



Coimisiún na Scrúduithe Stáit
State Examinations Commission

Leaving Certificate 2020

Marking Scheme

Home Economics – Scientific and Social

Ordinary Level

Note to teachers and students on the use of published marking schemes

Marking schemes published by the State Examinations Commission are not intended to be standalone documents. They are an essential resource for examiners who receive training in the correct interpretation and application of the scheme. This training involves, among other things, marking samples of student work and discussing the marks awarded, so as to clarify the correct application of the scheme. The work of examiners is subsequently monitored by Advising Examiners to ensure consistent and accurate application of the marking scheme. This process is overseen by the Chief Examiner, usually assisted by a Chief Advising Examiner. The Chief Examiner is the final authority regarding whether or not the marking scheme has been correctly applied to any piece of candidate work.

Marking schemes are working documents. While a draft marking scheme is prepared in advance of the examination, the scheme is not finalised until examiners have applied it to candidates' work and the feedback from all examiners has been collated and considered in light of the full range of responses of candidates, the overall level of difficulty of the examination and the need to maintain consistency in standards from year to year. This published document contains the finalised scheme, as it was applied to all candidates' work.

In the case of marking schemes that include model solutions or answers, it should be noted that these are not intended to be exhaustive. Variations and alternatives may also be acceptable. Examiners must consider all answers on their merits, and will have consulted with their Advising Examiners when in doubt.

Future Marking Schemes

Assumptions about future marking schemes on the basis of past schemes should be avoided. While the underlying assessment principles remain the same, the details of the marking of a particular type of question may change in the context of the contribution of that question to the overall examination in a given year. The Chief Examiner in any given year has the responsibility to determine how best to ensure the fair and accurate assessment of candidates' work and to ensure consistency in the standard of the assessment from year to year. Accordingly, aspects of the structure, detail and application of the marking scheme for a particular examination are subject to change from one year to the next without notice.

HOME ECONOMICS – SCIENTIFIC AND SOCIAL

ORDINARY LEVEL

MARKING SCHEME

Instructions

Section A

60 marks

Answer **ten** questions in this section.

Each question carries 6 marks.

Section B

180 marks

Answer **Question 1** and any other **two** questions.

Question 1 is worth 80 marks.

Questions 2, 3, 4, and 5 are worth 50 marks each.

Section C

40 or 80 marks

Answer **one** elective question, to include **part (a)** and either **part (b) or (c)**.

If you submitted *Textiles, Fashion and Design* coursework for examination, you may only attempt Question 2 from this section.

Electives 1 and 3 are worth 80 marks each.

Elective 2 is worth 40 marks.

In developing the marking schemes the following should be noted:

- In many cases only key phrases are given which contain information and ideas that must appear in the candidate's answer in order to merit the assigned marks.*
- The descriptions, methods and definitions in the scheme are not exhaustive and alternative valid answers are acceptable.*
- The detail required in any answer is determined by the context and the manner in which the question is asked, and by the number of marks assigned to the answer in the examination paper. Requirements and mark allocations may, therefore, vary from year to year.*
- Words, expressions or phrases must be correctly used in context and not contradicted, and where there is evidence of incorrect use or contradiction, the marks may not be awarded.*

Grading Table - Mark Total = 320/280

Grade	Mark Band Elective 1 & 3	Mark Band Elective 2
O1	288 - 320	252 - 280
O2	256-287	224 - 251
O3	224-255	196 - 223
O4	192-223	168 - 195
O5	160-191	140 - 167
O6	128-159	112 - 139
O7	96-127	84 - 111
O8	< 95	< 83

Section A**60 marks**

Answer any **ten** questions from this section.

Each question carries 6 marks.

Write your answers in the spaces provided.

1. Indicate with a tick (✓) whether **each** of the following statements is true or false.

3 @ 2 marks (graded 2:0)

	True	False
Carbohydrates are a source of heat and energy	✓	
Carbohydrates contain the element nitrogen		✓
Excess carbohydrates are converted to fat in the body	✓	

2. Explain the following properties of lipids (fats):

2 @ 3 marks (graded 3:2:0)

(i) **Smoke point:** *lipids when heated to 200°C (fats), 250°C (oils) start to decompose; glycerol separates from the fatty acid; glycerol breaks down into acrolein; blue haze produced; acrid smell; etc.*

(ii) **Flash point:** *high temperatures/overheating of lipids to 310°C (fats), 325°C (oils); vapour produced; can spontaneously ignite; etc.*

3. Using the words listed below, complete the following statements in relation to milk processing.

3 @ 2 marks (graded 2:0)

spray drying

pasteurised

homogenisation

Milk is **pasteurised** to make it safe for human consumption.

The process that breaks down fat globules in milk is called **homogenisation**.

Spray drying is used to change liquid milk into milk powder.

4. Name **two** culinary uses of eggs and suggest a food/dish that demonstrates **each** culinary use.

Culinary uses: 2 @ 1 mark (graded 1:0), **Food/dish: 2 @ 2 marks** (graded 2:0)

Culinary use of eggs	Food/dish
<i>Binding; thickening; coating; garnishing; clarifying; as part of a dish;</i>	<i>Burgers; fish cakes; custard; quiche; breaded foods; jelly; stock;</i>
<i>Glazing; enriching; aerating; emulsifying; eating as a whole food; etc.</i>	<i>Scones; tarts; brown bread; sponge; meringue; mayonnaise; hollandaise sauce; boiled, fried eggs; etc.</i>

5. Indicate with a tick (✓) whether **each** of the following statements is true or false.

3 @ 2 marks (graded 2:0)

	True	False
A roux based sauce is made of equal quantities of fat and flour	✓	
Sauces improve the nutritive value of a dish	✓	
Sauces should only be served hot		✓

6. Explain the term 'food additive'.

1 point @ 2 marks (graded 2:1:0)

Food additives are substances intentionally added to foods; improve colour, texture, flavour, shelf life, or nutritive value; natural or artificial; additives can become directly or indirectly a component of foods; direct additives are added to foods for a specific reason, e.g. keeping quality; indirect additives become part of a product due to handling, packaging or storage; etc.

Name **two** food additives used in processed foods.

2 additives @ 2 marks (graded 2:0)

(i) <i>colourings; preservatives; antioxidants; physical conditioning agents; flavourings;</i>
(ii) <i>flavour enhancers; sweeteners; nutritive additives; etc.</i>

7. State the effect on the body of **each** of the following:

3 @ 2 marks (graded 2:0)

	Effect on the body
High saturated fat diet	<i>weight gain; CHD; diabetes; obesity; high cholesterol; gallstones; arthritis; etc.</i>
Low dietary fibre diet	<i>bowel disorder; constipation; haemorrhoids; diverticulosis; irritable bowel syndrome; bowel cancer; etc.</i>
Low calcium intake	<i>osteoporosis; rickets; osteomalacia; tooth decay; brittle bones; etc.</i>

8. Name **two** foods exported from Ireland.

2 @ 2 marks (graded 2:0)

(i) <i>fish; fish products; meat; meat products; poultry; dairy products; cheese; milk; soft fruits;</i>
(ii) <i>beer; whiskey; vegetables; prepared consumer foods; cereals; etc.</i>

List **two** career opportunities in the food industry.

2 @ 1 mark (graded 1:0)

(i) <i>farmer; fisherman; horticulturalist; chef; marketing manager; production operator;</i>
(ii) <i>nutritionist; dietician; baker; cheese maker; environmental health officer; chef; waiter; etc.</i>

9. Indicate with a (✓) whether **each** of the following statements is true or false.

3 @ 2 marks (graded 2:0)

	True	False
Universal Social Charge (USC) is a voluntary deduction from wages or salaries		✓
Utility bills are an example of essential expenditure	✓	
Child benefit is a universal social welfare payment	✓	

10. State **two** advantages of online shopping.

2 advantages @ 2 marks (graded 2:1:0)

(i) *do not have to leave home; goods delivered to home by post, courier; variety of websites; easy to search different websites; more convenient; next day delivery; delivered on day of order; groceries can be booked weeks in advance; click and collect;*

(ii) *may be cheaper; not restricted by opening hours, goods may be purchased anytime; orders may be tracked; etc.*

Name **one** method of paying for goods online.

1 @ 2 marks (graded 2:0)

credit card; PayPal; debit card; cheque; etc.

11. Outline **three** factors that influence a family's choice of housing.

3 factors @ 2 marks (graded 2:1:0)

(i) *Initial cost; maintenance costs; family stage; location, near school, work, amenities;*

(ii) *family member with special needs; personal likes and dislikes; proximity to family, friends; future needs of the family; house design/layout; size;*

(iii) *energy efficiency; condition of the house, in need of renovation; etc.*

12. Explain **each** of the textile care symbols below.

2 @ 3 marks (graded 3:2:0)



Line dry



Do not dry clean

(www.goodhousekeeping.com)

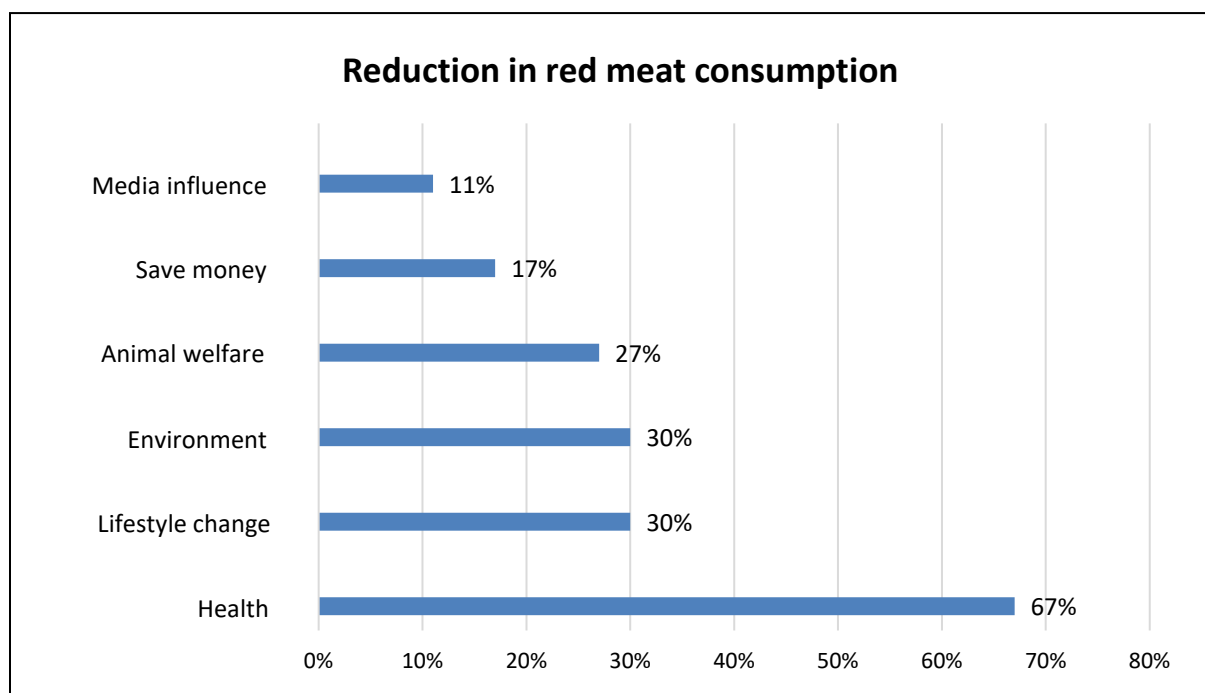
Answer **Question 1** and any other **two questions** from this section.
 Question 1 is worth 80 marks. Questions 2, 3, 4, and 5 are worth 50 marks each.
 Write your answer in the answerbook containing **Section A**.

Question 1

'1 in 3 people claim to have reduced the intake of red meat in their diet.'

(Dietary Lifestyles Report | Thinking House, Bord Bia)

The table below shows the reasons why people are reducing their intake of red meat.



- (a) (i) Using the information provided in the table, comment on **four** of the reasons why people are choosing to reduce their intake of red meat. (24 marks)

4 points @ 6 marks (graded 6:4:2:0)

Media influence: internet; celebrity chefs, TV/sport personalities; etc. awareness of meat alternative recipes; etc.

Save money: red meat is an expensive protein food; cheaper protein alternatives available; etc.

Animal welfare: feel it is wrong to kill or harm animals; disagree with animal cruelty/inhumane slaughtering; disagree with intensive animal rearing; etc.

Environment: red meat production produces high levels of greenhouse gas emissions; high water consumption for meat production; transport cost, food miles; etc.

Lifestyle change: popularity of vegetarianism; flexitarians; food fashion fads; meat free Monday; etc.

Health: red meat has a higher saturated fat content; lacks fibre; cholesterol present; reduce risk of CHD; obesity; bowel disorder; etc.

- (ii) Name a protein food that could be used instead of red meat. (6 marks)

1 point @ 6 marks (graded 6:0)

Tofu; soya bean; TVP; tempeh; mycoprotein; Quorn; peas; beans; chicken; milk; yoghurt; nuts; eggs; cheese; etc.

- (b) Give an account of iron under **each** of the following headings:

- functions in the body

2 functions @ 4 marks (graded 4:2:0)

Manufacture of haemoglobin in the blood; haemoglobin transports oxygen around the body; involved in myoglobin production which carries oxygen to the muscles; efficient functioning of enzymes in the body; works with enzymes to release energy from food; prevents anaemia; etc.

- dietary sources

3 sources @ 4 marks (graded 4:0)

Red meat; chicken; liver; kidney; wholegrain flour; fish; eggs; cereals; broccoli; cabbage; pulses; etc.

- effect of deficiency.

(24 marks)

1 deficiency @ 4 marks (graded 4:0)

Tiredness; lack of energy; pale skin colour; tired muscles; breathlessness; anaemia; etc.

- (c) State **two** ways of increasing iron in the diet. (6 marks)

2 ways @ 3 marks (graded 3:2:0)

Eat red meat, dark green vegetables, fortified breakfast cereals; combining haem and non-haem iron; include vitamin C for absorption; avoid too much dietary fibre, phytic acid, oxalic acid, tannins; etc.

- (d) Discuss **four** factors that consumers should consider when selecting **and** buying meat and meat products. (20 marks)

4 factors @ 5 marks (graded 5:3:0)

(1 reference to selecting, 1 reference to buying + 2 other points)

Selecting: *use by date, best before date; buy from a reliable shop; nutritional value; storage details; cooking instructions; Bord Bia quality mark; packaging recyclable; etc.*

Buying: *cost and value for money; organic; buy in useable quantities; package is not opened; packaging easy to open; traceability; labelling; country of origin; prepared ready to serve; clean hygienic shop; etc.*

Question 2

'Cardiovascular disease including coronary heart disease is the most common cause of death in Ireland, accounting for 36% of all deaths.'
(www.hse.ie)

- (a) (i) Explain *coronary heart disease* (CHD).

Explanation: **4 marks** (graded 4:2:0)

Occurs when fatty substances including cholesterol become lodged on coronary artery walls; causing narrowing of the arteries; cholesterol slowly restricts the flow of oxygen-rich blood through the arteries of the heart; etc.

- (ii) Outline **three** factors that increase a person's risk of developing coronary heart disease. (16 marks)

3 factors @ 4 marks (graded 4:2:0)

Diet high in saturated fat; high cholesterol levels; overweight; obesity; lack of exercise; smoking; increased stress levels; excess alcohol consumption; age; high blood pressure; diabetes; heredity; etc.

- (b) State **four** healthy eating guidelines that should be followed to reduce the risk of coronary heart disease. (16 marks)

4 guidelines @ 4 marks (graded 4:2:0)

Reduce fat intake, especially saturated fat; consume more polyunsaturated fatty acids; reduce salt intake; reduce refined carbohydrates; reduce convenience foods; eat more nuts, oily fish; increase intake of fibre rich foods i.e. fruit, vegetables etc.; choose low fat products; lean meats; etc.

- (c) Having regard to current healthy eating guidelines, set out a menu (3 meals) for one day for a person with coronary heart disease. (18 marks)

3 meals @ 6 marks

(Menu: **2 courses @ 2 marks** (graded 2:1:0), **beverage 2 marks** (graded 2:0)) X 3

Sample menus

Breakfast	Lunch	Dinner
<i>Orange juice</i>	<i>Carrot and Lentil soup with</i>	<i>Melon</i>
***	<i>brown bread</i>	***
<i>Porridge with low fat milk</i>	***	<i>Vegetable stir fry with</i>
***	<i>Low fat strawberry yoghurt</i>	<i>brown rice</i>
<i>Low fat fruit smoothie</i>	***	***
<i>Tea/coffee/water</i>	<i>Apple</i>	<i>Fresh fruit salad</i>
	<i>Glass of low fat milk</i>	<i>Low fat milk/water</i>

Question 3

'Fish has long been recognised as one of nature's healthiest foods.' (www.bordbia.ie)

- (a) Give an account of (i) the nutritive value **and** (ii) the dietetic value of fish. (20 marks)

5 points @ 4 marks (graded 4:2:0)

(2 references to nutritive value, 2 references to dietetic value, plus 1 other)

Nutritive value: *HBV protein; polyunsaturated fat; omega 3 fatty acids present in oily fish; vitamin B; vitamin C in oysters; vitamins A & D in oily fish; source of potassium, phosphorus, zinc, iodine; calcium in tinned fish; iron in shellfish and sardines; etc.*

Dietetic value: *easy to digest, suitable for children, elderly, invalids; protein for growth in children and adolescents; healthy muscles and repair for all age groups; polyunsaturated fat; omega 3 fatty acids help to reduce CHD; suitable for low calorie diets; no carbohydrate so should be served with carbohydrate foods; versatile; different cooking methods can be used; available processed out of season; cooks quickly, saves time and fuel; etc.*

- (b) Discuss the advantages **and** the disadvantages of including processed fish in the diet. (16 marks)

4 points @ 4 marks (graded 4:2:0)

2 advantages + 2 disadvantages

Advantages: *quick to cook; little or no cooking skills required; little or no waste; can be fortified with vitamins and minerals; easily stored; large variety; available frozen; can be cooked straight from freezer; canned fish has long shelf life; processed fish readily available; easy to digest; etc.*

Disadvantages: *expensive; may contain additives, preservatives, colourings and flavourings; low in fibre; inferior taste to fresh fish; high in salt; etc.*

- (c) Name **two** food packaging materials.
Outline the impact of **each** packaging material on the environment. (14 marks)

Name: **2 @ 3 marks** (graded 3:0)

Impact: **2 points @ 4 marks** (graded 4:2:0)

Metal: *limited and non-renewable resource; non-biodegradable; recyclable; reduces greenhouse gas emissions; etc.*

Glass: *reusable; recyclable; reduces greenhouse gas emissions; may go to landfill; non-biodegradable; careless disposal can be dangerous to wildlife; etc.*

Paper: *biodegradable; recyclable; reduces greenhouse gas emissions; littering; paper with plastic coating, resistant to biodegradation; etc.*

Plastic: *non-biodegradable; made from a limited and non-renewable resource; limited recycling facilities in Ireland; recycling saves raw materials and energy, reduces the impact of production on the environment in terms of air pollution; littering; can cause damage to fish and animals; etc.*

Polystyrene: *non-biodegradable; may go to landfill; littering; contributes a huge bulk to landfill; etc.*

Question 4

Microwave ovens are popular kitchen appliances.

- (a) Discuss **four** factors that should be considered when selecting kitchen appliances. (16 marks)

4 factors @ 4 marks (graded 4:2:0)

Cost - initial and running costs; quality; energy efficiency; space available; size; brand name; reliability; design; construction; easy to operate; ease of cleaning; safety features; guarantee; after sales service; needs of individual/family; colour suits kitchen; space available; moveable; etc.

- (b) Outline **three** consumer responsibilities. (12 marks)

3 responsibilities @ 4 marks (graded 4:2:0)

To inform yourself about goods and services; to choose wisely; understand the balance between cost and quality; read labels; follow manufacturer's instructions; know your rights; know consumer laws; complain about faulty goods and services; protection of the environment; use resources responsibly; etc.

- (c) Set out the results of a study you have carried out on a microwave oven. (22 marks)

Refer to:

- guidelines for use

3 guidelines @ 4 marks each (graded 4:2:0)

Arrange foods in a circle, thickest part outwards; stir, turn and rotate food during cooking; pierce foods e.g. skin of sausages, potatoes; time accurately; use recipes adapted for the microwave; cover food to maintain moisture, speed up the cooking time, prevent splatters; never place metal or metal trim containers/dishes in the microwave; use appropriate cookware e.g. paper, glass, plastic; allow standing time; use defrost power setting when thawing foods; etc.

- modern features

2 modern features @ 2 marks (graded 2:0)

Digital control panel; touch control operation; anti-bacterial linings; recipe memory settings; sensor cooking; different power levels; self-cleaning; auto weight defrosts; smart technology; etc.

- care and cleaning.

2 points @ 3 marks (graded 3:2:0)

1 reference to care + 1 reference to cleaning

Follow the manufacturer's instructions; unplug before cleaning; avoid moving; do not open the door while the microwave is still on; wipe up spills immediately; remove glass turntable when cleaning; clean regularly; wipe the outside and door seal with a damp cloth; avoid using harsh abrasives; etc.

Question 5

'In Ireland there were 21,053 marriages in 2018 including 664 same-sex marriages.' (www.cso.ie)

- (a) (i) Define 'marriage'.

Definition: **5 marks** (graded 5:3:2:0)

A socially and legally acceptable contract between two people to the exclusion of all others; etc.

- (ii) Outline **four** conditions necessary for a marriage to be legally valid in Ireland.

(25 marks)

4 conditions @ 5 marks (graded 5:3:0)

Three months' notice required by registrar; partners must be over 18 years of age (over 16 years with parental/guardian consent); marriage must be voluntary; both people must be free to marry, cannot be married already; partners must not be too closely related; two witnesses must be present; the register must be signed by the couple and witnesses; all marriages must be registered after the ceremony; must take place in a registered building e.g. registry office, church, or approved venue; etc.

- (b) Discuss **three** benefits to a couple of attending a pre-marriage course. (15 marks)

3 benefits @ 5 marks (graded 5:3:0)

Allows couples to discuss expectations of married life and reality of marriage i.e. communication, conflict resolution, relationships, family planning, child rearing, financial responsibilities; legality of marriage; encourages openness and communication; equips couples with skills to detect problems; couples look at personal qualities, each other's positive attributes; are encouraged to discuss issues that may have a negative impact on marriage; etc.

- (c) Explain **each** of the following options available to couples who are experiencing difficulties in their marriage:

- marriage counselling **1 point @ 5 marks** (graded 5:3:0)
- legal separation. **1 point @ 5 marks** (graded 5:3:0) (10 marks)

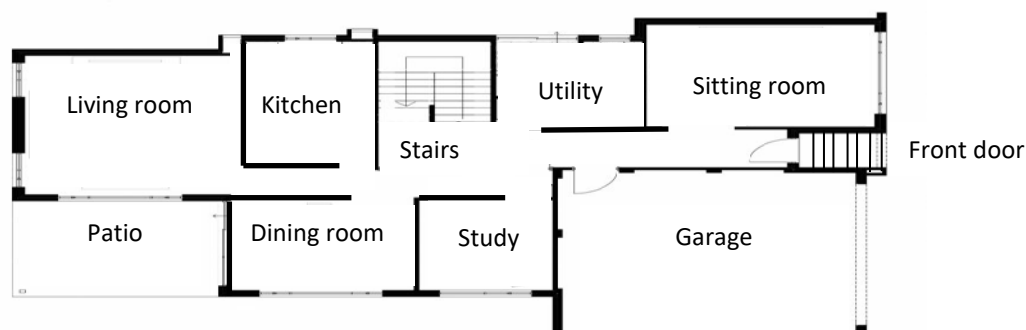
Marriage counselling: *assists couples to resolve marriage problems; helps to discuss problems couples might otherwise have difficulty discussing; help couples express concerns, feelings, personal issues; free and confidential service; helps to reduce conflict between partners; offers guidance; etc.*

Legal separation: *Deed of Separation/legal separation agreement; legal binding written contract; sets out future rights and duties - agreement to live apart; responsibility and care of dependent children; maintenance; arrangements regarding ownership and occupation of the family home; trained mediator is available to negotiate terms; must be drawn up by solicitor; helps couples avoid court procedures; etc.* **Judicial Separation:** *under the guidelines of the Judicial Separation and Family Law Reform Act 1989, Family Law Act 2019; must be based on the following grounds - adultery, unreasonable behaviour; desertion; no normal marital relations; heard by a judge; judge may also make orders in relation to custody, maintenance, property, barring and safety orders; succession rights; etc.*

Elective 1 – Home Design and Management – 80 marks

Candidates selecting this elective must answer **1(a)** and either **1(b)** or **1(c)**.

1.(a) Shown below is the ground floor plan of a house.



- (i) Evaluate the suitability of the floor plan layout for the daily living requirements of a family. (20 marks)

4 points @ 5 marks (graded 5:3:0)

Adequate storage area with the garage; garage suitable for conversion into a playroom; large kitchen; dining area suitable for entertaining; living area can open onto patio; separate utility with backdoor access for easy entry/exit; separate sitting room provides space for reading, watching T.V.; possible play area; study area suitable for children or adults working from home; no toilet downstairs; steps to front door; etc.

- (ii) Give details of **two** modifications that could be made to the floor plan layout to suit the requirements of people with disabilities. (10 marks)

2 modifications @ 5 marks (graded 5:3:0)

Convert sitting room to a bedroom with en-suite; divide utility room and put in toilet; remove walls in kitchen and dining room and make living/dining/kitchen open plan; put in ramp at front door; remove/widen internal doors for wheelchair access; widen hallway; put a sliding door between patio and dining room; etc.

- (iii) Name **and** describe **two** professional services available to people when designing and building a home. (10 marks)

Name: **2 services @ 3 marks** (graded 3:0), Description: **2 points @ 2 marks** (graded 2:1:0)

Architect: provide information and advice on site-purchase, location and orientation of house; design house plans suitable for family needs; submit plans as part of planning application; advice on suitable building contractor; carry out on-site visits; supervise and advice on the construction of the house; etc.

Surveyor: complete a building survey of a property; highlight any potential problems that could affect future design and building of the house; advice on how to rectify defects/problems and provide solutions; etc.

Engineer: provide advice on house design and construction; check house plans to ensure they are compliant with current legislation; oversee building of the house; advice on problems that may arise during construction; etc.

Solicitor: advice on legal aspect of building, buying and selling a house; advice on planning regulations; check title deeds and land registry to confirm ownership; check rights of way; etc.

Builder: provide a detailed contract with prices for each stage of building, including dates of completion; prepare site for laying foundations; construction of house and finishing exterior according to architect's drawings; etc.

Electrician; Plumber; Plasterer; Interior Designer; etc.

- (iv) Identify **and** comment on **two** trends currently popular in interior design. (10 marks)

2 trends @ 2 marks (2:0), Comment: **2 points @ 3 marks** (graded 3:2:0)

Use of bold colours; neutral, monochromatic colour schemes; variety of textures; use of patterns; modular furniture; contemporary fireplaces; vintage furniture; bringing nature indoors; use of natural materials; refurbished furniture; use of wallpaper; accent lighting; low profile furniture; curved couches; etc.

and

- 1.(b) Good ventilation is very important to home comfort.

- (i) Outline the importance of good ventilation in the home. (12 marks)

3 points @ 4 marks (graded 4:2:0)

Provides fresh air; removes impure, stale air; controls humidity levels; controls temperature; reduces condensation; reduces odours; prevents mould; reduces risk of infections and illness; assists combustion e.g. open fires; more comfortable atmosphere; etc.

- (ii) Name **two** methods of ventilation suitable for a bathroom.
Explain the underlying principle of **each** method of ventilation named. (18 marks)

2 methods @ 3 marks (graded 3:2:0)

Extractor fan; open doors, open windows; air bricks; window, wall vents; etc.

Underlying principle: **2 points @ 3 marks** (graded 3:2:0) X 2

Extractor fan: powered by electricity; switch or pull cord operated; when fan is turned on the shutters open; electric motor rotates blades at high speed; causes suction, drawing out stale moisture-laden air from the room; replaced by fresh air; etc.

Wall vents: involve introducing fresh, cool air from outside; replaces stale, warm, moist air in the room; vents are placed high up on walls; adjustable to control ventilation and prevent draughts; etc.

Open doors; open windows; window vents; etc.

or

1.(c) There is a whole world of wall finishes to explore.

(i) Discuss **four** factors to consider when selecting wall finishes for a home. (16 marks)

4 factors @ 4 marks (graded 4:2:0)

Cost; function of the room; ease of cleaning and maintenance; room specifications; aesthetics; environmental; aspect; durability; texture; ease of application; coverage; light reflective; etc.

(ii) Name **one** wall finish suitable for a kitchen.

State **one** advantage **and one** disadvantage of the wall finish named. (14 marks)

Name: **4 marks** (graded 4:2:0)

Advantage: **1 point @ 5 marks** (graded 5:3:0), Disadvantage: **1 point @ 5 marks** (graded 5:3:0)

Emulsion water-based paint: matt vinyl, silk vinyl; etc. **Advantage:** easy to apply; good coverage; dries quickly; available in unlimited colours; durable; inexpensive; can mask minor imperfections on walls; etc. **Disadvantage:** not as hardwearing as oil-based paint; surface must be prepared in advance; etc.

Oil-based paint: gloss, satin finish; etc. **Advantage:** hardwearing; durable; available in a large range of colours; glossy finish; reflective finish; washable; suitable for outdoor use; can be used on wood and metal; etc. **Disadvantage:** undercoat required; dries slowly; strong odour; highlights imperfections; etc.

Specialised paint: textured paint; flame retardant paint; etc. **Advantage:** flame retardant can be used in high-risk areas, e.g. kitchens; textured paint can cover minor imperfections on walls; etc. **Disadvantage:** may be difficult to apply to the walls; more expensive; etc.

Wall tiles: general purpose ceramic, mosaic tiles, patterned tiles, tile panels, etc. **Advantage:** easy to clean; durable; cheap; suitable for high moisture areas; variety of shapes, sizes available; etc. **Disadvantage:** can be expensive; specialist needed to fit and grout; etc.

Wallpaper: general purpose, vinyl, flock, embossed; etc. **Advantage:** washable; durable; can camouflage faults; vary in thickness; adds texture; can be painted over; available in different designs; can create contrast in a room; etc. **Disadvantage:** tears easily; embossed and flock paper can be expensive; can be difficult and time consuming to hang; patterns must be matched; etc.

Wood panelling; mosaic; etc.

Elective 2 – Textiles, Fashion and Design – 40 marks

Candidates selecting this elective must answer **2(a)** and either **2(b)** or **2(c)**.

2.(a) Children's clothing has become as fashionable as adult clothing in recent years.



(www.dunnesstores.com)

(i) Comment on the suitability of the children's clothing shown above.

Refer to:

- function **2 points @ 3 marks** (graded 3:2:0)
- comfort **2 points @ 3 marks** (graded 3:2:0)
- aesthetic appeal. **2 points @ 3 marks** (graded 3:2:0) (18 marks)

Function: suitable for activities; durable; versatile; will maintain shape; will not crease; suited to warm and cold weather; shoes have Velcro opening making them easy to remove; etc.

Comfort: allows for ease of movement in bending, stretching while maintaining shape; easy to remove jacket/sweatshirt; well-fitting flat shoes; etc.

Aesthetic appeal: variety of colours; cartoon character/appliqué motifs; etc.

(ii) Name **one** fabric suitable for a child's trousers/pants **and** give a reason for your choice. (7 marks)

Name: **3 marks** (graded 3:0), Reason: **1 point @ 4 marks** (graded 4:2:0)

Wool: warm; will not crease; hardwearing; resilient; light weight; absorbent; etc. **Linen:** strong; has a good lustre; absorbent; light weight; etc. **Cotton:** strong; washes and dries easily; dyes well; cool; absorbent; easy to launder; etc. **Polyester:** strong; resistant to stretching; quick drying; washes easily; holds body heat; resists creasing; etc. **Viscose/rayon:** absorbent; soft; drapes well; conducts heat away from the body of wearer; dyes easily; etc. **Acrylic:** light weight; soft; warm; stretchy; quick drying; etc. **Polyester cotton:** washes easily; light weight; easy to iron; strong; drip dries quickly; resists staining; comfortable; low static level; etc.

and

2.(b) Bloggers, influencers and *YouTube* sensations are some of the modern world's trendsetters.

- (i) Explain how trendsetters influence the choice of clothing worn by young adults. (9 marks)

3 points @ 3 marks (graded 3:2:0)

Young people want to wear what trendsetters are wearing; trendsetters/sports celebrities set up their own clothing ranges; trendsetters are photographed wearing clothes by specific designers at media events; T.V. programmes feature makeovers; sponsorship deals that celebrities have with clothing companies; television programmes show confidence about clothing; social media e.g. Snapchat, Instagram; newspapers have fashion features; etc.

- (ii) Name **and** describe **one** method of colour application suitable for natural fabrics. (6 marks)

Name: **2 mark** (graded 2:0), Description: **2 points @ 2 marks** (graded 2:0)

Dyeing: may be applied by soaking in vat of dye or by placing in washing machine with the dye included; etc. **Tie-dyeing:** sewing or tying pieces of fabric together tightly and preventing the dye from entering the crevices formed; etc.

Fabric painting; Batik; screen printing; etc.

or

2.(c) The Irish fashion industry is hugely exciting with lots of emerging talent.

- (i) Discuss the role of small businesses in the clothing and textile industry in Ireland. (9 marks)

3 points @ 3 marks (graded 3:2:0)

Provides employment; work can be subcontracted to locals to do at home i.e. Aran knitting; etc. skilled or unskilled work available; promotes Irish traditional crafts; encourages the survival of traditional crafts; encouraged by Government incentives; businesses can be set up without a large capital outlay; etc.

- (ii) Give details of **one** career opportunity in the fashion industry. (6 marks)

2 points @ 3 marks (graded 3:2:0)

Fashion designer; milliner; tailor; machinist; model; photographer; stylist; clothing fashion writer; manufacturer; fashion buyer; retail sales assistant; etc.

Elective 3 – Social Studies – 80 marks

Candidates selecting this elective must answer **3(a)** and either **3(b)** or **3(c)**.

3.(a) A strong work ethic is an important part of being successful in a person's career.

(i) Define *work* and *work ethic*.

(6 marks)

2 points @ 3 marks (graded 3:2:0)

Work: *physical, mental effort, or activity directed towards the production or accomplishment of something; paid employment; a duty, a task or undertaking; work can be paid, unpaid, voluntary; etc.*

Work ethic: *person's attitude of determination and dedication towards work; attitude to punctuality; organisational skills; loyalty; respect; teamwork; absenteeism; developed in the home and school; etc.*

(ii) Discuss **four** factors that influence a person's attitude to work.

(20 marks)

4 factors @ 5 marks (graded 5:3:0)

Home background; work ethic shown by parents; social economic group; level of education; intrinsic job satisfaction; extrinsic job satisfaction; self-esteem; working conditions; etc.

(iii) Outline the benefits of voluntary work to the volunteer **and** to the community.

(16 marks)

4 benefits @ 4 marks (graded 4:2:0)

1 reference to volunteer, 1 reference to community + 2 points

Volunteer: *feeling fulfilled, a sense of purpose; rewarding; builds self-confidence; aids personal development; sense of achievement; self-esteem; personal satisfaction; occupies free time; build friendships; develops empathy; etc.*

Community: *reduces reliance on state resources; can provide a quick service e.g. care of the elderly; friendships and bonds can be formed; creates a sense of community spirit; provides new skills in an area; complements work carried out by statutory bodies; provides an unfunded service; offers a more personal local service; attention focused on local/social issues; etc.*

(iv) Name **and** give details of **one** support provided by voluntary organisations to individuals and families in need.

(8 marks)

Name: **2 marks** (graded 2:0), Details: **2 points @ 3 marks** (graded 3:2:0)

Financial: *hampers; scholarships; crèches; breakfast clubs; etc.* **Housing:** *emergency accommodation; shelter; homes; etc.* **Advisory:** *counsellors; street outreach services; training projects; etc.* **Material:** *clothes shops; family holidays; good as new shops; etc.*

Emotional support; social support; etc.

and

3. (b) 'Childminding is of huge importance to children, to parents, to our economy and to our society.' (www.irishtimes.com)

- (i) Discuss **four** factors parents should consider when choosing suitable childcare for their children. (16 marks)

4 factors @ 4 marks (graded 4:2:0)

Environment - safe, hygienic; good heating, ventilation; sufficient light; personal references; qualifications and experience; proximity to home/work; age/needs of child; cost; special needs children; first aid training; opening/closing hours; after school care requirements; reliability; flexibility/school holidays; etc.

- (ii) Identify **and** describe **two** childcare options available to a family with young children. (14 marks)

2 childcare options @ 7 marks

Name: **3 marks** (graded 3:2:0), Description: **4 marks** (graded 4:2:0) x 2

Full day care: structured care service for more than 5 hours per day; may include after school facility; sleeping arrangements and food preparation available; must meet standards laid down by Tusla; providers include day nurseries and Crèches; etc.

Sessional services: offer a planned programme up to 3.5 hours per session; staff need to have recognised childcare qualification; Montessori groups focused on individualised education; Naíonraí nursery schools and playschools operating through Irish; Play schools give children an opportunity to play with other children of similar age; Early Start Programme: one-year preventative intervention scheme; offered in selected schools in disadvantaged areas to 3 to 4 year old children; etc.

Childminder: children cared for in childminder's own home; childminder can care for up to 5 children under 6 years of age; offered for full working day or for different periods during the day; parents and childminders arrange their own terms and conditions; etc.

Parent and toddler groups: group of parents, guardians or carers and children come together for supervised play and companionship for their parents; etc.

School-age childcare: breakfast clubs; summer camps; homework club; etc.

or

3.(c) Irish society is changing rapidly and these changes are having a significant impact on the family.

- (i) Outline the impact (effect) of **each** of the following on family life: (18 marks)

- reduction in working hours
- improved conditions of work
- improvements in the provision of education.

Reduction in working hours

2 points @ 3 marks (graded 3:2:0)

Change of lifestyle; more time to spend with families; parents can collect children from school, more leisure time; less disposable income for family; uncertainty regarding future; etc.

Improved conditions of work**2 points @ 3 marks** (graded 3:2:0)

Shorter working hours; improved pay rates; improved heating, lighting, ventilation, ergonomics; work breaks; canteen facilities; crèches; defined holidays; sick leave; parental leave; paternity leave; adoptive leave; sick leave and sick pay; carer's leave; job sharing; flexitime; safe working environment; increased annual leave; etc.

Improvements in the provision of education**2 points @ 3 marks** (graded 3:2:0)

Pre-school; playgroups; play schools; Early Childhood Care and Education Scheme (ECCE), Early Start School-Programme, Gaelscoileanna; Educate Together Primary and Secondary Schools; educational supports - iPad, computers; school book grant scheme; Home School Community Liaison Scheme (HSCL); Transition Year; Leaving Certificate Applied Programme (LCA); Leaving Certificate Vocational Programme (LCVP); Junior Certificate Schools Programme (JCSP); special needs assistants; resource teachers; special schools; etc.

- (ii) Explain how the Working Family Payment (*Family Income Supplement*) provides support to families. (12 marks)

3 points @ 4 marks (graded 4:2:0)

Weekly tax-free payment available to employees with children; gives financial support to families on low pay with children; helps with day to day living expenses; helps to reduce financial stress in families; etc.

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HOME ECONOMICS – SCIENTIFIC AND SOCIAL

FOOD STUDIES COURSEWORK

MARKING SCHEME

Grading Table

Grade	Mark bands
1	288-320
2	256-287
3	224-255
4	192-223
5	160-191
6	128-159
7	96-127
8	< 95

To calculate weighted mark, divide the raw mark awarded by 4.

Food Studies Practical Coursework General Marking Criteria

Investigation: Analysis/Research

32 marks

Research and analysis

(24 marks)

Band A 19 – 24 marks (very good - excellent)

Investigation

- shows evidence of a **thorough exploration** and **comprehensive analysis** of **all** the issues and factors directly relevant to the key requirements of the assignment
- is accurate, derived from a range of sources and presented coherently
- uses evidence from research as basis for making relevant choices in relation to selection of menus/dishes/products.

Band B 13 – 18 marks (very competent - good)

Investigation

- shows evidence of **exploration** and some **analysis** of the issues and factors which are generally relevant to the key requirements of the assignment
- is accurate, derived from a range of sources and presented coherently
- uses evidence from research as basis for making relevant choices in relation to selection of menus/dishes/products.

Band C 7 - 12 marks (basic - competent)

Investigation

- shows evidence of **exploration** of the issues and factors which are generally relevant to the key requirements of the assignment
- is reasonably accurate, derived from a range of sources and presented coherently
- uses evidence from research as basis for making choices in relation to selection of menus/dishes/products.

Band D 0 - 6 marks (very basic - limited)

Investigation

- shows evidence of **a very basic and limited understanding of** the key requirements of the assignment
- some or all of the information is vague and accurate only in parts, presentation lacks coherence
- uses evidence from research as basis for making choices in relation to selection of menus/dishes/products.

All Assignments: menu for day/2 two course meals/1 dish/2 dishes/2 products.

(4 marks)

If dish prepared is not investigated - 1/- 2/- 4 marks in Investigation.

(menu: – starter/dessert = 1 mark, main course = 1 mark)

suitable meals/dishes/products having regard to factors identified and analysed in the investigation

Menus/main course/dishes must be balanced – accept 3 out of 4 food groups.

Sources: 2 sources @ 2 marks (graded 2:1:0)

(4 marks)

Preparation and Planning**8 marks****Resources:**

- ingredients (2 marks), quantities (2 marks), costing (2 marks), equipment (2 marks)
- AOP E – product/s (2 marks), equipment (6 marks)

Implementation**28 marks**

Outline of the procedure followed to include food preparation processes, cooking time, temperature, serving/presentation, tasting/evaluation. (16 marks)
(information/account should be in candidate's own words)

Band A 13 - 16 marks (very good - excellent)

All essential stages in preparation of dish identified, summarised and presented in candidate's own words, in correct sequence with due reference to relevant food preparation process/es used.

Band B 9 - 12 marks (very competent - good)

Most essential stages in preparation of dish identified, summarised and presented in correct sequence with due reference to relevant food preparation process/es used.

Band C 5 - 8 marks (basic - competent)

Some essential stages in preparation of dish identified, summarised and presented in correct sequence with due reference to relevant food preparation process/es used.

Band D 1 - 4 marks (very basic - limited)

Few or any essential stages in preparation of dish identified, summarised and presented in sequence with due reference to relevant food preparation process/es used.

- **Key factors considered** **2 points @ 4 marks** (graded 4:2:0) (8 marks)
 (must relate to specific dish/test)
*Identification (2 marks) and **clear explanation of importance** (2 marks) of **two factors** considered which were **critical to the success of the dish**.*

- **Safety/Hygiene** **2 points @ 2 marks** (graded 2:1:0) (4 marks)
 (must relate to specific ingredients being used/dish being cooked)
*Identification (1mark) and explanation (1 mark) of **one** key safety issue **and one** key hygiene issue considered when preparing and cooking dish/conducting test.*

Evaluation**3 points @4 marks****12 marks**

Evaluate the assignment in terms of:

Implementation

Band A - 4 marks - identified and analysed specific strengths/challenges in carrying out the task, modifications, where suggested, were clearly justified, critical analysis of use of resources/planning.

Band B - 3 marks - identified strengths/challenges in carrying out task, some justification of proposed modifications, limited analysis of use of resources/planning.

Band C - 2 marks - some attempt made at identifying strengths/challenges in completion of task, modifications where suggested not justified, reference made to use of resources/planning.

The **Specific requirements** of the assignment

Band A - 4 marks - draws informed conclusions in relation to the key requirements of the assignment.

Band B - 3 marks - draws limited conclusions in relation to the key requirements of the assignment

Band C - 2 marks - summarises outcomes in relation to the assignment.

Area of Practice A: Application of Nutritional Principles

Assignment 1

Food and nutrition are central to the physical and cognitive development of children and young people, which in turn contributes to educational success.

Research and elaborate on the nutritional needs and the meal planning guidelines that should be considered when planning school canteen meals for 12 - 18 year olds.

Bearing in mind these considerations, investigate a range of menus (two courses) suitable for the main meal of the day for school going teenagers.

Prepare, cook and serve one of the main courses that you have investigated.

Evaluate the assignment in terms of **(a)** implementation and **(b)** the specific requirements of the assignment

2020

Key requirements of the assignment

- *dietary/nutritional needs when planning **school canteen meals for 12-18 year olds***
- *meal planning guidelines with specific reference to **school canteen meals for 12-18 year olds***
- *range of menus (two courses) suitable for the main meal of the day, to include chosen main course dish (identified in the menu).*

Investigation

Dietary/nutritional requirements: *nutritional balance; physical growth spurt creates the need for a greater intake of nutrients; daily requirements of macro/micro nutrients including protein/carbohydrate/fat/iron/calcium requirements as appropriate to 12-18 year olds, with reasons for possible variations; high fibre; Vitamin C/iron absorption; Vitamin D/calcium absorption; energy balance vis a vis activity levels; energy requirements peak when high growth rates and high activity levels coincide; current nutritional guidelines re nutrient and food intake; use of MyPlate icon; etc.*

Meal planning guidelines: *use of food pyramid to ensure balance; variety of foods; plan theme days to trial new healthy foods and expose students to new foods; personal likes and dislikes; use of foods in season; avoid snack foods, foods high in salt, saturated fat and sugar; choose healthy snacks; dishes suitable for freezing; dishes suitable for different diets; consider food allergies; resource issues; special offers; buy in bulk; disposable plates and cutlery add to expense, environmental issue; use of energy efficient cooking methods; foods that are easy to prepare in large quantities; serving sizes; easy to serve/portion food; convenient/easy to eat foods; foods easy to keep hot; attractively served foods; etc.*

Dishes selected - must meet the nutritional requirements for 12-18 year old's
 - must be a main course (from menu).

Evaluation (a) implementation and **(b)** the specific requirements of assignment

Analysis of findings regarding the nutritional/dietary requirements when planning school canteen meals for 12 - 18 year olds.

Meal planning guidelines – range of foods/dishes suitable when planning school canteen meals for 12-18 year olds; etc., how the selected dish meets the requirements as identified in the investigation; etc.

Assignment 2

Overweight and obesity are largely preventable, however, in the past two decades levels of overweight and obesity in Ireland have doubled. Now only 40% of us have a healthy weight.

(A Healthy Weight for Ireland, Obesity Policy and Action Plan 2016-2025)

With reference to this statement, research and elaborate on **(i)** the causes of obesity and **(ii)** the possible health implications for adults who are overweight or obese.

Investigate and elaborate on the nutritional needs and the factors that should be considered when planning and preparing meals for adults who wish to reduce their weight.

Having regard to the factors identified in your research, suggest a menu (three meals) for one day for this group of people.

Prepare, cook and serve the main course of the main meal of the day.

Evaluate the assignment in terms of **(a)** implementation and **(b)** the specific requirements of the assignment.

2020

Key requirements of the assignment

- *causes of obesity*
- *the possible health implications for adults who are **overweight or obese***
- *nutritional needs and dietary requirements with reference to **adults who wish to reduce their weight***
- *relevant meal planning guidelines with reference to **adults who wish to reduce their weight***
- *menu (three meals) to include the chosen main course dish (identified in research).*

Investigation

Causes of obesity: *lack of exercise; inactive lifestyle; busy lifestyle; energy intake greater than energy expenditure; composition of the diet; poor appetite control; fast food diet high in fat and sugar; genetic factors; hormonal; psychological reasons; etc.*

Health implications: *coronary heart disease (CHD); high blood pressure; high cholesterol; stroke; diabetes; back pain; varicose veins; osteoarthritis; breathing difficulties; reduction in life expectancy; poor self-esteem; infertility and difficulties in childbirth; etc.*

Dietary/nutritional requirements: *nutritional balance; daily requirements of macro/micro-nutrients including protein/carbohydrate/fat/iron/calcium requirements as appropriate; high fibre; Vitamin C/iron absorption; Vitamin D/calcium absorption; current nutritional guidelines re nutrient and food intake; use of 'diet' products; etc.*

Meal planning guidelines: *use of food pyramid to ensure balance; establish pattern of eating three regular balanced meals each day; eat wide variety of fruit and vegetables; cut down/avoid processed, snack and empty kilo calorie foods; choose low fat/low calorie products; avoid refined carbohydrate foods; select foods with a low GI (glycemic index); choose poultry, white fish and lean meats; cut fat off meat; avoid foods that contain hidden fats, replace with fruit and vegetables; use healthy cooking methods; drink water and natural fruit juices instead of fizzy drinks; etc.*

Dishes selected

- menu for one day (*three meals*)
- should meet the nutritional requirements as identified for adults who wish to reduce weight
- must be a main course (*from menu*)

Evaluation **(a)** implementation and **(b)** the specific requirements of assignment

Analysis of findings regarding what you learned from the investigation regarding the management of a diet for adults who are overweight or obese, factors that should be considered when planning meals for adults in order to maintain a healthy weight and to ensure nutritional adequacy, how the selected dish meets the requirements as identified in the investigation; etc.

Area of Practice B: Food Preparation and Cooking Processes

Assignment 3

Roasting enhances flavour through caramelisation and maillard browning on the surface of the food.

Carry out research on roasting as a method of cooking in relation to each of the following:

- definition and underlying principle
- different foods/dishes that can be cooked using this method
- the advantages of roasting
- the key points that should be considered to ensure success when using this method of cooking.

Prepare, cook and serve a dish of your choice where roasting is used as a cooking process.

Evaluate the assignment in terms of **(a)** implementation and **(b)** roasting as a method of cooking.

2020

Key requirements of the assignment

Research on roasting as a method of cooking:

- *definition and underlying principle*
- *different foods/dishes that can be cooked using this method*
- *the advantages of roasting*
- *the key points that should be considered to ensure success when using roasting as a method of cooking*
- *chosen dish (identified in research).*

Investigation: Definition and underlying principle: *by **radiant heat** in front of or over a glowing source of heat with food being rotated on a spit or rotisserie, or cooking in an oven in small amount of fat; different methods include spit, pot, quick/slow, cold oven, flash roasting etc.; food is cooked by **convection** in an oven, hot air rises and cold air falls; quick roasting at 230/220° C for 20 minutes; reduce to 190/180° C for remainder of time; slow roasting at 160/150° C for one and half or twice the usual time; cold oven roasting at 200°C where food cooks as the oven heats, the slow rise of temperature ensures tenderisation; food can be seared in a very hot oven 230°C-260°C for 20 minutes to 'sear' the outside causing a change in natural sugars which causes browning/maillard reaction; develops a characteristic roast flavour; food can be cooked on a mechanically rotating spit under a hot grill/in a hot oven/open fire, by convection and radiation; food can be pot roasted by cooking in hot fat in a tightly covered saucepan, using **conduction** and convection; food is basted during cooking to brown the surface and moisten the food, caramelisation occurs on the surface of meat; food can be roasted in an open or covered tin; resting allows meat to redistribute the juices from the centre outwards, drier outer parts regain tenderness; etc.*

Foods/dishes that can be cooked using roasting: *meats: beef - sirloin, rib/round roast, fillet etc.; pork - loin, leg etc.; lamb - loin, leg etc.; poultry - chicken, duck, turkey, goose etc.; game; etc. vegetables - potatoes, root vegetables, peppers, marrows, onions etc.; fish; etc.*

Advantages of roasting: *vitamins remain in the food; enhances flavour; use of energy and oven temperature can be controlled; meat juices can be used for gravies; tender and succulent meat; continual basting with meat juices gives distinctive flavour; skill and technique can be displayed when roasting on a spit; etc.*

Key points that should be considered to ensure success: *have meat at room temperature; heat fat; sear meat; baste frequently during cooking; allow meat to 'stand'; the thicker the joint of meat the lower the temperature it should be cooked at; roasting bags allow meat to colour and reduce cooking time; importance of weighing foods and timing; use best quality vegetables; good quality oil for flavour; correct oven temperature; rest all meats prior to serving; slice roasted meats against the grain; etc.*

Dish/food selected - dish where roasting is main cooking process (*identified in research*)

Evaluation (a) *implementation* and **(b)** *roasting as a method of cooking.*

How the selected dish meets the requirements as identified in the investigation; etc.

Area of Practice D: Properties of a Food

Assignment 4

The functional properties of food are the physical and chemical changes that occur during its preparation and cooking.

Explain protein denaturation with reference to the coagulation of food.

Investigate and elaborate on the application of coagulation in the making of a range of dishes explaining the principle involved.

Prepare, cook and serve one of the dishes that you have investigated.

Evaluate the assignment in terms of **(a)** implementation and **(b)** success in applying the property of coagulation in the making of the selected dish.

2020

Key requirements of the assignment

- *explain protein denaturation with reference to the coagulation of food*
- *the application of coagulation in the making of a range of dishes explaining the principle involved*
- *chosen dish (identified in research).*

Protein denaturation with reference to the coagulation of food:

Denaturation is an irreversible change to the structure of protein by physical and chemical means e.g. heat, acids, enzymes, mechanical action/agitation; the unfolded protein chains bond with each other forming clumps; it involves a change in the tertiary/secondary structure; the result is the setting/hardening of the protein food which is known as coagulation; etc.

The application of coagulation and principle involved:

*Coagulation is caused by: **Heat:** e.g. protein coagulates when heated – egg white coagulates at 60°C, egg yolk at 68°C; colour changes from transparent to opaque; etc. **moist heat:** changes the collagen to gelatin, tenderising meat; myoglobin in meat causes its colour to change from red to brown; milk protein casein shrinks, forms a skin on the surface; etc. **dry heat:** causes shrinkage and toughening of muscle tissue with loss of moisture resulting in a dry texture; etc. **Acids:** bacteria present in milk ferment the lactose when milk sours, producing lactic acid, ph. of milk is lowered; protein caesinogen coagulates; lemon juice/vinegar causes milk to curdle; the acid vinegar used in marinades denatures the protein in meat; the addition of heat in cooking with the acid leads to slow tenderising of the muscle in meat; etc. **Enzymes:** the enzyme rennin coagulates milk protein in the stomach; rennet used to form the curd in the manufacture of cheese; proteolytic enzymes e.g. papain, bromelin and ficin when sprinkled on the surface of meat cause a slow tenderisation of the muscle of the meat; etc. **Salt:** sodium chloride coagulates some proteins e.g. in cheese making salt is added to the curd to increase firmness; etc. **Mechanical action/agitation:** whisking of egg white causes a partial coagulation of the protein; the protein chains unfold and line up around the air bubbles entrapping air which results in the formation of a foam; whisking produces heat which sets the egg white slightly; etc.*

Range of dishes to illustrate the application of coagulation

Heat: egg custard, sponge cake, quiche, crème caramel, omelette, beef stew; etc.

Acids: marinated meats, fish, vegetables; etc. **Enzymes:** marinated meats; etc.

Mechanical action/agitation: pavlova, soufflés, mousses, sponge cake; etc.

Dish selected – must show application of coagulation (*identified in research*)

Evaluation (*as specified in assignment*)

(a) implementation (b) success in applying the property of coagulation in the making of the selected dish i.e. mechanical action/agitation, heat, acids, enzymes; etc.

Area of Practice E: Comparative Analysis including Sensory Analysis

Assignment 5

Luxury chocolate brands are a popular choice with Irish consumers.

Carry out research on the range of luxury chocolates available (brands, cocoa content, flavours and price).

Choosing one brand of chocolate, purchase two chocolate bars with a different cocoa content in each.

Carry out a preference test using a hedonic rating scale to determine the preferred chocolate.

Present the results obtained from the test.

Evaluate the assignment in terms of **(a)** implementation and **(b)** the test results obtained. **2020**

Key requirements of the assignment

- *research on the range of **luxury chocolates** (brands, cocoa content, flavours and price)*
- *a preference test using a hedonic rating scale*
- *conditions to be controlled during testing*
- **selected products** *(two chocolate bars the same brand, different cocoa content).*

Investigation

(24 marks)

- Research/investigation of foods/products appropriate to the assignment *i.e. research the range of luxury chocolates available (brands, cocoa content, flavours and price).*
- **Preference test using a hedonic rating scale**
Description: *tester is presented with one or more coded samples, indicating their degree of liking for each product/sample; etc.*
Aim of test: *to determine how much a product is liked/disliked; etc.*
Possible outcomes: *the products that are most and least preferred are identified; etc.*
- **Identification of the conditions to be controlled during the testing**
Conditions specific to the assignment e.g. containers used for testing; similar quantities of each sample; coding of samples; timing of test; where testing takes place; dietary considerations; etc.
- **Selected dish/product** (4 marks)
Selected products: *two chocolate bars each with a different cocoa content*

Sources: 2 @ 2 marks (graded 2:1:0)

(4 marks)

Preparation and Planning

- **Resources** 2 marks (graded 2:1:0) (8 marks)
- **Testing equipment needed to carry out assignment** 6 marks (graded 6:5:4:3:2:1:0)

Preference Test: Based on 6 testers: 6 trays, 6 glasses of water, 12 coded containers, 6 samples of chocolate A, 6 samples of chocolate B, 6 score-cards, 1 record sheet, pens; etc.

Implementation

(16 marks)

Procedure followed when carrying out this aspect of the assignment

The full sequence of implementation should be given and findings should be presented for the test i.e.

Preference Test – Hedonic Rating Scale (two products)

Based on 6 Testers: Code 12 containers, 6 containers with symbol □, 6 containers with symbol ◇; arrange chocolate samples in each container; set up 6 trays numbered 1-6; place one container with symbol □, one container with symbol ◇, a scorecard, pen and water on each tray; instruct testers to follow instructions on score card, taste each sample, indicate how much the product is liked/disliked by placing a tick beside the appropriate descriptor; completed scorecards are collected and results transferred onto a record sheet; total score/average score for each product is worked out; codes are revealed and results presented – preferences identified; tidy; wash up; evaluate results; etc.

To calculate the results: to calculate the score for each product assign each descriptor a score value:

like a lot = 5, like a little = 4, neither like nor dislike = 3, dislike a little = 2, dislike a lot = 1

- **Key factors considered (any 2 @ 4 marks)** (graded 4:2:0) (8 marks)

Key factors that may be considered in order to ensure success in this assignment include - containers used for testing; similar quantities of each sample; sufficient amounts; coding of samples; timing of test; where testing takes place; dietary considerations; glass of water/or dry cracker included to cleanse the palate; importance of silence during testing; etc.

- **Safety and hygiene**

Safety: **1 point @ 2 marks** (graded 2:1:0) Hygiene: **1 point @ 2 marks** (graded 2:1:0)

(4 marks)

Safety: testers with allergies – product with nuts etc.; special diets e.g. diabetic; etc. products with additives/E numbers; etc.

Hygiene: practice with regard to preparation area and the testing area; handling of samples – use of plastic gloves/disposable glasses; etc.

Evaluation (3 points @ 4 marks)

(12 marks)

Implementation

Testing procedures used; key factors when conducting the test; safety and hygiene issues considered; problems encountered and suggested solutions; evaluate efficiency of work sequence; etc.

Specific requirements of the assignment

Evaluate the results obtained for the test and draw some conclusions.

The factors that may contribute to the test results obtained should be analysed.

Appendix 1 - General Instructions for examiners in relation to the awarding of marks.

1. Examination requirements:
Candidates are required to complete and present a record of any **four** assignments for examination.
2. Each Food Studies assignment must include different practical activities.
Where **a candidate repeats a practical activity for a second assignment**, the examiner will mark the repeated practical as presented and disallow the marks awarded for the repeated practical activity with the lowest mark.
3. Where a **candidate completes the investigation and/or the preparation and planning and/or the evaluation aspects of an assignment and does not complete the implementation**, the examiner will mark the completed aspects of the assignment as presented. However, marks for **evaluation of implementation**, where attempted, will be disallowed.
In relation to Assignments 3, 4, and 5 **evaluation of specific requirements** will also be disallowed.
4. Where a **candidate completes the preparation and planning and/or the implementation and/or the evaluation aspects of an assignment, and does not complete the investigation**, the examiner will mark the completed aspects of the assignment as presented. However, marks for **evaluation of specific requirements of assignment**, where attempted, will be disallowed.
5. Where the **dish/product prepared has not been identified in the investigation**, but fulfils the requirements of the assignment, deduct the relevant marks awarded (-1/-2/-4) under meals/dishes/products in investigation.
6. Dish selected shows **few process skills** - mark pro-rata
7. **Dish selected not fully compliant** with requirements e.g.
 - an **uncooked dish** selected where a cooked dish specified
 - dish **not suitable for assignment requirements** – Assignment 1 and 2
 - the **investigated method not used in making the chosen dish** – Assignment 3 and 4
 - dish selected includes **over use of convenience foods**.

Deduct 8 marks from total mark awarded for assignment and insert explanation as highlighted above.
8. A **dish that does not meet the requirements of the assignment** e.g. a dessert dish prepared instead of a main course dish; no marks to be awarded for the dish.

N.B. Examiners must consult advising examiners when applying a scenario.

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