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# **EXAMINERS' REPORTS**

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

**SUMMER 2018**

Grade boundary information for this subject is available on the WJEC public website at:  
<https://www.wjecservices.co.uk/MarkToUMS/default.aspx?l=en>

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WJEC provides information to examination centres via the WJEC secure website. This is restricted to centre staff only. Access is granted to centre staff by the Examinations Officer at the centre.

### **Annual Statistical Report**

The annual Statistical Report (issued in the second half of the Autumn Term) gives overall outcomes of all examinations administered by WJEC.

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# FOOD SCIENCE AND NUTRITION

## Level 3 Certificate

Summer 2018

### UNIT 1 MEETING NUTRITIONAL NEEDS OF SPECIFIC GROUPS

#### INTERNAL ASSESSMENT

In this second 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 167 centres; the majority of which had interpreted the requirements of the Model Assignment for Unit 1 well.

#### **Task 1**

##### **General comments**

The majority of candidates included some coverage of Assessment Criteria 1 in a written section following on from the 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 AC 1.1; 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 on the case study within the chosen Model Assignment when addressing all of the Assessment criteria.

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 appeared to be 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**

Many candidates were able to clearly demonstrate that they could interpret recipes by choosing complex dishes which met the requirements of the target group from the Model Assignment on which they had decided to focus.

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. Higher ability candidates produced some excellent production plans; with evidence of complex dishes being dovetailed in respect of preparation; cooking and presentation. The majority of these candidates also ensured that the layout of their plan facilitated 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 and method sheets this should be discouraged. The production plan should contain enough detail for the chosen dishes to be prepared; cooked and presented by a third party without the need for further instruction.

### **Suggested action points 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 task.

A small number of Centres were seen to include 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 (legacy qualification), 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 strict 9 ½ hour time limit is necessary to compose the production plan complete the skills test and evaluate ensuring 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.

**AC1.1 AC1.2 AC1.3** Some candidates produced work of a very generic nature. This does not meet the brief and students should select their dishes and discuss the hygiene and safety requirements linked to the menu choices. All candidates need to strengthen their answer for **AC1.3** referring to disposal of waste and kitchen design as well as cleaning of surfaces and equipment.

**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 made 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 strict 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 3 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 local food suppliers; 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 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 evaluative comments. 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 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. An example of good practice as seen by use in other centres has been where production plans have been set out in table form; with distinct headings and colour coding of dishes. All elements of the practical skills test should be planned for and completed within the allocated 3hrs 30 mins.

## **Task 2**

### **General comments**

This section is obviously a real strength for some Centres. 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 also saw work from a number of centres at the other end of the spectrum; with practical outcomes which were being credited as complex but did 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 level of skills demonstrated throughout the practical task. It would be 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. Distinction 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, chocolate decorations, sugar work. Distinction candidates were seen to present their dishes from their menu to a high end restaurant standard. 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 the practical skills test.

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

Encourage candidates to offer a soup with particulates, rather than pureed, as this gives the candidate the opportunity to demonstrate higher skills.

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.

Centres could introduce candidates to a wider range of vegetable accompaniments/ garnishes/decorative techniques.

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

This should be evident from candidates production plan and evidenced by assessor has having been observed during the practical skills test on the Observation Record Sheet.

**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 specific group.

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.

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

This should be evident from candidates production plan in a critical control point column and evidenced by assessor has having been observed during the practical skills test on the Observation Record Sheet.

**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 during the controlled evaluation task 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 all the completed dishes 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 in other centres 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 to support the written evidence which had been produced in the 3 hrs allocated time limit for this task.

It was good to see student responses to interview questions submitted in support of the candidates' written work enabling higher Mark Bands to be met.

More able candidates produced sound well-structured evaluations demonstrating the application of the required assessment Criteria when evaluating the dishes from the menu which they had produced. However, for some centres task 3 was clearly the most challenging and 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 their dishes that there is a direct correlation between the Assessment Criteria for Task 3 to their chosen dishes 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 the strict 3 hours' time limit 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 demonstrate 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

**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 and relevant cooking methods. Candidates should consider the loss and gain of relevant nutrients caused by production methods and not just the cooking processes.

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

Functions must be identified and related to the clients identified within the case study. Where students had included generic tables they missed this out. Reliance of coverage cannot be in the interview alone.

**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 2018

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

A clear focus should be kept on the target group in the assignment and the analysis should focus directly on their specific 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 should be assessed for example health, activity level, religious beliefs, vegetarianism, dietary restrictions such as Coeliac or lactose intolerance, the weather, different environments whilst still being directly applied to the case study.

**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 macro and micro nutrients.

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

**AC1.4** consider how this could be evidenced in candidates work as candidates are asked Analyse risks associated with food safety if this is included on the production plan this would then facilitate the candidate being able to discuss this in the written element of Task 3 and supporting interview if one is carried out.

**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 the how the food production 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.

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.

### **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 limit of 9 hours: 30 minutes.

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 keep a clear focus on the target group throughout, and ensure that there is a direct correlation between the application of knowledge and the assessment criteria for all three tasks.

Candidates should be encouraged to use the Assessment Criteria on their work as headings as this enables the correct evidence to be presented.

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 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 2018

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

#### EXTERNAL ASSESSMENT

##### Section A

- Q.1** (a) Most candidates gained 2 or 3 marks. Those candidates who had misunderstood the question and gave examples of kitchen hygiene as opposed to personal hygiene were unable to obtain any marks.
- (b) This question was generally well answered showing an awareness of pathogenic bacteria with most candidates being able to name three which cause food poisoning; however some candidates listed yeasts; moulds and viruses as their response.
- Q.2** (a) Most candidates were able to name one dietary function of calcium but appeared to struggle to state a second. Where candidates stated for strong bones and teeth this was only awarded one mark as it was considered to be the same dietary function. Candidates need to be discouraged from giving one word answers for example. Osteoporosis on its own is not a dietary function of calcium. Candidates were required to state works with Vitamin D to prevent rickets; osteomalacia/osteoporosis to be awarded a mark.
- Q.3** (a) Many candidates were found to have written the answers the wrong way round mixing up a good source of Retinol with a good source of Beta Carotene and vice versa. Where candidates just wrote fish or egg they were not awarded the mark, answer needed to make reference to Oily fish and Egg yolk. Some candidates were seen to hedge their bets and put the answer carrots for both parts.
- (b) Carrots was the main source cited followed by Kale and spinach.
- (c) The candidates' responses varied in the level of understanding and detail given most were able to explain the risks associated to the unborn foetus if a pregnant women exceeded the recommended amounts but were not as confident when it came to providing an explanation regarding the positive dietary functions of Vitamin A. Where reference was made to eyesight marks were only awarded if mention was made of preventing night blindness or aiding vision in dim light/ ensuring babies' vision develops correctly. Some candidates had not read the question resulting in an unbalanced answer being given where responses only focused on the issues of exceeding recommended amounts.
- Q.4** Whilst many candidates were able to gain some marks on this question. Explanations often lacked the detail to be awarded full marks.
- (i) BMR; candidates showing understanding relating to the energy required for essential bodily functions but omitting to include the term at rest.

- (ii) GI rather than offering an explanation in regards to the rate at which carbohydrates are converted into glucose during digestion; candidates were seen just to focus on the term high and low GI foods.

**Q.5** Most candidates sighted excess consumption of fat and sugar as the two diet related causes of obesity. A few responses made reference to excess calorie intake, positive energy balance. Where Candidates had misread the question they gave examples of dietary related conditions which are associated with obesity rather than diet related causes or made reference to a lack of exercise/physical activity.

**Q.6** This proved to be one of the least popular questions. Where the candidates' had been taught about the role of antioxidants in food production they were able to discuss how antioxidants prevent fat & fat soluble vitamins from going rancid. Others discussed their role in the prevention of enzymic browning and showed an understanding of oxidation. Their role in the extension of shelf life for products such as fruit juices was also highlighted. Where Candidates had misread the question they gave examples of the role of antioxidants in the body without making any reference to their role in food production. Some candidates made no attempt to answer this question.

## Section B

**Q.1** (a) The candidates' responses varied enormously depending on their understanding of the term Lipids. Where candidates had clearly been introduced to the term they were able to provide detailed answers relating to energy, insulation; protection of vital organs; providing fat soluble vitamins ADEK to gain two marks.

(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 chemical structure of saturated and polyunsaturated fatty acids and as a consequence concentrated on explaining health related issues. Some candidates just focused on the most obvious differences of them being either solid or liquid at room temperature and were able to site food examples. Where centres had clearly taught food science as part of the curriculum candidates were able to give detailed responses often supported with diagrams of formula relating to the number of hydrogens attached to the hydrocarbon tails of the molecule and correctly identify saturated fats as having single bonds and therefore being saturated with hydrogen atoms and that polyunsaturated fats have more than one double carbon bond in the molecule. They were able to go onto explain about the reduction in stability which double bonds cause and in some cases show knowledge of this increasing the chances of oxidated rancidity. Detailed answers which made specific reference to carbon and hydrogen bonds were able to access the highest mark band.

**Q.2** This question was attempted by all candidates with most being able to access the lower mark bands. Unfortunately many candidates just wrote everything they knew about methods used to ensure food is safe to eat without applying it to the key requirement of the question; which was to explain how food safety regulations and legislation ensure that food products are safe to eat. Where no mention was made of specific regulations or legislation candidates were unable to move out of the lower mark bands. Where done well candidates gave a detailed answer applying their knowledge and understanding of a range of food safety procedures which need to be adhered to; which they correctly attributed to specific food safety regulations and legislation for example: the Food Safety Act 1990 along with the powers this gives to Environmental health officers, H.A.C.C.P and General Food Hygiene regulations

1995; Food labelling regulations'. Statements made needed qualifying to access the higher marks bands.

- Q.3** Most candidates were able to access some marks showing an awareness of specific dietary requirements of a coeliac and vegan. Many answers were too vague to access the higher mark band; with requirements being identified rather than reasoning given showing a clear understanding of why and how to meet these specific dietary needs; adaptations to the menu often lacking precise named examples.

In some cases candidates made reference to coeliac being lactose intolerant. There also appeared to be a misconception that potatoes contained gluten

Candidates had a clearer understanding of the requirements of a Vegan diet and were able to give more named adaptations. Where mention was made of Quorn candidates were required to state Vegan Quorn.

- Q.4** Candidates' responses varied to this question depending on how well they had read the question and subsequently applied their nutritional knowledge to their explanation of why primary and secondary children need to eat during the day. Lack of nutritional application meant many were unable to access the higher mark bands. Candidates often showed an understanding of how children have a requirement for and used energy through a range of activities throughout the school day but failed to make a direct correlation to the foods/specific nutrients required to satisfy this need.

Where it was done well; and candidates' had responded to the command word explain with supported reasoning as to why it is important for primary and secondary children to eat during the school day; making a distinction between the two age groups, making reference to rapid period of growth; requirements for energy, importance of remaining hydrated; growth spurts; puberty, menstruation, establishing good eating habits and supported their explanations with specific nutrients and good food sources.

## 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 Stefan's profile to determine his most obvious current and future nutritional needs. The emphasis in responses to this question needed to be on nutritional needs; both current and future. Some candidates had correctly calculated his BMI and discussed this in relation to calorie intake and future requirements in relation to his life stage/lifestyle. 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 Stefan's profile. Too often terms such as "unhealthy" or statements were made with no direct correlation or reference to examples given in Stefan's profile.

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. 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 public examination practice.

Many candidates had a sound understanding of the factors surrounding potential obesity and the subsequent health related issues associated with the diet of somebody who is borderline obese.

- Q.2** More candidates were able to access the middle to higher mark band with their responses to this question. Many were clearly able to identify lifestyle changes that Stefan would need to make as a result of his sedentary occupation; life stage; lack of exercise and lifestyle choices in order to prevent a number of correctly identified potential health risks; recognising the need to re-introduce some form of exercise either at the beginning or the end of the day; incorporating more movement in his working day, the need to spend some time outdoors; the requirement for more sleep; the importance of reducing caffeine/alcohol intake and replacing with alternatives; changes to meal times; snack options; meal choices; limiting processed foods and making food choices more in line with government recommendations in order to maintain a healthy weight.

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 modify the example daily diet; however some candidates misread the question and gave more than one day's meal options resulting in time being spent on something for which there was no mark allocation. Good practice was observed where candidates clearly laid their choices out next to meal times as in the question or presented in table form. At this level it is expected that the types of foods/dishes chosen would demonstrate an 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 Stefan's occupation/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 tuna for its health benefits without stating the requirement for it to be fresh not canned.

- Q.4** Some excellent responses were seen which clearly justified their chosen modifications to Stefan's daily diet example in relation to fitness for purpose to his situation. 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 the adaptations made lacked specific detail justification was weaker. 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. Where Centres have encouraged candidates to answer question 3 and 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 sound reference for their choices to Stefan's specific nutritional and personal needs.

## **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.

Where candidates clearly had a sound nutritional knowledge this enabled them to complete section A well and go onto 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. 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. 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 centre number or candidates'. 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.

## FOOD SCIENCE AND NUTRITION

### Level 3 Diploma

Summer 2018

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

The majority of candidates had interpreted the requirements of the external assessment for Unit 2 well. Most 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 page Mark Sheet with candidate details and the marks to record for each assessment criteria which made marking more time consuming. It would be helpful if each candidate has a copy of this cover Mark Sheet with their work for next year.

The standard of the work produced by candidates was good. The interpretation of the specification enabled the students the opportunity to demonstrate their understanding of food hygiene and safety and clear application of subject content to the given scenario. The Liven up Lunch menu on which the scenario is based must always be the starting point and clear reference to this throughout will allow candidates to access the higher mark bands as opposed to providing generic evidence on food safety.

The key element is the avoidance of the inclusion of generic notes. Candidates need to be encouraged to demonstrate the application of their food safety knowledge to the Assessment criteria 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. It is important to point out to candidates that two of the assessment criteria are not assessed. These change each year, and time was wasted on the inclusion of AC1.3 how micro-organisms affect food quality and AC2.2 Food allergies.

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 Liven up Lunch Time

**Task 1; A Food Safety resource for use by the owners of The Liven up Lunch Time**  
**Task 2; A Food Safety Risk Assessment for the Environmental Health Officer to inspect on their visit**

#### **Task 1 Food Safety resource**

**AC1.1** Describe the properties of micro-organisms.

Candidates had provided detailed descriptions of the properties of micro-organisms which affect food covering bacteria, viruses and fungi. Scientific terms were used effectively and some candidates had applied the information to the dishes on the menu from the take away van. It is essential to apply the information to the scenario and many candidates failed to address this.

**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. Most candidates had provided generic notes with little application to the dishes on the menu, the information needs to be applied to the dishes.

**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 were confused 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. Some reference to food intolerance was also included in the risk assessment chart.

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

This assessment criteria was completed to a high standard with clear understanding and knowledge applied presented mainly in chart form. The foods which present a high risk of food poisoning and causative bacteria and viruses were given and some candidates had linked this information to foods on the menu. Further evidence for this criteria was also applied well in the risk assessment chart.

**AC2.4** Describe the symptoms of food induced ill health.

The majority of candidates had described the variety of visible and non- visible symptoms including the onset time and duration. Food induced ill health covered food poisoning, food intolerance and food allergy. Named pathogenic food poisoning bacteria was applied to this section.

## **Task 2 Food Risk Assessment**

The blank Risk Assessment chart from Appendix B had been used well to address Assessment Criteria 3. 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 Liven up Lunch Time menu.

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

Evidence for AC1.2 was not always addressed or only briefly, little reference was made to the changing conditions affecting the growth of bacteria and how the quality of the food is affected. This is an area where some candidates failed to gain marks. Some candidates had referred to changing conditions such as temperature, oxygen, water and nutrients and linked this successfully to the foods on the menu. A description of the appearance, texture and aroma of some foods on the menu was given.

**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 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 was used well to show the hazards, risks and control measures for each dish on the menu. Some candidates also gave information about the general hazards which need to be considered when preparing and serving food at an outdoor food market, the purchase, delivery, storage, food preparation areas, disposal of waste, cooling, hot holding, re-heating, serving and chilling of food. This supported the risk assessment understanding and application to the take away van. The task states that the food risk assessment should cover the full menu. Some candidates did not complete a detailed justification of the control measures to minimise food safety risks which is a weak area. Good reference was made to specific temperature controls and timings for storage, hot holding and reheating.

### **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 either hole punched and treasury tagged or stapled in the top corner and not sent in plastic wallets.

## FOOD SCIENCE AND NUTRITION

### Level 3 Diploma

Summer 2018

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

It was encouraging to see more candidates selecting this Unit as an option for 2018. The majority had interpreted the requirements of the Model Assignment well with a variety of work from the three choices of brief. The standard of work produced by candidates was very good. 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 experiments on resolving them. Candidates achieving marks in the higher band had produced the problem products using the original recipe and then evaluated the outcome before considering which modifications to make. Photographic images were particularly helpful in supporting the results of experiments. Good quality photographs showing the textures and cross section of pastry 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.

For AC3, Some candidates have not addressed the reporting back to the client part of the task in enough detail or not in a suitable format. Please see Task 5 "Present practical options to the catering company owners in written format in preparation for them producing the next batch." Other candidates have had success in this section (AC3) by including a revised recipe and method, presented with justification, as if they were talking to or presenting their findings to the client.

Annotation on the Mark Record Sheet has been clear and has aided moderation through signposting and annotation by the teacher as to where it is found within the candidates work.

See below for more detailed guidance for each AC4 section, which should enable centres to guide candidates successfully.

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

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

Candidates had addressed the issues and set clear aims for success which were relevant to the production problems. Identifying the success criteria which is clear, measurable and appropriate is an essential part of the process, enabling candidates to evaluate the results of experimental work with clear focus. As part of the planning, each experiment carried out stated the aims to be achieved. Candidates could consider producing the 'problem product' using the original recipe and then evaluate the outcome before considering which modifications to make.

##### **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. Some candidates had given an explanation of why the initial problems had occurred, thus demonstrating their scientific knowledge of ingredients.

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

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

Candidates 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. The practical experimental work recorded the amounts and methods which were used with a varied combination of different ingredients. It is essential that candidates include the amounts for ingredients used and a method for making for each experiment. 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 higher band there should be clear evidence of scientific knowledge and a scientific explanation of the results.

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.

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

A variety of suitable methods were used to record the outcomes of experimental work. The use of photographs, tables, charts and star profiles supported the results.

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

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

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

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. This was related well to the ingredients used in the recipe and applied to the processing of the product. A wide range of variables on the properties of food have been identified and explained. An explanation of denaturation, coagulation, caramelisation and emulsification was applied in relation to the ingredients used. Variables included different types and ratios of ingredients, manipulation and temperature.

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

A variety of different recording methods were used to show the results from the experimental work. The data was clear and realistic conveying a basis on which to make reasoned judgments. A variety of ways to show the results from experiments included tables, star profile tasting, pie/ bar charts and photographs. The use of scanned in star profiles showed that these charts were used during the experiment. The collected data should then be analysed and evaluated. It should be clear how this data has been collected and recorded. The conclusions should be clearly presented as such and justified.

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

The investigative methods should be reviewed and clear and well-reasoned conclusions should be presented. 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.

Candidates had reviewed what went well/not well for carrying out each experiment explaining the limitations in relation to ingredients used, equipment and time. For the lower mark band candidates could make this clearer within each experiment.

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

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

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

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. The report to the manufacturer can explain clearly what the issues were during production with detailed suggestions for improvements. 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?

## FOOD SCIENCE AND NUTRITION

### Level 3 Diploma

Summer 2018

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

It was pleasing to see that the majority of centres had interpreted the requirements for Unit 4 very well. Investigation topics were varied and topical with many candidates choosing a relevant current food issue. Most hypotheses were written as a question as a starting point and a wide range of primary and secondary research techniques had been used successfully to produce a report. 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.

Marking has been accurate for most centres and assessment had been applied accurately for the majority of Assessment criteria. Annotation has been helpful for moderation, being signposted and written throughout the work and on the Mark Record Sheet. Time sheets had been completed accurately.

From an administrative point of view centres must ensure that work is identified with candidate's name, centre number, candidate's number and unit number on each piece of work.

A suitable hypothesis as a starting point is key to a successful outcome. Aims are important but it is more important to focus on a particular issue and narrow the scope of the research produced. 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 ...". Equally at the conclusion the candidate should refer back to the hypothesis and explain how it has been proved or disproved. 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.

Research has been completed but a wide range of primary methods of research which is essential. These 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.

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

#### **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.

### **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. 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.

### **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 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 higher marks 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. For higher marks a wide range of research methods are essential, as a guide, between 6-8 methods is expected. A minimum of 5 methods is acceptable for a Pass.

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

Candidates had produced a range of options but the research method chosen should be relevant and allow useful data to be collected. It should draw on knowledge and use this knowledge to justify all results and conclusions made. An investigative approach is required. 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. Successful primary research methods used were surveys, questionnaires, interviews, and shop/restaurant visits. A blank copy of the questionnaire can be included.

Practical activities can be very useful when researching Food Science and Nutrition topics.

However, this should be carried out in a logical manner to allow detailed conclusions to be drawn. For some candidates this was not completed in detail neither was it not always marked according to the criteria. 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.**

**LO2** 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. It is important to review progress at key stages and make decisions based on the results of research or investigations. For higher marks 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 the higher marks 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.

**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 clear 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.

The collected data should be collated and presented in a suitable manner. Relevant trends, patterns and relationships are highlighted. Questionnaires are useful but comments on results are essential for analysis. Some basic charts needed more detailed explanation.

This section was completed to a varying degree of accuracy by candidates, those not achieving the high marks did not collate and present the data in a suitable manner. Relevant trends, patterns and relationships need to be highlighted. Questionnaires are useful but comments on results are essential for analysis. Basic charts needed more detailed explanation, it is essential to explain how data has been analysed and how knowledge has been applied. Data in numerical terms, such as percentages is more useful than colour coded pie charts which may not deliver detailed results.

**AC3.4** Evaluate quality of information.

For higher marks it is essential to use a range of 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. The candidates need to explain how this research method allows them to prove or

disprove the hypothesis. Candidates should examine a range of information sources. The quality of the collected data should be examined and discrepancies explained.

**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 not base conclusions merely on their own opinions but must 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 the higher marks were achieved. Some candidate's clearly demonstrated a range of prior learning, where this was done well candidates 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.

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

It is essential to include the opinions and comments of those affected by this issue. This can be a weak area where candidates rely on websites, blogs, articles and secondary sources for information. The evidence should be factually accurate, relevant to the hypothesis and involve key stakeholders for the issue described. Some candidates had completed this well with comments from relevant groups related to the topic. 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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