Coimisiún na Scrúduithe Stáit
State Examinations Commission

Leaving Certificate 2019

Marking Scheme

Home Economics – Scientific and Social

Higher 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

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Marking Scheme

Instructions to Candidates

Section A There are **twelve questions** in this section.
Answer any **ten questions**.
Each question carries **6 marks**.

Section B There are **five questions** in this section.
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 There are **three questions** in this section.
Answer **one** elective question, to include **part (a)** and either **part (b) or part (c)**.

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 280/320

Grade	Elective 1 and 3	Elective 2
1	288-320	252-280
2	256-287	224-251
3	224-255	196-223
4	192-223	168-195
5	160-191	140-167
6	128-159	112-139
7	96 -127	84-111
8	< 95	< 83

Section A

Answer any **ten** questions from this section.
Each question is worth 6 marks.
Write your answers in the spaces provided.

1. In relation to lipids, explain each of the following properties: (6)

Hydrogenation ***3 marks*** (graded 3:2:1:0)
Hydrogen *can be added to unsaturated fatty acids; in the presence of a nickel catalyst; converting oils into saturated fats; used in the production of margarine; etc.*
Accept a clearly labelled diagram.

Plasticity ***3marks*** (graded 3:2:1:0)
This relates to whether a lipid is solid, liquid or spreadable at room temperature; determined by the ***degree of saturation****; the fewer unsaturated fatty acids present the more solid the lipid; e.g. unsaturated margarines are spreadable and suitable for creaming; etc.*

2. Suggest **three** meal planning guidelines that should be considered when preparing meals for a person with Coronary Heart Disease (CHD). (6)

Meal planning guidelines: ***3 @ 2 marks*** (graded 2:1:0)

(i) *reduce intake of saturated fats, replace foods with low fat varieties;*

(ii) *include mono and polyunsaturated oils;*

(iii) *increase fibre intake; reduce refined carbohydrates; increase consumption of fish and chicken; reduce salt; use functional foods; grill, bake, steam or boil food; etc.*

3. Health conditions can result from a mineral deficiency in the diet.
Identify **one** mineral in each case. (6)

3 minerals @ 2 marks (graded 2:0)

Health Condition	Mineral
Osteomalacia	*Calcium; phosphorous;*
Dry, flaky skin	*Zinc;*
Goitre	*Iodine;*

4. In relation to eggs, explain each of the following: (6)

Organic ***3 marks*** (graded 3:2:0)
*Eggs from birds which have **not been treated** with growth hormones or given antibiotics; feed used that is not treated with artificial pesticides, fertilisers; etc.*

Lecithin ***3 marks*** (graded 3:2:0)
*Found in egg yolk; is a natural **emulsifier** that has the ability to join two immiscible liquids* (*oil and vinegar*) *together; the molecule has a hydrophilic head and a hydrophobic tail; the hydrophilic head attaches itself to the water molecule and the hydrophobic tail attaches itself to the oil molecule preventing two substances from separating; etc.*
Accept a clearly labelled diagram

5. Differentiate between each of the following methods of smoking fish. (6)

Cold smoking ***3marks*** (graded 3:2:0)
*Fish is exposed to smoke rising from smouldering wood chips; the **temperature** of the fish does not exceed 27°C; the fish requires further cooking; etc.*

Hot smoking ***3 marks*** (graded 3:2:0)
*Fish is exposed to smoke rising from smouldering wood chips; the **temperature** is gradually increased to 80°C; does not require further cooking; etc.*

6. Describe **one** physical and **one** chemical change that occur during the cooking of food. (6)

Physical change ***3 marks*** (graded 3:2:0)
Increase/decrease in size; tenderising; nutrient loss; colour loss; colour change; texture change; thickening; etc.

Chemical change ***3 marks*** (graded 3:2:0)
Maillard reaction; caramelisation; dextrinisation; tenderising; chemical/biological raising agents increase volume; etc.

7. State **three** biological functions of water. (6)

Biological functions: ***3 @ 2 marks*** (graded 2:0)

(i) *removes waste products; quenches thirst; prevents dehydration; metabolism;*

(ii) *constituent of blood plasma; transporting nutrients, hormones, oxygen and carbon dioxide to body cells;*

(iii) *provides calcium and fluorine/fluoride; regulates body temperature; hydrolysis; prevents constipation; etc.*

8. Explain each of the following types of diabetes. (6)

Type1: Insulin dependent ***3 marks*** (graded 3:2:0)
Insulin is not produced *by the pancreas; hereditary; can develop in childhood, adolescence or young adulthood; controlled by oral medication, injectable insulin, diet and exercise; cannot be reversed; etc.*

Type 2: Non-insulin dependent ***3 marks*** (graded 3:2:0)
Insulin is produced *by the pancreas but it cannot be used by the body; develops mainly during later adulthood especially among overweight adults; can occur in children; controlled by oral medication, injectable insulin, diet or exercise, or by a combination of diet and exercise; can be reversed when a person loses weight; etc.*

9. Name **three** statutory bodies concerned with consumer protection. (6)

Statutory bodies: ***3 @ 2 marks*** (graded 2:1:0)

(i) *Competition and Consumer Protection Commission; Central Bank;*

(ii) *Office of the Ombudsman; Food Safety Authority of Ireland; Small Claims Court;*

(iii) *Citizen's information Board; National Standards Authority of Ireland; European Consumer Centre Ireland; etc.*

10. Outline the function of each of the following parts of a microwave oven. (6)

Magnetron ***3 marks*** (graded 3:2:0)
This converts electrical energy into microwave energy or electromagnetic waves /microwaves; etc.

Transformer ***3 marks*** (graded 3:2:0)
This increases domestic voltage from 230V to a higher frequency; etc.

11. In relation to the environment, explain and give an example of each of the following: (6)

Renewable resource ***2 marks*** (graded 2:1:0)
Always available naturally; not depleted despite constant use; causes no harm to the environment; etc.

Example ***1 mark*** (graded 1:0)
Solar energy; biomass energy; wind energy; geothermal energy; hydropower; etc.

Non-renewable resource ***2 marks*** (graded 2:1:0)
Limited in supply; cannot be replaced once they have been depleted; can cause harm to the environment; etc.

Example ***1 mark*** (graded 1:0)
Fossil fuels – coal, peat, natural gas; oil; nuclear energy; etc.

12. Explain how consumers can contribute to sustainable waste management. (6)

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

(i) *composting; buying in bulk; buying recyclable products; buying concentrated detergents;*

(ii) *prevention; minimisation; reusing; recycling; energy recovery; disposal; etc.*

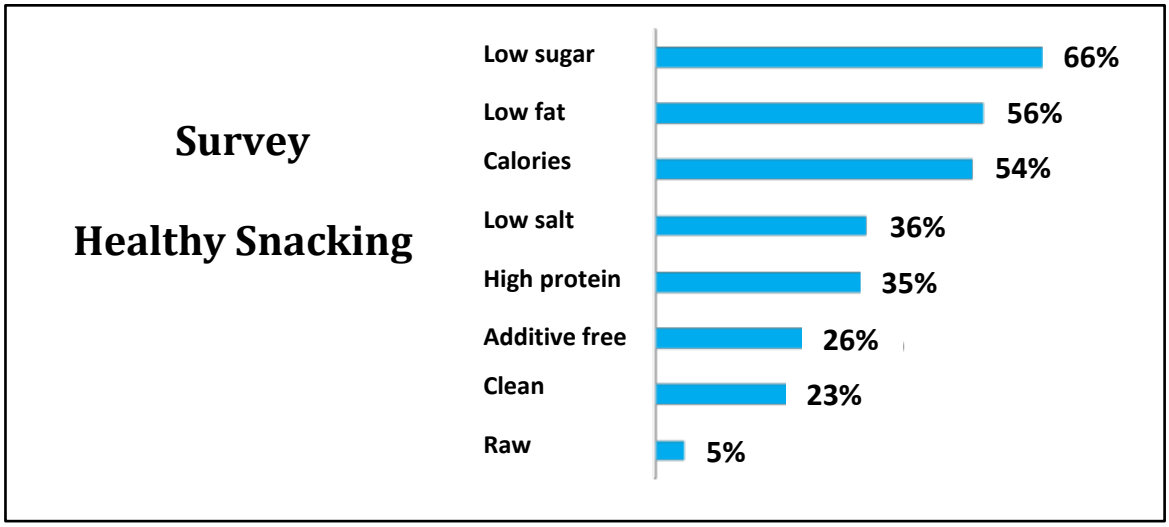
Section B

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.

1. Over 70% of all consumers snack each day. The following question was asked in a survey on snacking trends:

"When choosing a snack for health benefits, which of the following are important to you?"

The results of the survey question are given below.



(*Bord Bia - Healthy Snacking UK and Ireland, 2018*)

(a) In addition to the benefits in the chart above what are the key factors that influence food choices? (12)

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

Sensory aspects - personal preference, colour, flavour; culture; religion; advertising and marketing; allergies/intolerances; health issues; budget/value for money; eating patterns; availability; brand; origin; cooking facilities; etc.

(b) Discuss the motivations for the respondent choices given in the survey. In your answer refer to **four** benefits. (12)

4 benefits @ 3 marks (graded 3:2:1:0)

Motivations: *why is this health benefit important; identify group of people who are motivated by the particular benefit; ingredients/foods that provide this benefit and/or ingredients/foods that should be avoided; rank - high/low quantity; % comparisons; etc.*

(c) Describe **two** healthy snacks suitable for college students.
Outline the nutritional merits of incorporating these snacks in a person's diet.

Description: ***2 snacks @ 3 marks*** (graded 3:2:0) (6)

Fresh fruit or vegetables; vegetable snacks/vegetable pots; yoghurt/dairy drinks; smoothies; fresh fruit and/or vegetable juices; nuts; seeds; trail mixes; granola/flapjacks; dried fruit and vegetable crisps; rice cakes/corn cakes; protein bars/balls; etc.

Merits: ***4 points @ 3 marks*** (graded 3:2:1:0) (12)

Merits: *ingredient/food linked with appropriate nutrient and function; etc.*

(d) Dairy based snacks can contribute to micro-nutrient intake.
Give an account of calcium under each of the following headings:

- sources ***3 sources @ 2 marks*** (graded 2:1:0)
- biological functions ***3 functions @ 2 marks*** (graded 2:0)
- effects of deficiency. ***3 effects @ 2 marks*** (graded 2:0) (18)

Sources: *dairy products; eggs; dark green vegetables; oily fish; white flour; hard water; bottled water; fortified juices; supplements; sesame seeds; etc.*

Biological functions: *formation and development of bones; teeth; blood clotting; muscle contractions; normal functioning of nerves and membrane permeability; regulate cell metabolism; etc.*

Effects of deficiency: *rickets; osteomalacia; osteoporosis; dental cavities; failure of blood to clot; muscular spasms; interference in the transmission of impulses along the nerves; etc.*

(e) Explain how the packaging on food products attracts and informs consumers. (20)

4 points @ 5 marks (graded 5:3:0)
(Attracts: ***1 point,*** Informs: ***1 point + 2 other points)***

Attracts*: visual appearance; natural colours; bold garish colours; made of natural materials; gloss or matt finish; high quality food/ingredient imagery; short ingredient deck; benefits clearly identifiable on the front; not too busy on front; etc.*
Informs: *list of ingredients given with RDA; nutrients present; energy value; allergens listed; storage/preparation/cooking instructions given; origin – farm; free range, organic; etc.*

2. 'Research reveals that 19% of the average weekly family food shop is spent on highly processed 'treat' foods. This compares with only 10% spent on fruit and 7% on vegetables.'
(*Safefood, 2018*)

(a) Discuss the nutritional significance of vegetables in the diet. (15)

5 points @ 3 marks (graded 3:2:1:0)

Protein: *2-8%; LBV protein; pulses a better source of protein; soya beans, HBV protein; growth and repair; etc.* ***Fat:*** *olives, avocados, soya beans - sources of polyunsaturated fat; heat and energy; etc.* ***Carbohydrate:*** *3-20%; fibre - pulse vegetables good source; starch in potatoes, root vegetables and pulses; small amounts of sugar in carrots and onions; energy; etc.* ***Vitamins:*** *beta carotene* (*pro-vitamin A*) *in dark green/yellow/orange/red vegetables; manufacture of rhodopsin; etc. Vitamin C in leafy greens, tomatoes, peppers, potatoes; absorption of iron; etc. vitamins B1, B2 and B6 in pulse vegetables; B2 and niacin in mushrooms; metabolism; folate in leafy green vegetables; etc. vitamins A, C and E are antioxidants; etc.* ***Minerals:*** *calcium in root and leafy greens; healthy bones; etc. iron in dark green vegetables; carries oxygen around the body; traces of potassium, zinc and iodine; etc.*
Accept: *maximum 2 references to minerals, 2 references to vitamins.*

(b) **(i)** Suggest strategies for increasing a person's daily consumption of vegetables.

(ii) Compile a set of guidelines for cooking vegetables in order to maintain their nutritive value.

4 strategies @ 2 marks (graded 2:1:0) (8)

Eat vegetable based soups regularly; add vegetables to salads; increase vegetables in savoury dishes; introduce new vegetables and new ways of cooking them; use a spiralizer to make vegetable noodles; substitute vegetables for carbohydrate foods e.g. cauliflower rice; introduce vegetarian main courses for all the family; add vegetables to sauces; add greens to smoothies; etc.

4 guidelines @ 3 marks (graded 3:2:0) (12)

Cook quickly; cook in the minimum amount of water; cover pot with a lid; use cooking liquid for soups and sauces; do not use alkalis; avoid copper or brass saucepans; stir-fry, steam or microwave; serve al dente; etc.

(c) Give an account of Vitamin C (ascorbic acid) under each of the following headings:

- Properties (graded1:0)
- sources (graded1:0)
- biological functions (graded 3:2:0) (15)

3 properties @ 1 mark (graded 1:0)

Properties: *white crystalline acid; sweet/sour taste; water soluble; unstable – lost during storage; food preparation; cooking; exposure to light and air; destroyed by alkalis; oxidase; dehydration; effective antioxidant; etc.*

3 sources @ 1 mark (graded 1:0)

Fruits: *blackcurrants; kiwis; citrus; strawberries; melon; etc.*
Vegetables: *peppers; tomatoes; greens; potatoes; etc.*
Supplements; etc.

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

Biological **functions**: *formation of connective tissue, collagen; necessary for the immune system; helps absorption of iron, calcium; promotes healing of wounds; healthy blood vessels; acts as an antioxidant; protects HDL cholesterol; etc.*

3. Food spoilage is a disagreeable change in a food's normal state. Such changes can be detected by smell, taste, touch or sight.

(a) Discuss the main causes of food spoilage. (20)

4 causes @ 5 marks (graded 5:3:2:0)

Bacteria: *putrefaction - protein decomposition – odour – hydrogen sulphate* (*eggs*)*; fish struggle, use up glycogen stores, causes deterioration; strong smelling nitrogen compound, trimethylamine is produced; etc.*
Moulds: *visible on surface of foods; produce mycotoxins; etc.*
Yeast: *can be visible on exterior of foods; etc.*
Physical damage: *bruising; etc.*
Rancidity: *in fats; etc.*
Moisture loss: *shrinkage, wrinkling, limp appearance of skin on fruit and vegetables; cheese, high protein food – hard surface due to moisture loss when exposed to air; etc.*
Enzymes: *ripening of fruit – enzymes continue to work, cause food to over-ripen, decay and decompose; browning - certain foods are cut e.g. apples, cut surface releases enzyme, oxidase, reacts with oxygen and causes food to go brown; naturally present enzymes in fish cause flesh to deteriorate even at low temperatures; vegetables may be spoiled in the freezer if not blanched prior to freezing; oxidase present in the cell wall of plants is activated by oxygen and can destroy thiamine, vitamin C and carotene; enzymes cause triglycerides to hydrolyse which results in rancidity; etc.*

(b) Name and give details of **one** common food poisoning bacteria.
Refer to:

- conditions necessary for growth ***3 conditions @ 2 marks*** (graded 2:1:0)
- source ***1 source@ 2 marks*** (graded 2:1:0)
- reproduction/growth of bacteria ***3 points @ 2 marks*** (graded 2:0)
- high risk foods ***2 foods @ 2 marks*** (graded 2:1:0) (20)

Name of food poisoning bacteria ***2 marks***

Food Poisoning Bacteria

Name **2 marks** (graded 2:0)	**Conditions for growth** **3@2 marks** (graded 2:0)	**Source** **1@2 marks** (graded 2:0)	**Reproduction** **3@2 marks** (graded 2:0)	**High Risk Foods** **2@2 marks** (graded 2:0)
Salmonella	*Food: saprophytic or parasitic; Temp: mesophilic 20 – 45°C; Moisture: etc. Oxygen: facultative; etc. pH: neutral; etc. Time: etc.*	*Human, animal and bird intestines; faeces; unwashed hands; etc.*	*Asexual; Binary fission; Mitosis;*	*Raw or undercooked meat, fish, eggs; unpasteurised dairy products; etc.*
Listeria	*Food: saprophytic or parasitic; Temp: psychrophilic 5 – 20°C mesophilic 20 – 45°C; Moisture: etc. Oxygen; facultative; etc. pH: neutral/slightly acidic; etc. Time: etc.*	*Uncooked foods; cooked chill foods; foods not heated to sufficiently high temperatures; soil; human & animal waste; etc.*	*Asexual; Binary fission; Mitosis;*	*Soft cheese; pâté; unpasteurised milk, cheese; raw or undercooked meats; pre-prepared salads; cook-chill foods; etc.*
E.coli	*Food: saprophytic or parasitic; Temp: mesophilic 20 – 45°C; Moisture: etc. Oxygen: aerobic; etc. pH: neutral; etc. Time: etc.*	*Human and animal intestines; human & animal excreta; polluted water; unwashed hands; etc.*	*Asexual; Sexual; Binary fission; Mitosis;*	*Undercooked meats; raw meats; unpasteurised milk and cheese; etc.*
Clostridium botulinum	*Food: saprophytic or parasitic; Temp: mesophilic 20 – 45°C; Moisture: etc. Oxygen: anaerobic; pH: 4.6 or higher; etc. Time: etc.*	*Soil; decaying matter; unwashed hands; human and animal faeces; etc.*	*Asexual; Sexual; Binary fission; Mitosis;*	*Unpasteurised cheese, milk, yoghurt; faulty processing of low acid canned foods; vacuum-packed foods; smoked fish; oil infused with garlic; etc.*

Staphylococcus Aureus; Clostridium Perfringens; Campylobacter; etc.

(c) Outline the role of the Health Service Executive (HSE) in relation to food safety. (10)

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

Involved in registering new food premises; inspections of food premises; farm inspections; handles complaints regarding hygiene standards in food premises; closure orders; ensuring food safety at public gatherings; monitoring legislation that deals with food and nutrition labelling, additives and contaminants; responding to rapid alerts - recalling of food products; provides education and advises businesses on how to ensure compliance with food safety and hygiene laws; etc.

4. **'**The average gross weekly household income in 2016 was €1,100 which is 7% higher than the figure recorded for 2010.' (*Household Budget Survey, 2016*)

(a) Analyse the factors that affect household income. (20)

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

Age*: income tends to increase as people age, are more experienced, move up the pay scale; income can decrease on retirement if pensions have not been paid into; teenagers can have part time jobs and make a contribution to family income; etc.*

Gender: *number of women in the work force has increased; "back to work schemes" encourage women back to the labour market; Employment Equality Act ensures equal pay regardless of gender; managerial positions still tend to be male dominated; etc.*

Socio-economic group: *lower socio-economic groups tend to leave school early without academic qualifications leading to low paid jobs, fewer opportunities for career advancement and improving income level; middle class background have more educational opportunities, more likely to avail of third level education; etc.*

Number of family members in employment*: dual career families have a higher income; etc.*

Working hours*: full time or part time; job sharing; flexi time; seasonal work; etc.*

Culture: *different cultures may have different expectations; etc.*

Disabilities; Addictions; *etc.*

(b) Suggest strategies that should be followed when planning a family budget to ensure the effective management of financial resources. (20)

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

List all sources of income; list planned expenditure – fixed, irregular and discretionary; calculate weekly/monthly expenditure; allow for discretionary spending; allow for changes in circumstances; incorporate long and short term savings; allocate some money for personal expenses; keep copies of bills and receipts; evaluate and review budget regularly; allocation of income - housing 25%, food 25%, household expenses 15%, education 5%, childcare 5%, travel 5%, clothing 5%, medical 5%, savings 5%, entertainment 5%; etc.

(c) Outline the role of the Money Advice and Budgeting Service (MABS) for families who are experiencing financial difficulties. (10)

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

Free independent advice service; advises on coping with current debt problems; helps families develop money management skills – planning budgets and repayment schedules; advises on consumer finance products; advises on interest rates; mortgage debt resolution; negotiation with lenders; personal insolvency advice; income maximisation; etc.

5. Sociology is the study of society, patterns of social relationships, social interaction and culture of everyday life.

(a) Explain the following sociological terms:

- socialisation
- socio economic group
- social mobility
- social change

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

- kinship ***1 term @ 2 marks*** (graded 2:1:0) (14)

Socialisation*: the process whereby an individual learns appropriate norms, values, behaviour and social skills in order to behave in a manner acceptable to society; primary socialisation happens in the family; secondary through school, work and media; life long process; etc.*
Socio economic group: *classification of individuals within society according to their economic, and social position in relation to others; these groups are usually classified as lower, middle and higher socio-economic classes; division is known as social stratification or layering; etc.*
Social mobility: *movement of individuals from one socio-economic group to another; education, income and occupation enable social mobility; etc.*
Social change*: changes that occur within society due to major developments e.g. law reform; technology; national and international events; etc.*
Kinship: *relationships; family ties; family connections; blood relationship; blood ties; common ancestry; common lineage; etc.*

(b) Describe the characteristics of contemporary family structures. (12)

4 points @ 3 marks (graded 3:2:1:0)
Nuclear; extended; blended/reconstituted/step; lone parent; same sex parents; childless families; etc.

(c) Discuss the social, economic and technological changes that affect families today. (24)

6 points @ 4 marks (graded 4:2:0)
(*2 references to social, 2 references to economic, 2 references to technological*)
Social: *decline in extended family; urbanisation; gender equality; dual career families; marriage breakdown, separation and divorce; same sex marriages and adoption; segregated and shared roles; changing role of women; increased leisure time; stay at home fathers; fewer children; women having children later in life; antisocial behaviour; addictions; etc.*
Economic: *high cost of living; housing costs; state benefits; state support; both partners working; higher standard of living; higher expectations; moving in search of work or because of work; cost of childcare/education; etc.*
Technological: *communication technology; social media; technology which enables working from home, paying bills, booking holidays etc.; household technology; home entertainment; security technology; etc.*

Section C

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) Architecture involves creating design solutions to make homes that meet the needs of the people who will live there.

(i) Outline the historical development of housing styles in Ireland. (20)

5 points @ 4marks (graded 4:2:0)
(*expect reference to two centuries*)

19th Century: rural areas *– single story thatched cottages, 2 rooms - kitchen and bedroom, stone and mud walls, small windows, half door, open fire; prosperous farmers two storey houses, slate roof, parlour; wealthy landowners large estate houses with servants quarters in the basement; etc.* ***urban areas*** *- Georgian style, 2, 3 and 4 storey terraced houses with basements; slate roofed houses; door focal point, with steps leading up to; rooms with high ceilings; middle class small terraced houses; shop keepers lived over their shops; workers single storey cottages; urban tenements; Georgian home divided into flats/single rooms; etc. Gothic and Tudor styles; etc.* ***20th century: rural areas*** *– upgrade of rural homes; two story houses; thatch replaced by slate or tiles; rural electrification; etc.* ***urban areas*** *- council and housing estates; detached and semi-detached houses; use of brick with plaster walls, 2 storey, tiles replaced slates, slate roofed bungalows; etc. private housing estates; houses of the same design; one off houses; high rise housing; improved standards due to building regulations; new materials and construction methods e.g. fibreglass, double/triple glazing, plastic (pvc); etc.* ***21st Century: rural areas*** *- housing developments in small towns and villages; houses of different styles and sizes; renovation of period properties; one off houses architecturally designed; attic conversions, extensions, sunrooms added to houses; outside living space - balconies, decking, patios; improved security – electronic gates, flood lighting; etc.* ***urban areas*** *– housing complexes, which include a variety of town houses and apartments enclosed behind security gates; more houses build on outskirts of towns/cities; high density housing; small living space and outdoor areas; etc.*

(ii) Discuss the economic and environmental factors that influence the choice of housing styles. (18)

3 points @ 6 marks (graded 6:4:2:0)
(*expect reference to 1 economic factor, 1 environmental factor + 1 other*)

Economic: *income; type and cost of building materials; fees/costs; investment potential; building energy rating; grants available; etc.*
Environmental: *building regulations; energy efficiency; ecological principles; aspect; fitting in with surrounding environment; etc.*

(iii) Give details of the professional services available to consumers to assist in the design and building of a home. (12)

4 points @ 3 marks (graded 3:2:1:0)

Architect: *advises on site, house design, oversee construction; etc.* ***Structural/site engineer:*** *oversee house construction and advice re building problems; etc.* ***Surveyor:*** *survey site, identify possible problems and suggest solutions; etc.* ***Solicitor:*** *deals with legal aspects - purchasing site and registering property ownership, contracts; etc.* ***Builder:*** *draws up building contract re costs and completion dates, site preparation, sub contract work to specialists, deals with snag list; etc.*

Interior designer; Landscaper Architect; Electrician; Plumber; BER Assessor; *etc.*

and

1.(b) Walls can be a decorative feature, or may simply be background.

(i) Outline **four** factors that should be considered when selecting wall finishes for a home. (16)

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

Aesthetics; cost; environmental; room specifications; aspect; durability; washable; finish; texture; ease of application; easy to clean; coverage; light reflective; etc.

(ii) Name and describe **two** types of wall finishes suitable for a kitchen/living room. (14)
State **two** properties of each finish.

2 points @ 7 marks

(Name: ***1 mark*** (graded 1:0) Description: ***2 marks*** (graded 2:0)
Properties: ***2 properties @ 2 marks*** (graded 2:0)**) *x 2***

Water-based paint: *emulsion - vinyl matt, silk vinyl; etc.* ***Oil/solvent-based:*** *gloss, satin finish; etc.* ***Specialised paint:*** *textured paint; flame-retardant paint; etc.*

Properties: *washable; water resistant; easy/difficult to apply; suitable for areas of high condensation; quick/long drying time; strong/no odour; durable/hard wearing; easy to clean; plastic fibres give textured finish; available in different colours; reflects light; etc.*

General purpose wallpaper: *design machine or hand printed onto paper; etc.* ***Embossed wall paper:*** *design is pressed onto a paper backing; raised textured; etc.* ***Wood chip:*** *wood chips pressed between two layers of paper; etc.* ***Vinyl:*** *designs are printed on paper backing; treated with vinyl coat; etc.* ***Flock:*** *velvet-like texture design is printed onto a paper backing; creates three dimensional effect; etc.*

Properties: *can withstand condensation; washable; durable; can camouflage faults; varies in thickness; adds texture; can be painted over; available in different designs; easy/difficult to hang; tears easily; etc.*

Tiles: *ceramic, porcelain; etc.*

Properties: *hardwearing; waterproof; easy to maintain; available in many colours, sizes; glazed; unglazed; hard/cold to touch; etc.*

Wood panelling*;* ***Mosaic; Stone;*** *etc.*

or

1.(c) **'**Electricity is so much part of modern living that we can often take it for granted. It is a powerful and versatile energy but can be dangerous if not used properly.'

(*www.esbnetworks.ie*)

(i) In relation to household electricity supply describe each of the following:

- ring circuit ***3 points @ 2 marks*** (graded 2:1:0)
- miniature circuit breaker (MCB) ***3 points @ 2 marks*** (graded 2:1:0) (12)

Ring circuit: *wire leads* ***from*** *the consumer unit/main fuse board to sockets all around the house* ***returning*** *to the consumer unit; ring loop may contain all the sockets for the house; one ring loop can be used for upstairs sockets; one for downstairs sockets; contains an earth wire for safety; each circuit has its own fuse; etc.*
MCB: *safety feature with* ***trip switches*** *that interrupt the circuit and disconnect the current when a fault occurs or the circuit is overloaded;* ***safety feature****; trip switches can be reset when the fault has been rectified; MCBs contain RCDs* (*residual current device*) *providing additional protection; etc.*
Accept clearly labelled diagrams

(ii) Compile a set of guidelines for the safe use of electricity in the home. (18)

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

Buy appliances with a safety approval mark; ensure plugs are correctly wired and replace if defective; examine flexes for wear and tear; take care when using electrical appliances outdoors; do not handle sockets, plugs or electrical appliances with wet hands; do not have flexes trailing over hob or sink; do not use adapters/extension leads to overload sockets; do not repair faulty appliances; unplug all appliances before cleaning; do not put heavy items on the bed when the electric blanket is switched on; check electric blankets for wear and tear (*scorch marks*)*; do not attempt to repair a faulty blanket; never drape clothes over heaters; clean out dust from convector and fan heaters; in bathrooms - use pull cords for wall lighting; avoid the use of portable heaters; use light shades that completely enclose bulbs; 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) The growth of young people's spending power has ensured that the teenage market is a crucial sector of the fashion business.

(i) Summarise the factors that influence teenagers when purchasing clothes. (15)

5 points @ 3 marks (graded 3:2:0)
Fashion trends; peers; social media; bloggers & influencers; lifestyle; budget; comfort; occasion; personality; etc.

(ii) Sketch and describe an outfit suitable to wear to an outdoor music festival. (10)

Sketch: ***4 marks*** (graded 4:2:0)
Description: ***6 marks*** (graded 6:4:2:0)
Accept description on labelled sketch.

and

2.(b) A fabric's appearance, properties and end use is influenced by the way it is constructed.

(i) Explain how knitted fabric is constructed. (9)

3 points @ 3 marks (graded 3:2:0)
Made up of a series of interlocking loops that result in a flexible construction; stretch depends on yarn used; produced by hand using needles or by machine; two basic structures – weft knitting is done by hand/machine; stitches run across the width of the fabric; usually knitted with one piece of yarn; warp knitting done by machine, yarn zigzags along the length of the fabric; different looping methods can be used – plain, rib, purl; etc.

(ii) Outline the properties and uses of knitted fabric. (6)

3 properties @ 1 marks (graded 1:0)
Properties: *warm, good insulator; good elasticity, stretchy; light or dense depending on the stitches chosen; comfortable; tendency to snag, sagging at stress points; shrinks; etc.*

3 uses @ 1 marks (graded 1:0)
Uses: *coats, hats, scarves, dresses, jumpers, throws, etc.*

or

2.(c) Talented young designers ensure that the Irish fashion industry continues to thrive.

(i) Elaborate on the work of a contemporary Irish fashion designer. (6)

Name: ***2 marks*** (graded 2:0)
Details: ***2 point @ 2 marks*** (graded 2:0)
Simone Rocca; Lainey Keogh; Paul Costelloe; Louise Kennedy; Peter O Brien; Natalie B. Coleman; Emma Manley; Philip Treacy; Joanne Hynes; Lennon and Courtney; etc.

(ii) Explain how the economy influences the design and fashion industry. (9)

3 points @ 3 marks (graded 3:2:0)
Reduced consumer spending, more sombre/simple fashion; use of low cost materials; CAD design; more money for research & technology - development of new fibres and blends; new and young talented designers emerge; etc.

Elective 3 – Social Studies (80 marks)

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

3.(a) **'**Central Statistics Office (CSO) statistics show the employment rate is up 3% so far this year. Almost 2.3 million people in Ireland are now in work.' (*Irish Examiner, November 2018*)

(i) In relation to the food industry, comment on the contribution made by the primary, secondary and tertiary sectors. (12)

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

Primary: *resource based industries, therefore dependent on natural resources e.g. agriculture, fishing; etc.*
Secondary: *involved in manufacturing or processing the raw materials from the primary sector to finished goods; food production; food manufacturing; etc.*
Tertiary: *service industries which do not produce goods but supply services e.g. tourism and leisure; healthcare; transport; media; food outlets; education; etc.*

(ii) Analyse the positive and negative effects of technology on work and employment. (16)

Positive effects: ***2 points @ 4 marks*** (graded 4:2:0)
Negative effects: ***2 points @ 4 marks*** (graded 4:2:0)

Positive*: interesting jobs for those with relevant qualifications; elimination of repetitive tasks; safer, cleaner work environment; increased productivity; increased leisure time; people can work from home; improves quality and consistency; increase work availability; etc.*
Negative: *unskilled people lose their jobs; companies relocate to countries with cheaper labour costs; deskilling; loss of pride and craftsmanship; reduced job satisfaction; social isolation; decrease in the primary and secondary industries; etc.*

(iii) Discuss how educational qualifications can lead to greater employment options. (10)

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

Leaving certificate has become the minimum level of education for many employment opportunities; qualifications lead to more choice of employment options; most jobs now require FETAC level qualifications; additional qualifications needed for career advancement; etc.

(iv) Explain, giving examples, how legislation protects people in employment. (12)

3 points @ 4 marks (graded 4:3:2:1:0)

Safety, Health and Welfare at Work Act 2005: *provides for the health and safety of people in the work place in order to prevent workplace injuries and ill health; etc.* ***National Minimum Wage Order:*** *sets out minimum wage to be paid to workers; etc.* ***Employment Equality Acts:*** *protects people from discrimination in the workplace and in wider society i.e. gender, marital status, family status, age, race, religion, sexual orientation; member of an ethnic group; etc.*

Organisation of Working Time Act 1997: *sets out the law in relation to working hours, rest breaks; etc.* ***Employee Rights and Entitlements:*** *paid holidays, benefits e.g. maternity or disability, parental leave, force majeure, carers leave; etc.* ***Protection of Young Persons (Employment) Act 1996:*** *regulates young people's working hours, rest breaks, days off; etc.* ***Zero-hour contracts;*** *etc.*

and

3.(b) Quality childcare fulfils an important role for society.

(i) Summarise the principal factors that influence a family's requirements for childcare. (12)

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

Both parents working; single parent working; availability of grandparents/family members; cost; after school care requirements; availability/convenience; opening/closing hours; flexibility/school holidays; proximity to child's home; special needs of the child; age of child; reliability; etc.

(ii) Evaluate **two** different childcare options available to parents. (18)

(Name: ***1 mark*** (graded 1:0), Evaluate: ***4 points @ 2 marks*** (graded 2:1:0)**)** ***x 2***

Montessori; nurseries; crèches; playschool; playgroup; childminder; au pair: pre-school; after school groups: etc.

or

3.(c) **'**Over one in six people in Ireland are at risk of poverty and 105,051 people living in poverty in Ireland are actually in employment.' (*Central Statistics Office, 2017*)

(i) Identify and discuss the groups of people who are at risk of poverty. (12)
Give reasons for your answer.

4 points @ 3 marks (graded 3:1:0)

Stay at home parent; elderly; people with special needs; people with long term illnesses; unemployed; early school leavers; low paid workers; lone parents; ethnic minorities; households with cycle of deprivation; etc.

(ii) Discuss the influence of social policy on poverty.
Include reference to how the state has responded to eliminating poverty. (18)

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

Social Policy: *minimum wage; low wages result in little incentive for the unemployed to return to work; social welfare benefits can be perceived as adequate/too generous; housing policy; education policy; etc.*
Response: *social welfare assistance and benefits; schemes to reduce expenditure for low income families e.g. back to school clothing and footwear allowance; free electricity; TV licence; medical card; local Community Development Programmes; National Action Plan for social inclusion; minimum social welfare rate; minimum wage; MABS; RAPID; DEIS; SOLAS; SICAP; SUSI; etc.*

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HOME ECONOMICS – SCIENTIFIC AND SOCIAL

Food Studies Coursework Assignments

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 the 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**

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**

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**

Preparation and Planning - 8 marks

Resources:

- ingredients (*2 marks*), quantities (*2 marks*), costing (*2 marks*), equipment (*2 marks*) **= 8**
- 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**
(*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**

(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**

(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 - 12 marks

3 points @ 4 marks **= 12**

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

Healthy eating guidelines encourage people to eat a wide variety of foods and the Food Pyramid is designed to make healthy eating choices easier.

With reference to the above statement, research and elaborate on the nutritional needs and the meal planning guidelines that should be considered when planning meals for a family on a limited food budget. Bearing in mind these considerations, suggest a range of menus (two courses) suitable for an evening meal for the family.
Prepare, cook and serve **one** of the main course dishes from your research.
Evaluate the assignment in terms of **(a)** implementation and **(b)** the specific requirements of the assignment. **2019**

Key requirements of the assignment:

- *dietary/nutritional needs when planning meals with reference to* ***a family on a limited food budget***
- *relevant meal planning guidelines with reference to* ***a family on a limited food budget***
- *range of menus* (*two courses*) *for an evening meal to include chosen main course dish of the main meal of the day* (*from menu*)*.*

Investigation

Dietary/nutritional requirements: *nutritional balance; daily requirements of macro/micro nutrients including protein/carbohydrate/fat/calcium/iron requirements as appropriate to the needs of a family, with a range of different dietary needs* (*age, activity, health status/special dietary requirements, etc.*)*; Vitamin C/iron absorption; Vitamin D/calcium absorption; Vitamin B for energy and metabolism; high fibre; current nutritional guidelines re nutrient and food intake; possible variations in energy requirements; energy balance vis a vis activity levels; etc.*

Meal planning guidelines: *use food pyramid to ensure balance; variety of foods; eat regular meals; use foods in season; choose healthy snacks; choose cheaper protein food sources; use of meat extenders* (*TVP, etc.*)*; portion sizes; cook extra portions for freezing; batch cook; resource issues with reference to foods that are nutritionally adequate and inexpensive; own brand foods; special offers; bulk buying; use of energy efficient cooking methods; full use of the oven; choose fortified foods; limit convenience foods; make your own bread, cakes etc.; bulk up meat and fish dishes with vegetables; use of leftovers; check use by and best before dates; personal likes and dislikes; use a weekly menu plan; use a shopping list; etc.*

Dishes selected
- range of menus (*two courses*) suitable for an evening meal
- must meet the nutritional requirements for a family on a limited food budget
- must be a main course dish (*from menu*)*.*

Evaluation (specific requirements of assignment)
Analysis of findings regarding the nutritional requirements of a range of dishes/meals for a family on a limited food budget. Meal planning guidelines – range of dishes/meals suitable for a family on a limited food budget etc., how the selected dish meets the requirements as identified in the investigation; etc.

Assignment 2

Vegetarian diets that are appropriately planned can be nutritionally balanced and suitable for all stages of life. (*www.indi.ie*)

Identify **(i)** the different types of vegetarian diets and **(ii)** the reasons why people choose a vegetarian diet.
Research and elaborate on the nutritional needs and the meal planning guidelines that should be considered when planning and preparing meals for a person who is a vegetarian.
Having regard to the factors identified in your research, select a specific vegetarian diet and suggest a range of main course dishes suitable for the main meal of the day.
Prepare, cook and serve **one** of the main course dishes that you have investigated.
Evaluate the assignment in terms of **(a)** implementation and **(b)** the specific requirements of the assignment. **2019**

Key requirements of the assignment:

- *different types of vegetarian diets*
- *reasons why people choose a **vegetarian diet***
- *nutritional needs and meal planning guidelines for a person who is **a vegetarian***
- *identify a specific vegetarian diet*
- *range of main course dishes suitable for chosen vegetarian diet to include chosen main course dish* (*identified in research*)*.*

Investigation

Types of vegetarian diets:

Vegan; lacto vegetarian; lacto-ovo vegetarian; ovo-vegetarian; pesco-vegetarian(*pescatarian*)*; pollo-vegetarian*(*pollotarian*)*; flexitarian; fruitarians; etc.*

Reasons why people choose a vegetarian diet:

Religious; ethical; sustainability; financial; family influence; peer influence; bloggers and influencers; social media; popularity; cost/food budget; health reasons; aesthetic; lose excess weight; etc.

Dietary/nutritional requirements:

Nutritional balance; daily requirements of macro/micro-nutrients including protein/fat/carbohydrate/iron/ calcium requirements as appropriate; low GI/high fibre; increase phosphorous and zinc intake; Vitamin C/iron absorption; Vitamin D/calcium absorption; vitamin B12; current nutritional guidelines re nutrient and food intake; etc.

Meal planning guidelines:

Use of vegetarian food pyramid/food pyramid to ensure balanced meals; eat foods that provide complete proteins to include all amino acids in correct proportions; use vegetable stocks; avoid products with gelatine; choose alternate protein sources e.g. TVP, Quorn, tofu, etc.; mix cereals and legumes; include wholegrain cereals; include fortified foods/products; use dairy alternates e.g. soya, nut milks etc.; avoid processed foods; use herbs/spices to flavour foods; replace animal fats with vegetable fats; eat fermented (*cultured*)*/probiotic foods; etc.*

Dishes selected - range of main course dishes suitable for chosen vegetarian diet identified
- must be a main course dish (*identified in research*).

Evaluation (specific requirements of assignment)

Analysis of findings regarding what you learned from the investigation regarding the management of vegetarian diets, factors to be considered to ensure nutritional adequacy for vegetarians; how the selected dish meets the requirements as identified in the investigation; etc.

Area of Practice B: Food Preparation and Processes
Assignment 3

A Soufflé is a light aerated mixture, which can be prepared in a variety of ways i.e. sweet or savoury, cooked or uncooked, hot or cold.

Carry out research on how soufflés are made and explain the underlying principles involved.
Identify a range of dishes that illustrate the skill of soufflé making.
Investigate and elaborate on the key points that should be considered to ensure success when making soufflés. Prepare, make and serve **one** of the dishes from your research.
Evaluate the assignment in terms of **(a)** implementation and **(b)** success in achieving a light aerated texture.

2019

Key requirements of the assignment:

- *research on how soufflés are made*
- *underlying principles involved in the making of soufflés*
- *range of dishes that illustrate the skill of soufflé making*
- *the key points that should be considered to ensure success when making soufflés*
- *chosen dish* (*identified in research*).

Investigation

How soufflés are made and the underlying principles involved:

Hot cooked/sweet/savoury*: can be cooked in a large or individual soufflé dishes, in swiss roll tin and rolled; on a frying pan - puffed omelette; baked* (*dry heat*) *or steamed* (*bain-marie*)*; light aerated dish, rising depends on entrapping air and the expansion of air when heated; use of a white binding sauce or a panard;* ***gelatinisation*** *occurs when starch grains swell and burst and absorb liquid when heated; egg yolks added for richness and meat/fish/cheese/vegetables for flavour* (*savoury soufflé*)*; fruit, coffee, chocolate etc.*(*hot sweet soufflé*)*; egg white stiffly beaten and folded into the mixture to* ***aerate*** *it and create light texture; steam generated during cooking causing the air in the foam to expand resulting in the soufflé rising; egg white* ***coagulates*** *and sets; etc.*
Cold uncooked/sweet: *made using egg; gelatine used as a thickening agent; gelatine* (*powdered or leaf form*) *dissolved in hot water, added from a height in a steady stream to prevent streaking; absorbs large amounts of water to form a* ***gel****; sets on cooling; cream is lightly whipped and added to create a light texture; stiffly beaten egg white folded in to* ***aerate*** *the mixture; mixture allowed to partially set before adding chopped pieces of fruit, to prevent sinking to the bottom; cream and egg white give* ***volume and lightness*** *to the mixture; when set cold soufflé should hold its own weight over the top of the dish; etc.*

Range of dishes that illustrate the skill of soufflé making:

Hot cooked/sweet/savoury: *coffee; chocolate; orange; cheese; cauliflower; ham; mushroom; twice baked soufflé; etc.*
Cold uncooked/sweet: *strawberry; raspberry; lemon; lime; chocolate; etc.*

Key points that should be observed to ensure success when making soufflés:

All equipment must be spotlessly clean and dry; use eggs at room temperature; whisk egg whites in a clean grease free bowl; base mixture should be highly seasoned as egg whites dull flavours; use metal spoon to gently fold egg whites; mix the egg white into the base in stages; avoid using fats in flavourings; cool sauce before adding egg white; use a double band of greaseproof paper around top of dish; sponge gelatine in hot not boiling water; acids in fruit juices (*pineapple*) *weaken setting power of gelatine; add chopped fruit to gelatine mixture when partially set; grease the dish; clean mixture from rim; the smaller the soufflé dish used the more uniformly cooked the mixture will be; preheat oven for hot soufflés 180°C - 200°C; if oven too hot soufflé will be cooked on outside and raw inside, if temperature too low soufflé will not rise; place the soufflé low in the oven to allow for expansion; avoid opening the oven door during baking; serve hot soufflés straight away; etc.*

Dish selected – hot or cold soufflé (*identified in research*)

Evaluation (as specified in assignment)
(a)implementation **(b)** success in achieving a light aerated texture.

Area of Practice C: Food Technology
Assignment 4

Preserving fruit is a traditional way of celebrating the seasons and using up surplus fruit at home.

Carry out research on making jams, jellies or marmalades with reference to **each** of the following:

- the different fruits and combination of fruits that can be used
- the underlying principles involved and how the method of preservation is carried out
- the possible problems that may arise
- suitable containers and labelling.

Prepare, make and pot **one** type of preserve that you have investigated.
Evaluate the assignment in terms of **(a)** implementation **(b)** the practicability of making homemade preserves. **2019**

Key requirements of the assignment:

- *research on different fruits and combinations of fruits that can be used*
- *the underlying principles involved and how the method of preservation is carried out*
- *possible problems that may arise*
- *suitable containers and labelling*
- *chosen product* (*identified in research*).

Investigation

Different fruits and combinations of fruits: Jams: *strawberries; blackberries; gooseberries; plums; damsons; cherries; apples; pears; apricots; etc.* **Jellies:** *blackcurrants; redcurrants; apples; rosehip; etc.* **Marmalades:** *oranges; lemons; limes; grapefruit; quinces; peaches; nectarines; etc.* **Accept**: *combinations of all fruits.*

Underlying principles involved and how the method of preservation is carried out: *heat softens the fruit and destroys enzymes and micro-organisms; pectin released; sugar is added which inhibits the growth of microbes by surrounding the microbial cells with a concentrated solution that draws water out of the microbial cell by* ***osmosis****; 65% concentration of sugar is required; acid in the fruit releases pectin from the fruit which acts as a setting agent; fruit is* ***boiled/100°C+****; fruits low in pectin are combined with fruits high in pectin to achieve a satisfactory set; sterilisation of jars; etc.* **Jam:** *fruit washed, peeled, chopped; acid added; cooked with/without water; test for pectin; sugar added and dissolved over a gentle heat; boiled rapidly until setting point is reached; test for setting; skim off froth; pour into sterilised jars* (*sterilise in oven 140°C*)*; cover; label; store; etc.* **Jellies:** *chop fruit and stew with lemon juice; strain fruit through a jelly bag/muslin; add water to juice; add sugar; test for setting; reduce boiling rate as setting point is approaching to avoid entrapping air bubbles; skim; pot; cover; label; store; etc.*
Marmalade: *scrub fruit; cut peel off fruit, remove pith, cut into shreds; put peel, acid and half water into saucepan, simmer until tender; cut up rest of fruit and pith, simmer with remaining water; strain through colander; add peel to strained pulp; boil off excess water; simmer until peel is soft; add sugar, boil until setting point is reached; test for setting; skim; cool slightly; pot; cover; label; store; etc.*
Accept: *all correct methods of making jams, jellies and marmalades.*

Possible problems that may arise: product will not set: *insufficient acid/pectin; fruit over ripe or insufficiently boiled; too little sugar; etc.* **crystallisation:** *product boiled before sugar is dissolved; overcooked; too much sugar; insufficient acid; etc.* **fermentation**: *insufficient boiling time; insufficient sugar, over ripe fruit; etc.* **fruit/rind on top**: *product not cooled before potting; etc.* **shrinkage:** *incorrect covering; incorrect storage; etc.* **mould growth**: *insufficient sugar; over ripe fruit; product not filled and covered correctly; etc.* **fruit sticks to the bottom of saucepan**: *pan not greased; etc.* **peel in marmalade tough:** *not cooked until soft; sugar added too soon; etc.* **cloudy jelly**: *avoid squeezing the jelly bag; etc.*

Suitable containers and labelling: *e.g. screw-top/clip glass jars; waxed discs; cellophane discs; freezer grade polythene; clean screw on lids; labels; etc.*

Dish selected - jam, jelly or marmalade (*identified in research*)

Evaluation (as specified in assignment)
(a) implementation **(b)** the practicability of making homemade preserves (*jams, jellies and marmalades*) *resource issues – equipment; skills; time; availability of ingredients; cost factor; etc.*

Area of Practice E: Comparative Analysis including Sensory Analysis

Assignment 5

The sale of smoothies has become increasingly popular in the last number of years.

Carry out research on the range of commercially prepared smoothies available with reference to brands, flavours, cost and sugar content.
Using **two** different brands of smoothie, both with the same flavour and different sugar contents.
Carry out a **triangle test** to determine if testers can detect which brand of smoothie has the highest sugar content. Present the results obtained from the test.
Evaluate the assignment in terms of **(a)** implementation and **(b)** the test results obtained. **2019**

Key requirements of the assignment:

- *research on the range of commercially prepared smoothies available with reference to brands, flavours, cost and sugar content*
- ***triangle test***
- *conditions to be controlled during testing*
- ***selected products*** *of your choice* (*different brands of smoothie, same flavour and different sugar contents*).

Investigation **= 24**

- Research/Investigation of products appropriate to the testing
  i.e. investigate the range of commercially prepared smoothies available i.e. brands, flavours, cost and sugar content.

- ***Triangle test***

Description: *tester is presented with three coded samples of smoothies* (*two samples are the same, one is different*)*; the tester is asked to identify which sample is different; etc.*
Aim of test: *to determine if there is a detectable difference between the two brands of smoothies; etc.*
Possible outcomes*: to see if there is a detectable difference between the two smoothies; etc.*
Accept: *Difference Test i.e. Directional Paired Comparison Test; etc.*

Identification of the conditions to be controlled during the testing
Conditions specific to the assignment e.g. size, shape and colour of containers used for testing; temperature of samples; similar quantities of each sample; coding of samples; balanced presentation; hygiene; timing; where testing takes place; dietary considerations; etc.

- **Selected dish/product**
  Selected products **= 4**

Sources: ***2 @ 2 marks*** (graded 2:1:0) **= 4**

Preparation and Planning

- **Resources** **= 8**
- **Main equipment needed to carry out assignment**

Triangle Test: *6 trays; 6 glasses of water; 18 coded containers for smoothie samples; 9 samples of smoothie A; 9 samples of smoothie B; 6 score-cards; record sheet; pens; etc.*

Implementation **= 16**

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.

Triangle Test (two products)
Code 18 containers; 6 containers with symbol □, 6 containers with symbol ◊, 6 containers with symbol ○; put smoothie samples in each container; set up 6 trays numbered 1-6; each tray has one container labelled with symbol □, one container with symbol ◊, and one container with symbol ○; ***must be balanced presentation order i.e. every possible combination of samples must be presented,*** *each sample product is offered an equal number of times i.e. 9 times, samples presented in random order and no tester gets samples presented in the same sequence; codes on each tray remain the same, product in the container changes each time; testers follow instructions on score card; circle on the score card which of the three samples is different* (*two of which are the same, one is different*)*; samples may be re-tasted; scorecards are collected by recorder and results transferred onto a prepared record sheet; when recording results the letter that corresponds with the symbol selected is circled on each scorecard and appropriate column is ticked; correct responses are counted; codes are revealed and results presented; results can be presented on a bar chart or pie chart; tidy; wash up; evaluate results; etc.*

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

Key factors that may be considered in order to ensure success in this assignment include - ***conditions controlled*** *during testing - coding; choice of smoothie used; sample temperature; uniformity of samples for testing; sufficient amounts; glass of water/or dry cracker included to cleanse the palate; importance of silence during testing; having 6 testers to ensure that every possible combination of samples has been offered; presentation of samples in random order so no tester gets samples presented in the same sequence; balanced presentation - each smoothie offered equal number of times - 9 times; codes on each tray remain the same; codes used should not induce any bias among testers; people involved in testing should not be involved in coding and arranging of samples or collating results; etc.*
(*key factors must refer to the actual test carried out*)

- **Safety and hygiene**
  Safety: ***1 point @ 2 marks*** (graded 2:1:0) Hygiene: ***1 point @ 2 marks*** (graded 2:1:0) **= 4**

Safety*: check date on smoothie to avoid the risk of food poisoning; storage of smoothies; testers with allergies – product with nuts etc.; special diets e.g. lactose intolerant, diabetes etc.; products with additives/ E numbers; etc.*
Hygiene: *good practice with regard to the preparation area and the testing area; handling of samples – use of plastic gloves/disposable glasses; etc.*

Evaluation (*3 points @ 4 marks*) **= 12**

- **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**

Students should evaluate the results obtained for the test and draw some conclusions.
The factors that may contribute to the test results obtained should be analysed e.g. why testers could/could not identify the sample that was different; etc.

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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