success by adding a separate column to the plan which is then completed as the plan progresses. Some candidates have monitored the progress made briefly but not necessarily adjusted plans accordingly.

Clear tables were used for many candidates, however in order to achieve marks in band 3 the project must be clearly monitored with ongoing progress and plans adjusted accordingly using the modification column. This section was leniently marked at times.

#### **AC2.2 Evaluate research project.**

In all cases the project must be evaluated, this was completed to a varying degree: with some evaluations being comprehensive and conclusions drawn from a wide range of evidence, some candidates had produced evaluations which were subjective with limited evidence or conclusions made. However, this was marked in accordance with the criteria. Candidates should concentrate on analysing the usefulness of research completed rather than repeating a description of how it has been completed. Focusing on the original aims and hypothesis is helpful when evaluating the project. Some candidates had completed this well throughout their work and the original aims provided them with a framework to successfully evaluate their research carried out. This leads candidates well in to being able to prove or disprove their topic which is a fundamental part of this assessment.

### **LO3 Be able to investigate current issues in food science and nutrition.**

In this section there should be clear methods of investigation completed. The investigative methods should be reviewed and well-reasoned conclusions should be presented. It should be clear how the evidence has been gathered and how it supports the conclusions. Analysis is a key part of this process. Trends should be identified. Bias should be examined.

#### **AC3.3 Analyse data.**

This was completed to a varying degree with most candidates being able to analyse the data which they have collected successfully. It is essential to explain how data has been analysed and how knowledge has been applied. The collected data should be collated and presented in a suitable manner. Data in numerical terms, such as percentages is more useful than colour coded pie charts which may not deliver detailed results. Candidates achieving marks in the high band were able to make reasoned judgements based on all the data provided and link this information in to their aims and hypothesis. Relevant trends, patterns and relationships need to be highlighted. This can include looking at how the results from the data can affect other issues such as how the need to provide meals on a low income could result in social problems.

**AC3.4 Evaluate quality of information.** For marks in the high band it is essential to use a range of primary and secondary research sources which are then analysed. Evaluations should be analytical, rather than descriptive. Candidates should examine the pros and cons of each method used, the quality of the information gathered and evidence of bias. Some candidates had included this in their plan for research but most had evaluated this separately at the end of each research method used. Candidates need to explain how each research method allows them to prove or disprove the hypothesis. Information collected which is valid and reliable can support candidates in being able to evaluate the quality successfully. Examples include evaluating a school snack survey carried out at one break time compared with several days which would allow patterns to be seen. This links well with AC3.3.

### **LO4 Understand current issues in relation to food science and nutrition.**

This section should provide evidence of how a candidate has used prior knowledge to highlight and discuss a current issue in food science and nutrition. Candidates should avoid basing their conclusions merely on their own opinions and provide the evidence on which conclusions have been drawn.

#### **AC4.1 Analyse current issues in relation to food science and nutrition.**

All candidates had analysed current issues related to food and nutrition, where the key aspects were highlighted from different perspectives and where most conclusions were drawn from evidence marks in the high band were achieved. Some candidate's clearly demonstrated a range of prior learning, where this was done well candidates also achieved the criteria for the higher marks. Reference to the original aims was evident and this provided a concise conclusion from which to base their findings and to answer the hypothesis proposed at the beginning. Most candidates had completed a clear summary to outline the key issues of the report.

**AC4.2 Evaluate how key stakeholders respond to current issues.**

A particular criteria for development, some candidates provided little discussion of the evidence produced with stakeholders. This can be a weak area where candidates rely on websites, blogs, articles and secondary sources for information. Some candidates had completed this well with comments from relevant groups related to the topic. A good way to do this is to have a presentation at the end to a focus group and then ask for their feedback. Considering those affected by the issue is important which could be children, canteen staff and parents with a selected school meals topic. It is essential to include the opinions and comments of those affected by this issue. The evidence should be factually accurate, relevant to the hypothesis and involve key stakeholders for the issue described. As you would expect for higher marks primary research is useful here. Once conclusions have been made these should be shared with stakeholders and their opinions sought.





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