2013 Health and Food Technology
Technological Project

Intermediate 2

Finalised Marking Instructions

STEP 1 Total mark allocation − 14 marks

1 : 1 Identification of the key points with explanation

The candidate should identify the 'core' key points **–** these are all the main key words of the Technological Project brief.

The number of 'core' key points which can be identified will depend on the wording of the Technological Project brief.

Candidates should number each key point identified.

Identify the key points – 2 marks

Candidates who record all the 'core' key points.	2 marks
Candidates who record ½ or more, but not all the 'core' key points.	1 mark
Candidates who record less than ½ the 'core' key points.	0 marks

Basic and accurate explanation of key points – 2 marks
Marks are determined by the number of key points which have a basic and accurate explanation.

If all key points have a basic and accurate explanation.	2 marks
If ½ or more but not all of the key points have a basic and accurate explanation.	1 mark
If less than ½ the key points have a basic and accurate explanation.	0 marks

Detailed and accurate explanation – 1 mark
Candidates who provide further accurate detail within the explanations will be awarded an additional mark. Extra detail means one additional point of explanation is provided for any one of the key points.

Brief 1
Develop a dish which includes Scottish produce for a restaurant.

Brief 2
Develop a savoury dish which includes an alternative protein to be sold in a café.

Brief 1
Key points
1. Develop
2. (a) dish
3. (which) includes
4. Scottish
5. produce
6. (for a) restaurant

Brief 2
Key points
1. Develop
2. (a) savoury
3. product
4. containing
5. Vitamin D
6. (for) children

Example of basic accurate explanation of key points

Develop
- create or devise ideas for a new item

Example of further accurate detail in explanation of key points

Develop
- create or devise ideas for a new item
- make an item which is original or different to what is available at present

1 : 2 Draw up appropriate criteria for a specification

Allows for range of solutions **1 mark**

Specification allows for a range of possible solutions which are relevant to the brief	1 mark
If a range of solutions is not possible	0 marks

Contains more detail than the brief **1 mark**

Specification points must be derived from the brief. When drawing up the criteria for the specification candidates should not just rewrite the key points – greater explanation is required.

Where specification points do not consistently contain more detail than the brief, candidates will be awarded marks accordingly.

Be written in measurable terms **2 marks**

Candidates must indicate how each specification point should be able to be measured by a valid method.

All specification points are measurable.	2 marks
½ or more, but not all specification points are measurable.	1 mark
Less than ½ the specification points are measurable.	0 marks

Note: Candidates are expected to produce a **minimum of four** specification points.

Total – 4 marks

Step 1.2 SPECIFICATION

Brief 1 – Scottish produce			
	Specification point	**Measured by:**	**Identified expert**
Brief specific			
1	• be different to other dishes already available/be original	• Interview • Survey of restaurant menus	• Food technologist/chef/ restaurant manager
2	• be a food product	• Component checklist/recipe analysis • Interview	• Food technologist/chef/ restaurant manager
3	• be a single item/ product/dish	• Interview • Component checklist/recipe analysis	• Food technologist/chef/ restaurant manager
4	• contain/include Scottish ingredients	• Interview • Component checklist/recipe analysis & interview	• Food technologist/chef/ restaurant manager
5	• be suitable for a restaurant	• Interview	• Food technologist/chef/ restaurant manager
6	• be healthy/take account of current dietary advice	• Interview	• Food technologist/chef/ restaurant manager/dietician
7	• be suitable for target group	• Interview • Ingredients/nutritional analysis & check	• Food technologist/chef/ restaurant manager/dietician
8	• take account of other products on the restaurant menu	• Interview	• Food technologist/chef/ restaurant manager
Target group			
9	• take account of the likes/dislikes of target group	• Interview/questionnaire/ survey/sensory evaluation	• Food technologist/chef/ restaurant manager/target group
10	• be aesthetically pleasing to target group	• Interview/questionnaire/ survey/sensory evaluation	• Food technologist/chef/ restaurant manager/target group
11	• be appropriate portion size	• Interview/questionnaire/ survey/sensory evaluation	• Food technologist/chef/ restaurant manager/target group
12	• take account of allergies	• Interview	• Food technologist/chef/ restaurant manager/ dietician/health professional

Cost/quality

13	• be comparable in cost to other products on the restaurant menu	• Costing exercise & price check/comparison • Costing exercise & interview	• Food technologist/chef/ restaurant manager
14	• be cost effective/good value for money	• Costing exercise & interview/ survey	• Food technologist/chef/ restaurant manager/target group
15	• be within the budget of the target group/ restaurant	• Costing exercise & interview/ survey	• Food technologist/chef/ restaurant manager/target group
16	• be of an acceptable/ satisfactory standard for sale	• Interview/sensory testing • Quality checklist & interview	• Food technologist/chef/ restaurant manager/target group

Manufacture

17	• be made using the facilities/resources available to the candidate	• Interview	• Food technologist
18	• be made in the time available to the candidate	• Timed trial of prototype & interview	• Food technologist
19	• be within the capabilities of the candidate	• Trial of prototype & interview • Skills analysis & interview • Interview	• Food technologist
20	• be made using the facilities/resources available to the restaurant	• Interview	• Food technologist/chef/ restaurant manager
21	• be made in the time available to the restaurant	• Timed trial of prototype & interview	• Food technologist/chef/ restaurant manager
22	• be within the capabilities of the restaurant staff	• Trial of prototype & interview • Skills analysis & interview • Interview	• Food technologist/chef/ restaurant manager
23	• be prepared under safe/hygienic conditions/safe to eat	• Interview • Quality checklist & interview	• Food technologist/chef/ restaurant manager/ Environmental Health Officer

Production

24	• be easy to prepare/ cook/reheat	• Interview • Skills analysis & check	• Food technologist/chef/ restaurant manager
25	• be suitable to be made in advance	• Interview	• Food technologist/chef/ restaurant manager
26	• have an appropriate shelf life	• Interview	• Food technologist/chef/ restaurant manager/ Environmental Health Officer
27	• be suitable for mass production	• Interview	• Food technologist/chef/ restaurant manager

Note:

- The candidate **must** specify the term 'expert' if used.
- A food technologist could include a person working in food product development or a Home Economics teacher

NB

- **Specification Points**
  - **It must be checked that the specification points are different.**
  - **A candidate may use different wording to state the same point.**
- **Measured by**
  - **The candidate must specify the term 'expert' if used.**
  - **Method of measuring must be able to check/assess whether the specification point has been met.**

Step 1.2 SPECIFICATION

Brief 2 – Vitamin D for children			
	Specification point	**Measured by:**	**Identified expert**
Brief specific			
1	• be different to other products already available/be original	• Interview • Survey of supermarkets/ Internet search	• Food technologist/dietician/ retailer
2	• be a food product	• Component checklist/recipe analysis • Interview	• Food technologist/dietician/ retailer
3	• be a savoury item	• Component checklist/recipe analysis • Interview	• Food technologist/dietician/ retailer
4	• be a single item	• Component checklist/recipe analysis • Interview	• Food technologist/dietician/ retailer
5	• include ingredients containing in Vitamin D	• Component checklist/recipe analysis • Interview	• Food technologist/dietician/ health professional
6	• be healthy/take account of current dietary advice	• Interview	• Food technologist/dietician/ health professional
7	• be suitable or children	• Interview	• Food technologist/dietician/ health professional
8	• Complement/fit in with other products in the range	• Interview	• Food technologist/dietician/ retailer
Target Group			
9	• take account of the likes/dislikes of target group	• Interview/questionnaire/ survey/sensory evaluation	• Food technologist/dietician/ retailer/target group
10	• be aesthetically pleasing to target group	• Interview/questionnaire/ survey/sensory evaluation	• Food technologist/dietician/ retailer/target group
11	• be appropriate portion size	• Interview/questionnaire/ survey/sensory evaluation	• Food technologist/dietician/ health professional/retailer/ target group
12	• be suitable for target group	• Interview • Ingredients/nutritional analysis & check	• Food technologist/dietician/ health professional/retailer/ target group
13	• take account of allergies	• Interview	• Food technologist/dietician/ health professional/retailer/ target group

14	• be healthy/take account of current dietary targets	• Interview	• Food technologist/dietician/ health professional/retailer/ target group
15	• take account of nutritional needs of target group	• Interview	• Food technologist/dietician/ health professional/retailer/ target group

Cost/quality

16	• be comparable in cost to other products in the range	• Costing exercise & price check/comparison • Costing exercise & interview	• Food technologist/retailer
17	• be cost effective/ good value for money	• Costing exercise & interview/ survey	• Food technologist/dietician/ retailer/target group
18	• be within the budget of the target group	• Costing exercise & interview/ survey	• Food technologist/dietician/ retailer/target group
19	• be of an acceptable/ satisfactory standard for sale	• Interview/sensory evaluation • Quality checklist & interview	• Food technologist/dietician/ retailer/target group

Manufacture

20	• be made using the facilities/resources available to the candidate	• Interview	• Food technologist
21	• be made in the time available to the candidate	• Timed trial of prototype & interview	• Food technologist
22	• be within the capabilities of the candidate	• Trial of prototype & interview • Skills analysis & interview • Interview	• Food technologist
23	• be made using the facilities/resources available to the retailer	• Interview	• Food technologist/retailer
24	• be made in the time available to the retailer	• Timed trial of prototype & interview	• Food technologist/retailer
25	• be within the capabilities of the retail staff	• Trial of prototype & interview • Skills analysis & interview • Interview	• Food technologist/retailer
26	• be prepared under safe/hygienic conditions/safe to eat	• Interview • Quality checklist & interview	• Food technologist/retailer/ Environmental Health Officer

Production

27	• be easy to prepare/ cook/reheat/serve	• Interview • Skills analysis & check	• Food technologist/retailer
28	• be suitable to be made in advance	• Interview	• Food technologist/retailer
29	• have an appropriate shelf life	• Interview	• Food technologist/retailer/chef/ Environmental Health Officer
30	• be suitable for mass production	• Interview	• Food technologist/retailer/chef

Note:

- The candidate **must** specify the term 'expert' if used.
- A food technologist could include a person working in food product development or a Home Economics teacher

NB

- **Specification Points**
  - **It must be checked that the specification points are different.**
  - **A candidate may use different wording to state the same point.**
- **Measured by**
  - **The candidate must specify the term 'expert' if used.**
  - **Method of measuring must be able to check/assess whether the specification point has been met.**

1 : 3 Devise an overall plan for investigations

List a range of relevant investigations – 2 marks

Candidates who provide a list of possible investigations which focus clearly on: • the key points of the project brief • the specification points • and have a clear aim/purpose	**2 marks**

Candidates who provide a list of investigations • which do not focus clearly on the key points and the specification will be awarded	**1 mark**

Obvious omissions from the list of investigations will result in marks not being awarded.

Identify techniques to be used – 2 marks

All techniques are correctly identified	**2 marks**
½ or more, but not all techniques are correctly identified	**1 mark**
Less than ½ of the techniques are correctly identified	**0 marks**

Techniques must be appropriate for the investigations and so allow the candidate the possibility of collecting relevant data/information.

Total – 4 marks

From the proposed list of investigations drawn up in 1 : 3 above, candidates should form a prioritised list of those investigations which they propose to undertake.

No marks are awarded at this stage but candidates are expected to focus on those investigations most relevant to the needs of the project brief. A number of investigations may be combined by using one technique. **No more than 3** depending on their nature, could be realistically carried out in the time available.

Candidates who intend to use a questionnaire as an investigation must issue 20 in order to gain valid results.

Candidates should complete this work on page 6 of the pro forma.

Step 1.3 INVESTIGATIONS

Required investigations

- **Scottish produce**
- **restaurant**

Brief 1 – Scottish produce			
	Investigation	**Technique**	**Identified expert**
Brief specific			
1	Range of Scottish ingredients	• Interview • Literary/Internet search	• Food technologist/retailer/ chef/restaurant manager
2	Range of potential recipes using Scottish ingredients	• Interview • Literary/Internet/recipe search	• Food technologist/chef/ restaurant manager
3	Range of Scottish ingredients available	• Interview • Literary/Internet search • Survey of retail outlets	• Food technologist/retailer/ chef/restaurant manager
4	Ways of applying current dietary advice/healthy eating	• Interview • Literary/Internet/recipe search	• Food technologist/dietician/ chef/restaurant manager
5	Current range of dishes on restaurant menus	• Interview • Literary/Internet search of restaurant menus	• Food technologist/chef/ restaurant manager
6	Current range of dishes using Scottish produce on restaurant menu	• Interview • Survey of restaurant menus	• Food technologist/chef/ restaurant manager
Target Group			
7	Likes/dislikes of target group	• Interview/questionnaire/ survey/sensory evaluation	• Food technologist/retailer/ chef/restaurant manager/target
8	Aesthetic appeal to target group	• Interview/questionnaire/ survey/sensory evaluation	• Food technologist/retailer/ chef/restaurant manager/target group
9	Ways of applying current dietary advice/healthy eating	• Interview • Literary/Internet/recipe search	• Food technologist/chef/ restaurant manager
10	Appropriate portion size	• Interview	• Food technologist/dietician/ school cafeteria supervisor
11	Potential allergies	• Interview	• Food technologist/dietician/ school cafeteria supervisor/ health professional

Cost/quality

12	Cost of potential ingredients/solutions	• Costing exercise	• Food technologist/chef/ restaurant manager/dietician/ health professional
13	Price range of similar dishes	• Interview • Survey of current product range	• Food technologist/chef/ restaurant manager
14	Budget of the target group/ amount target group is prepared to pay	• Interview/questionnaire • Costing exercise & interview/survey/ questionnaire	• Food technologist/retailer/ chef/restaurant manager/target group
15	Budget of restaurant	• Interview • Costing exercise & interview	• Food technologist/chef/ restaurant manager
16	Quality requirements of potential solutions	• Interview/survey/sensory testing/questionnaire	• Food technologist/retailer/ chef/restaurant manager/target group

Manufacture

17	Facilities/resources available to the candidate	• Interview	• Food technologist
18	Time available to the candidate	• Timed trial of prototype & interview	• Food technologist
19	Capabilities of the candidate	• Trial of prototype • Skills analysis • Interview	• Food technologist
20	Facilities/resources available to the restaurant	• Interview	• Food technologist/chef/ restaurant manager
21	Time available to the restaurant	• Timed trial of prototype & interview	• Food technologist/chef/ restaurant manager
22	Capabilities of the restaurant staff	• Trial of prototype • Skills analysis • Interview	• Food technologist/chef/ restaurant manager
23	Hygiene/safety requirements for food production	• Interview	• Food technologist/chef/ restaurant manager/ Environmental Health Officer

Production

24	Ease of preparation/ cooking/reheating	• Interview • Skills analysis & check	• Food technologist/chef/ restaurant manager
25	Suitability for making in advance	• Interview	• Food technologist/chef/ restaurant manager
26	Appropriate shelf life	• Interview	• Food technologist/chef/ restaurant manager/ Environmental Health Officer
27	Suitability for mass production	• Interview	• Food technologist/chef/ restaurant manager
28	Implications of seasonality	• Literary/Internet search • Interview	• Food technologist/chef/ restaurant manager
29	Influencing factors on final product	• Interview	• Food technologist/chef/ restaurant manager/target group

Note:

- The candidate **must** specify the term 'expert' if used
- A food technologist could include a person working in textile product development or a Home Economics teacher

Step 1.3 INVESTIGATIONS

Required investigations

- **savoury**
- **Vitamin D**
- **children**

Brief 2 – Vitamin D for children			
	Investigation	**Technique**	**Identified expert**

Brief specific

1	Range of savoury ingredients	• Interview • Literary/Internet search	• Food technologist/dietician/ retailer/chef
2	Range of potential recipes using savoury ingredients	• Interview • Literary/Internet search	• Food technologist/dietician/ retailer/chef
3	Range of savoury ingredients available	• Interview • Literary/Internet search • Survey of retail outlets	• Food technologist/dietician/ retailer/chef
4	Foods/ingredients containing Vitamin D	• Interview • Literary/Internet search	• Food technologist/dietician/ chef
5	Dishes/products suitable for children	• Interview • Literary/Internet/recipe search	• Food technologist/dietician/ retailer/chef
6	Current range of dishes/ products containing ingredients high in Vitamin D	• Interview • Survey of retailers/internet search	• Food technologist/dietician/ retailer/chef
7	Current range of dishes/ products for children	• Interview • Survey of retailers/internet search	• Food technologist/dietician/ retailer/chef

Target group

8	Likes/dislikes of children	• Interview/questionnaire/ survey/sensory evaluation	• Food technologist/dietician/ retailer/chef/target group
9	Aesthetic appeal to target group	• Interview/questionnaire/ survey/sensory evaluation	• Food technologist/dietician/ retailer/chef/target group
10	Religious/cultural beliefs of target group	• Interview • Literary/Internet search	• Food technologist/dietician/ retailer/chef/target group
11	Ways of applying current dietary advice/healthy eating	• Interview • Literary/Internet/recipe search	• Food technologist/dietician/ retailer/chef
12	Nutritional needs of target group	• Interview • Literary/Internet search	• Food technologist/dietician/ retailer/chef
13	Appropriate portion size	• Interview/questionnaire/ survey/sensory evaluation	• Food technologist/dietician/ retailer/chef/target group/parent
14	Potential allergens	• Interview	• Food technologist/dietician/ retailer/chef/target group/parent

Cost/quality

15	Cost of potential ingredients/solutions	• Costing exercise	
16	Price range of similar products	• Interview • Survey of supermarkets	• Food technologist/dietician/ retailer/chef/target group/ parent
17	Budget of the target group/ amount target group is prepared to pay	• Interview/questionnaire • Costing exercise & interview/ survey/questionnaire	• Food technologist/dietician/ retailer/chef/target group/ parent
18	Budget of retailer	• Interview/questionnaire • Costing exercise & interview/ survey/questionnaire	• Food technologist/retailer/ chef
19	Quality requirements of potential solutions	• Interview/survey/sensory testing/questionnaire	• Food technologist/dietician/ retailer/chef/target group/ parent

Manufacture

20	Facilities/resources available to the candidate	• Interview	• Food technologist
21	Time available to the candidate	• Timed trial of prototype & interview	• Food technologist
22	Capabilities of the candidate	• Trial of prototype • Skills analysis • Interview	• Food technologist
23	Facilities/resources available to the retailer	• Interview	• Food technologist/retailer/ chef
24	Time available to the retailer	• Timed trial of prototype & interview	• Food technologist/retailer/ chef
25	Capabilities of the retail staff	• Trial of prototype • Skills analysis • Interview	• Food technologist/retailer/ chef
26	Hygiene/safety requirements for food production	• Interview	• Food technologist/dietician/ retailer/chef/Environmental Health Officer

Production

27	Ease of preparation/ cooking/reheating	• Interview • Skills analysis & check	• Food technologist/retailer/chef/ parent
28	Suitability for making in advance	• Interview	• Food technologist/retailer/chef
29	Appropriate shelf life	• Interview	• Food technologist/retailer/chef/ Environmental Health Officer
30	Suitability for mass production	• Interview	• Food technologist/retailer/chef
31	Implications of seasonality	• Literary/Internet search • Interview	• Food technologist/retailer/chef
32	Influencing factors on final product	• Interview	• Food technologist/dietician/ retailer/chef/target group/parent

Note:

- The candidate **must** specify the term ‘expert’ if used
- A food technologist could include a person working in textile product development or a Home Economics teacher

STEP 2 Total mark allocation – 15 marks

2 : 1 Implement the overall plan for investigations – 12 marks

The mark allocation for this area will be awarded holistically and will be based on candidates' performance in a series of investigations.

Candidates will be assessed on the results and conclusions from each investigation – see the marking criteria breakdown listed below.

Teachers/lecturers must ensure candidates present the results and conclusions of each investigation on pages 7, 8 and 9 only.

Candidates using computer software to produce results, eg bar charts or graphs, must ensure that these are presented only on the pages allocated for this work ie pages 7, 8 and 9.

Candidates' findings should

- be brief, concise and easy to interpret
- show a link to the aim and purpose of the investigation

Results must be derived from the investigations and be based on facts and evidence.
Conclusions must be based on **results obtained**.

Marking Criteria

- Holistic approach – marks must be briefly justified
- Results must be brief, concise and easy to interpret
- Results must show a link to the aim/purpose of the investigation
- Results must be derived from the investigations and based on facts and evidence
- Conclusions must be based on the results obtained

For **each** of **three** investigations:

The candidate has done as they intended	**1 mark**
The investigation contains brief, concise and easy to interpret results	**1 mark**
Results are based on fact and relevant to brief	**1 mark**
Conclusion is based on results/shows progression	**1 mark**

Total – 12 Marks

2 : 2 Derive a solution from the investigations – 3 marks

Generate one solution – 2 marks

Candidates derive **one solution** which must be

• relevant to the needs of the project brief	1 mark
• based on the results and conclusions reached in the investigations	1 mark

Brief description of the solution – 1 mark

The solution should be described so it is able to be **visualised**.

Various methods may be used – written details, sketches, diagrams, labelled diagrams, storyboards − to ensure clarity.

Total – 3 marks

Brief 1: Dish including Scottish produce suitable for a restaurant

Any dish which includes Scottish produce suitable for a restaurant eg starter, main course dessert, snack

Brief 2: Savoury product containing Vitamin D for children

Any starter, main course, snack containing Vitamin D suitable for children

STEP 3 Total mark allocation **16 marks**

3 : 1 Manufacture the chosen solution

Candidates must complete the plan **before** starting to manufacture the solution.

Candidates cannot gain full marks if the plan is written **retrospectively**.

Identify and requisition resources **3 marks**

Candidates who identify and requisition **all** the main resources	3 marks
Candidates who requisition **most** of the main resources	2 marks
Candidates who only requisition **some** of the main resources	1 mark

Resources will depend on the chosen solution and may relate to textiles, equipment.

Identify and requisition equipment **3 marks**

Candidates who identify and requisition **all** the main equipment	3 marks
Candidates who identify and requisition **most** of the main equipment	2 marks
Candidates who identify and requisition **some** of the main equipment	1 mark

Equipment will depend on the chosen solution and may relate to equipment used in food or fabric activities.

Draw up a sequence of work **3 marks**

Candidates should show logical thinking when drawing up the sequence of work to manufacture the solution, eg

- activities should be in the correct order to complete the solution
- longer activities started nearer the beginning of the sequence
- dovetailing of activities as appropriate.

Sequence of work is highly effective **– all** activities planned in correct order	3 marks
Sequence of work is effective **– most** activities planned in the correct order	2 marks
Sequence of work is satisfactory **– some** activities planned in the correct order, sufficient to allow the solution to be manufactured	1 mark

Deployment of time (time plan) **3 marks**

Candidates should make good use of time.

- Activities should be appropriately timed.
- Resources and equipment are used to make more effective use of time.

Highly effective time plan	3 marks
Effective time plan	2 marks
Satisfactory time plan	1 mark

Total – 12 marks

After completing the plan for manufacture, candidates should start to manufacture the solution.

Candidates should be encouraged to make notes on page 14 as they are carrying out the manufacturing process. Notes may be made on how manufacture is proceeding, any problems encountered and any changes/modifications made to the plan.

This work is not marked but may prove useful to candidates when completing Step 4 : 1 – Evaluation of the overall plan.

Photographic evidence

Photographic evidence of the candidates' work must be attached to the proforma. If this evidence is not attached, marking must stop, and a note of explanation added to the marking sheet. This project must then be marked for the attention of the PA.

Although no marks are awarded for this area, **evidence must be provided** of the candidates' solution.

When a centre has no photographic evidence attached, but has a note of explanation, continue marking the project but again refer this project to the PA.

Two photographs are required:

- one should provide evidence of the solution **during manufacture**.
- the other should provide evidence of the **completed** solution.

Although the quality of the photographs is not important, they **must** give an indication of the type of work being carried out and completed by the candidate.

3 : 2 Devise a test for the manufactured solution

Present one test with appropriate technique

Candidates should present **one** appropriate test with **one** appropriate technique.

Candidates who do not identify an appropriate test cannot be awarded any marks.

Technique must be appropriate to the test, allowing candidates to collect relevant data/information.

Total – 1 mark

Briefs 1 & 2

Test	**Technique**
1. Examination by a specified expert eg food technologist/dietician/ chef/restaurant manager/target group	• Interview/questionnaire with specified expert • Sensory testing with specified expert
2. Examination by target group	• Interview/questionnaire with target group/parent • Sensory testing with target group/ parent • Observational checklist
3. Costing exercise	• Costing exercise confirmed by interview with specified expert, eg food technologist/chef/retailer
4. Nutritional analysis	• Nutritional analysis & interview with specified expert eg dietician/food technologist

When the candidate uses the term ‘expert’, it must be qualified eg a food technologist. This could be included in either the test or the technique
.

3 : 3 Implement the test for the manufactured solution

Brief, concise and easy to interpret results Results should be derived from the test and be based on facts and evidence. Test results should be presented in a format which is • brief • concise • easy to interpret.	**1 mark**

Factual and relevant results Results should be • derived from the investigation • based on facts and evidence.	**1 mark**

Brief conclusion based on results Candidates will be marked on their ability to draw meaningful and accurate conclusions from the results of the test. Conclusions must be • factually correct • based on the evidence provided by the results.	**1 mark**

Candidates must not offer personal opinions.

Total – 3 marks

STEP 4 Total mark allocation – 6 marks

4 : 1 Evaluate the chosen solution

Evaluation against the specification points – 3 marks

Candidates must rewrite the specification points briefly in the appropriate column.

Candidates must evaluate the solution against **each** specification point. The results of the testing can be used here.

Page 17 of the pro forma should be used for the evaluation against the specification.

• All specification points are evaluated	3 marks
• ½ or more, but not all specification points are evaluated	2 marks
• Less than ½ the specification points are evaluated	1 mark
• No evaluation is provided	0 marks

Evaluation of the overall plan – 3 marks

Candidate will evaluate the overall plan (Steps 1 – 3 of the Technological Project).

The following criteria should be used in the evaluation.

- time
- resources
- skills and abilities.

No marks will be awarded to candidates who do not use these criteria in their review.

The evaluation, which may include adaptations/modifications, **must be based on evidence** which can be found within the candidate's Technological Project pro forma.

Candidates should be encouraged to give reasons for any statements they make in the evaluation.

Candidates may find it helpful to use some of the headings for Steps 1 – 3 in the pro forma for the evaluation.

Page 18 of the pro forma should be used for the evaluation of the overall plan.

Total – 6 marks

Technological Project Intermediate 2 Summary Mark Allocation

Step	Mark Breakdown	Allocation
1 . 1	**Identification of the key points with explanation** Identify the key points Key points plus basic and accurate explanation Key points plus detailed and accurate explanation	 **2 marks** **2 marks** **1 mark** **Total mark allocation 5**
1 . 2	**Draw up appropriate criteria for a specification** Allow for a range of solutions Contain more detail than the brief Be written in measurable terms	 **1 mark** **1 mark** **2 marks** **Total mark allocation 4**
1 . 3	**Devise an overall plan for investigations** List a range of relevant investigations Identify techniques to be used	 **2 marks** **2 marks** **Total mark allocation 4**
Total mark allocation for Step 1 — 13 marks		
2 . 1	**Implement the overall plan for investigations** Holistic approach	 **Total mark allocation 12**
2 . 2	**Derive a solution** From the investigation generate one solution Brief description of the solution	 **2 marks** **1 mark** **Total mark allocation 3**
Total mark allocation for Step 2 — 15 marks		

Step	Mark Breakdown	Allocation
3 . 1	**Manufacture the chosen solution**	
	Requisitions all main resources Requisitions most main resources Requisitions some main resources	**3 marks** **2 marks** **1 mark** **Total mark allocation 3**
	Requisitions all main equipment Requisitions most main equipment Requisitions some main equipment	**3 marks** **2 marks** **1 mark** **Total mark allocation 3**
	Highly effective sequence of work Effective sequence of work Satisfactory sequence of work	**3 marks** **2 marks** **1 mark** **Total mark allocation 3**
	Highly effective deployment of time (time plan) Effective deployment of time (time plan) Satisfactory deployment of time (time plan)	**3 marks** **2 marks** **1 mark** **Total mark allocation 3**
3 . 2	**Devise a test for the manufactured solution**	
	One test presented with appropriate technique identified	**1 mark** **Total mark allocation 1**
3 . 3	**Implement the test for the manufactured solution**	
	Brief, concise and easy to interpret results Results based on fact and relevant Brief conclusions based on results	**1 mark** **1 mark** **1 mark** **Total mark allocation 3**
Total mark allocation for Step 3 — 16 marks		
4 . 1	**Evaluate the chosen solution**	
	Evaluation of specification points	**3 marks** **Total mark allocation 3**
	Evaluation of overall plan against set criteria: time/ resources/skills and abilities	**3 marks** **Total mark allocation 3**
Total mark allocation for Step 4 — 6 marks		

Total 50 marks available

Appendix 1
Intermediate 2 Technological Project
Guidance on carrying out Investigations/Tests

Three investigations and one test must be carried out.

The aim, which should be linked to the candidate' specification, should be rewritten or cut and pasted from page 8 of the pro forma onto the top of the investigation page.

Questionnaire

- Minimum of 20 respondents.
- Minimum 5/8 relevant/valid questions linked to aim/specification to allow relevant data to be collected.
- Questions and all possible answers must be displayed.
- All responses must be displayed including nil responses.
- Given constraints of space, it is not necessary to display results as pie charts/graphs.
- Table format for displaying results of questionnaires can be space saving.

Survey

- Must identify the source(s) of information.
- Source of information must be relevant to investigation.
- The following sources could be used including the Internet, literary, shop, restaurant/café as a source of information.
- The source of information should be identified.
- The place selected should be related to the quality and quantity of the data available rather than the number of sources however more than one source should be used.
- Information should be displayed using appropriate headings, sub-divisions etc.

Interviews

- Carefully consider the suitability of the person interviewed. Must clearly identify their position in establishment/job title.
- Minimum 5/8 relevant questions linked to aim/specification to allow relevant data to be collected.
- Open-ended questions should be used to allow more data to be collected from the interviewee.
- Questions should be carefully formatted to extract useful facts and avoid one word responses such as Yes/No.
- All questions and responses must be displayed.

Internet/Literary Search

- All sources must be clearly identified.
- Should be related to the quality/quantity/relevance of the data available rather than the number of sources.
- Graphics may be included where relevant.
- Data collected should be organised using appropriate headings/sub-divisions etc.
- Information should not be lifted 'en bloc' from websites. It is appropriate to summarise key points which are relevant to the aim/specification.

Costing

- Breakdown cost of all ingredients/components must be included.
- Details of quantities and unit costs must be included.
- Sources should be included where appropriate.
- Comparative costing should measure 'like for like'

NB Costing only proves cost of items/components. On its own it does not provide low/high cost, value for money, acceptability or price to target group.

Fabric Analysis

- There is no need to repeat fabric tests where information is already easily available in text books/websites.
- Fabrics used for testing must be clearly identified ie construction/fibre composition.
- Only fabrics being considered for potential solution should be tested/sampled/ investigated towards final solution.
- Details of method of testing must be given.

Sensory Testing

- All potential solutions must be clearly described.
- Breakdown of results must be shown. Summary of results is not acceptable.
- Key must be provided.
- It is appropriate to ask questions to elicit potential improvements/modifications.
- It is suggested for sensory testing that a minimum of five people are used to assess the products.

[END OF MARKING INSTRUCTIONS]