



Coimisiún na Scrúduithe Stáit
State Examinations Commission

Leaving Certificate 2021

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

HIGHER LEVEL

Marking Scheme

Instructions to candidates

Section A 30 marks

Answer **five** questions in this section.

Each question carries 6 marks.

Section B 130 marks

Answer **Question 1** and **one** question from questions 2, 3, 4 and 5.

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 or question 4 (core) 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.

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.*

Annotations - Home Economics 2021

The annotated marks should be placed near the correct/partially correct response.
Colours of annotations may vary.

Annotation	Explanation
	Zero marks awarded
 1	One mark awarded
 2	Two marks awarded
 3	Three marks awarded
 4	Four marks awarded
 5	Five marks awarded
 6	Six marks awarded
 7	Seven marks awarded
 8	Eight marks awarded
	Blank page
	Excess point awarded full marks
	Excess point awarded partial marks
	Point/work not attempted
MMS	Modified marking Scheme

Section A

Answer any **five** questions from this section.
Each question carries 6 marks.

Write your answers in the spaces provided.

1. State **two** causes of protein denaturation and give **one** example in each case.

Causes 2 @ 2 marks (graded 2:0), **examples 2 @ 1 mark** (graded 1:0)

Cause	Example
Heat	Hard boiled eggs; omelette; quiche; egg custard; dry heat causes meat to shrink; collagen changes to gelatine in meat; browning of meat; etc.
Mechanical action e.g whisking, beating	Sponge cake; soufflés; meringues; etc
Chemicals: such as Acids	Cheese-making; vinegar in marinade tenderises meat; sour milk lactose changes to lactic acid etc.
Enzymes	Rennin coagulates casein in the stomach; cheese-making; tenderising meat etc.
Salt	Cheese-making;

2. In relation to lipids, explain each of the following: **2 @ 3 marks** (graded 3:2:1:0)

- (i) *Oxidative rancidity* This occurs as a result of a reaction which takes place between unsaturated fatty acids and oxygen in the air; oxygen combines with the carbon atoms at the double bond; causes unpleasant rancid smell due to the production of compounds i.e. aldehydes and ketones; etc.
- (ii) *Hydrolytic rancidity* This occurs when enzymes (lipases) hydrolyse fats; breaking them down into fatty acids and glycerol; micro-organisms (bacteria) present in fat foods may also produce enzymes which hydrolyse fats; can give an unpleasant taste and smell; occurs in freezers when enzymes are not destroyed; etc.

3. Name **one** condition (disease) associated with a deficiency of the following nutrients:

3 @ 2 marks (graded 2:0)

Nutrient	Deficiency disease
Vitamin D	Dental decay; rickets; osteomalacia; osteoporosis; etc.
Vitamin B ₃ (Niacin)	Pellagra; 4D's; weight loss; tiredness; irritability; etc.
Iodine	Goitre; lethargy; stunted or delayed mental and physical development in children; etc

4. What is Basal Metabolic Rate (BMR)? **4 marks** (graded 4:3:2:1:0)

The minimum amount of energy needed; to sustain the body at complete rest; maintain body temperature; keep the internal organs functioning; etc.

Give **two** factors that determine a person's basal metabolic rate. **2 @ 1 mark** (graded 1:0)

- (i) Age; gender; body weight; size; health status; hormones; pregnancy/lactation
- (ii) occupation; activity level; climate; etc.

5. Name **three** properties of sugar and state one culinary use of each:

3 properties @ 1 mark (graded 1:0), **3 uses @ 1 mark** (graded 1:0)

Property	Culinary use
Sweetness	Cakes, desserts, beverages, jam
Preservative	Jams, jellies
Caramelisation	Desserts
Fermentation	Bread making
Gel formation	Jam
Maillard reaction	Browning of food e.g. toast
Inversion	Jam
Crystallisation	Confectionery
Solubility	Syrups
Assists aeration	Sponge cakes etc.

6. Outline **two** benefits of incorporating frozen foods in meal planning.

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

Frozen food retains nutritional value; retains sensory characteristic of food; time saving; saves money; adds variety; reduces waste; food is pre-prepared – useful for less skilled people or people with limited manual dexterity; foods available out of season; useful in emergencies; easy to control portion sizes; etc.

7. Explain the effect of each of the following in relation to the processing of vegetables and fruit.

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

Canning
Loss of water soluble vitamins; change in colour; change in texture; change in flavour; micro-organisms and enzymes destroyed; sugar content may be increased if canned in syrup; increased salt content if canned in brine; fat content can be increased if canned in oil; etc.
Dehydration
Loss of vitamin B group, A and E; change in colour; change in texture; change in flavour; prevents growth of micro-organisms and enzymes; dried fruit can be high in sugar; etc.

8. Name **two** protein alternatives that can be used in a vegan diet. **2 @ 1 mark** (graded 1:0)

- (i) TVP; tofu; tempeh; edamame; mycoprotein; vegan quorn; wheat protein (seitan); miso;
- (ii) soya milk; soya cheese; vegan cheese; lentils; beans; chickpeas; nutritional yeast; quinoa; nuts; spelt; etc.

State **two** advantages of including protein alternatives in the diet..

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

- (i) HBV protein; polyunsaturated fat; high in fibre; B group vitamins; calcium; iron;
- (ii) not very expensive; versatile; little preparation needed; sustainability; little cooking needed; add flavour; add variety; etc.

9. Explain each of the following chemical changes that occur during food preparation/cooking.

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

Enzymic browning.

When fruit/vegetables are cut or damaged the cells release an enzyme, oxidase; which reacts with the oxygen in the air causing oxidation; as a result the food changes colour, e.g. apples turn brown; etc.

Non-enzymic browning.

Maillard reaction - browning which occurs when amino acids and carbohydrates react when heated;

Caramelisation – sugar melts and changes to a brown syrup / caramel;

Dextrinisation – dextrins, short chains of polysaccharides form on carbohydrate foods in dry heat causing browning e.g. toast; etc.

10. State the function of the following parts of the refrigerator: **2 @ 3 marks** (graded 3: 2:1: 0)

Thermostat: maintains the temperature between 0 °C and 5 °C

Refrigerant: cooling the cabinet by drawing the heat from inside.

11. Classify **three** types of retail outlet and give **one** example in each class.

Classification 3 @ 1 mark (graded 1:0), **examples 3 @ 1 mark** (graded 1:0)

Retail Outlets	Example
Supermarkets	Tesco; Centra; SuperValu; etc.
Mail order	Asos, iClothing, Oxendales; etc.
Independent shops	Shoe shops; butchers; jewellers; boutiques; etc.
Department stores	Brown Thomas; Arnotts; etc
Multiple chain stores	Penneys; Dunnes stores; Elverys sports; Aldi; Currys PC World; etc.
Discount stores	Argos; Maplins; Dealz; Tiger; etc.

Others: - Hypermarkets; Farmers markets /street markets; Party selling; Vending machines; Auctions; TV shopping; Online shopping; Street vending; Mobile shops; Pop up shops; Charity shops e.g. Simon

12. Outline **three** consumer responsibilities.

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

- (i) To be informed; to follow instructions; to complain; to be aware of consumer rights;
- (ii) To use resources responsibly; to contribute to sustainable living;
- (iii) To be aware of quality; to be aware of value for money; to keep themselves safe; understand consumer protection laws; keep receipts; etc.

13. Identify **three** socio-economic factors that influence housing choices.

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

- (i) Income; financial assistance available; energy efficiency;
- (ii) family size/ requirements; special needs; personal preferences;
- (iii) location; availability; amenities etc.

14. State **two** benefits of the small claims procedure.

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

- (i) Inexpensive (current fee €25); fast, respondent has 15 days to reply and 28 days to comply; easy way to resolve disputes about a product or service; solicitor is not required;
- (ii) processes consumer claims up to the value of €2,000; court appearance not required; etc.

Section B

Answer **Question 1** and **one** question from questions 2, 3, 4 and 5.

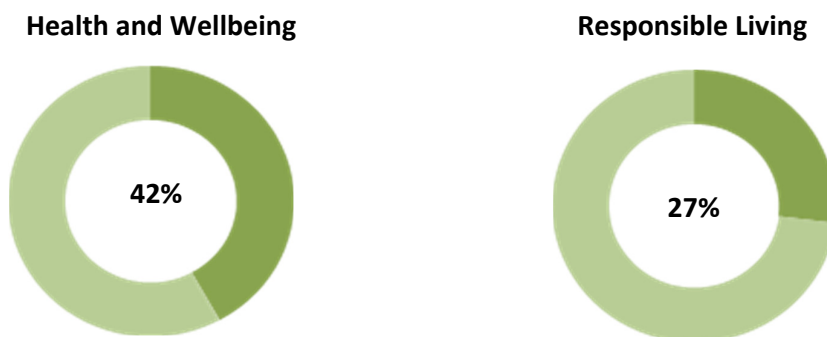
Question 1 is worth 80 marks. Questions 2, 3, 4, and 5 are worth 50 marks each.

Write your answer in the answerbook containing **Section A**.

Question 1

The following infographic shows two influencing factors on evening meal consumption.

(What Ireland Ate Last Night Report 2020 Bord Bia Thinking House)



- (a) In relation to the infographic above, suggest how (i) health and wellbeing and (ii) responsible living might influence food choices. (20 marks)

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

2 references to Health and wellbeing, **2 references to** Responsible living

(i) Health and wellbeing

Increased knowledge of healthy eating guidelines; reduce fat intake; reduce salt intake; reduce sugar intake; increase fibre; increase calcium; increase vitamin D; increase water; functional food; allergies e.g. nut allergy, lactose intolerance; personal preference; sensory aspects; aiming to reduce weight; social influencers; specific dietary needs e.g. gluten free, dairy free; food fads e.g. good mood food; choosing more fresh food and less convenience and processed food; portion control; follow food pyramid: etc.

(ii) Responsible living

Packaging; food miles; plant based diets; efficient methods of cooking; reduction in red meat consumption; water footprint of food; greenhouse gas emissions; sustainable shopping; buying local; organic produce; free range poultry and eggs; awareness of food origins; food traceability; budgeting; good parent role model for children; best before dates; food labelling; avoiding waste; consumer rights; etc.

- (b) Identify and describe contemporary trends in Irish eating patterns. (12 marks)

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

Nutritiously conscious; take away foods/ foods on the go/dash board dining; meals being eaten while watching TV/devices; new foods /ingredients; pre-prepared foods; irregular mealtimes; intermittent fasting; influence of foreign cultures; influence of food bloggers; organic; free trade; value for money; deli dining; different diets in the same family; preference for quality foods e.g. Q-mark; raw food; foraged food; more home cooked meals during the pandemic; etc.

- (c) Micronutrients are essential for good health and wellbeing.

Give an account of Iron with reference to: (18 marks)

- sources in the diet **3 sources @ 2 marks** (graded 2:0)

1 reference to haem iron, 1 reference to non-haem iron + 1 other

Haem iron found in red meats; chicken; liver; kidneys; sardines; etc.

Non-haem iron in cereals; eggs; leafy green vegetables e.g. broccoli, kale and spinach; pulses; legumes; nuts; seeds; tofu; dried fruits; fish; cocoa; plain chocolate; curry powder; fortified cereals; etc.

- biological functions **3 functions @ 2 marks** (graded 2:0)

Essential component of haemoglobin in red blood cells; carries oxygen to the cells; forms part of myoglobin; essential component of enzyme system which is important in the use of oxygen to release energy from food; boosts the immune system; aids brain/cognitive development; prevents anaemia; aids the transfer of electrons; growth in young children; etc

- effects of deficiency **3 deficiencies @ 2 marks** (graded 2:0)

Anaemia; tiredness/ fatigue; irritability; lethargy; lack of concentration; headache; palpitations; breathlessness; dizziness; pale skin; feeling weak; muscle tiredness; dryness in mouth and throat; sore mouth; brittle hair/nails; stunted growth in children; weakened immunity; impaired cognitive development; etc.

- (d) Identify and explain **two** factors which affect the absorption of iron in the body.

2 factors @ 5 marks (graded 5:4:3:2:1:0) (10 marks)

Factors that assist iron absorption

Vitamin C – consuming food high in vitamin C chemically changes non- haem iron to the more easily absorbed haem iron; consuming - non- haem iron and haem iron foods together increases non-haem iron absorption; acidity – e.g. hydrochloric acid and citric acids, as the low pH helps to liberate iron from organic combinations making absorption easier; protein – sulphur-containing amino acids change iron from ferric form (Fe^{3+}) to ferrous form (Fe^{2+}); sugar – fructose aids the absorption of non-haem iron; etc.

Factors that inhibit iron absorption

oxalic acid; phytic acid; fibre intake of 35g or more per day; caffeine, tannins - bind to iron inhibiting absorption; lack of vitamin C – iron remains in non-haem form which is more difficult to absorb; excess alcohol - heavy alcohol consumption affects iron metabolism; smoking – cigarette smoke particles alter iron homeostasis; etc.

- (e) Devise a set of strategies when purchasing foods and planning meals for families with irregular daily routines. (20 marks)

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

2 references to purchasing meals, 2 references to planning meals +1 other point

Purchasing: make a shopping list; buy foods in season; avail of special offers; bulk buy; buy some pre-prepared ingredients if meal preparation time is limited; buy some frozen food e.g. vegetables, useful in emergencies; stock up on basics e.g. rice, pasta etc.

Planning: well balanced; portion size; plan meals that are easy to prepare and require a short cooking time; choose dishes suitable for reheating to facilitate staggered meal times; cook large quantities and freeze; consider family members' schedule; follow current dietary guidelines; requirements of various family members e.g. age, nutritional requirements; consider special diets; plan meals to reduce waste; introduce variety; availability of foods; amount of time available to prepare meals; knowledge and skills; availability of labour saving equipment; make the best use of available appliances e.g. oven timers; packed lunches; etc

Question 2

Eggs are a good choice as part of a healthy, balanced diet.

- (a) Discuss the nutritional significance of eggs in the diet. (20 marks)

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

Nutritional significance - Protein: 13%, HBV, albumin & globulin in white, livetin & vitellin in yolk; (growth and repair); source of HBV protein for lacto-vegetarians; protein alternative to meat/fish; etc. **Fat:** 12%, saturated in yolk, in fine emulsion because of lecithin, easy to digest; cholesterol is also present; (heat and energy); easily digested therefore good for invalids, children, elderly; etc. **Carbohydrate:** 0%, serve with complex carbohydrates, no fibre present; etc. **Vitamins:** A (produces rhodopsin, maintains healthy lining membranes, keeps skin and hair healthy and helps to regulate growth); D (healthy bones & teeth); E (antioxidant); K (blood clotting); B1, B2, Niacin (release of energy); B12 (is required for the production of red blood cells, is involved in fatty acid and folate metabolism, promotes growth and maintains a healthy nervous system), lacks vitamin C; **Minerals:** 1%, calcium, phosphorus, (strong bones and teeth); iron in yolk (formation of haemoglobin); **Water:** 75%, necessary for hydration; etc.

- (b) Describe how eggs work as an emulsifier in food production.
Refer to **one** culinary application. (18 marks)

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

Culinary application 1 @ 3 marks (graded 3:0)

An emulsifier lecithin in egg yolk; enables two immiscible liquids to join together e.g. vinegar and olive oil; lecithin consists of a hydrophilic head; the hydrophilic head is attracted to water; it also contains a hydrophobic tail; the hydrophobic tail is attracted to oil; this holds the two immiscible liquids together; creating a permanent emulsion; etc.

Culinary application: mayonnaise; hollandaise sauce; blending fat and sugar in cakes; etc.

- (c) Evaluate the role of food labelling as a source of consumer information when buying eggs. (12 marks)

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

Egg packs must have the following information: country of origin; details of producer/packer; class/quality; farming method - organic; quantity; week number; use by date; storage instructions; individual eggs must be stamped with a code to ensure traceability; egg quality assurance scheme symbol – Bord Bia quality assurance symbol – salmonella free; omega 3; all labels must be clear, legible, indelible; must not mislead the consumer i.e. no claims that suggest a food product is capable of preventing or curing disease; language understood by the consumer; should not be obscured in any way; essential information must be present on the package; etc.

Question 3

Temperature control is critical to ensuring food safety for all consumers.

- (a) Discuss the importance of temperature control during the storage and cooking/reheating of food. (16 marks)

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

2 references to storage, 2 references to cooking/reheating food

Storage: Refrigerate perishable foods at 0°C to 5°C to slow down bacterial growth; allow food to cool before refrigerating to avoid raising the temperature; cool and fast freeze prepared foods immediately, freeze at -25°C; store at -18°C; never refreeze thawed food; etc.

Cooking/Reheating: Defrost frozen foods completely in the fridge before cooking; cook large joints of meat & poultry thoroughly; use correct time and temperatures; heat high risk foods i.e. stews & gravies to 100°C; serve cooked foods immediately or keep food hot at temps above 65°C to avoid the danger zone 6°C - 63°C; consume hot food within 90 minutes; reheating should be done quickly at temps above 100°C; when reheating in a microwave link reheating time to wattage/quantity; etc.

- (b) Describe the stages in a *Hazard Analysis and Critical Control Point* (HACCP) system for making a hot main course dish. Refer to potential hazards **and** the corresponding control measures that should be implemented. (24 marks)

4 stages @ 6 marks (graded 6:5:4:3:2:1:0)

Stages –1 mark graded (1:0)	Hazards – 2 marks graded (2:1:0)	Control Measures – 3 marks (graded 3:2:1:0)
Purchase	Damaged goods; Contamination – bacterial, chemical Pests;	• Buy food from a reputable shop • Check that raw and cooked foods are stored separately • Check packaging • Check best before and use by dates • Check fridge/freezer/food temperature • Check for signs of pest damage • Use cool bags for transport of perishables etc.
Transportation	Multiplication of bacteria caused by a rise in temperature; Cross contamination; Damaged packaging;	• Ensure perishable foods are packed in a cool bag • Pack perishable and non-perishable foods separately • Allow the shortest time possible between purchase & storage • Ensure packaging remains intact etc.
Storage	Damaged goods Contamination – bacterial, chemical Pests; Multiplication of bacteria; Cross contamination;	• Cover chilled food and store at 5°C or below • Store frozen food at – 18°C • Check vegetables for mould etc.
Preparation	Contamination – bacterial, chemical;	• Foods within date and with quality assurance marks • Hands washed with antibacterial soap before and after

	Multiplication of bacteria; Cross contamination;	handling food; handle food as little as possible; • Colour coded boards to prevent cross contamination; keep all food covered; avoid cross-contamination by ensuring that raw food does not come into contact with cooked food • make sure frozen foods are fully defrosted, defrost in the fridge if possible • Use separate utensils for handling raw and cooked meat; keep perishable foods like salads, coleslaw and quiche in the fridge until needed; keep raw meat separate from cooked meat and ready-to-eat foods like salads • Maintain the fridge temperature below 5°C, this temperature will delay the growth of micro-organisms • Ensure that containers used for storage are absolutely clean • Avoid having foods for too long in danger zone 6 - 63°C etc.
Cooking	Multiplication of bacteria; Cross contamination; Survival of bacteria; Food poisoning;	• When cooking poultry always ensure that sufficiently high temperatures 72°C or higher are reached to prevent the risk of food poisoning • Make sure food has been cooked thoroughly, this is particularly important when cooking poultry, pork, minced meat etc.
Serving	Cross contamination; Growth of surviving bacteria;	• Clean utensils must be used • Serve cooked food immediately after cooking • Cooked food must be 63°C or higher etc.
Reheating / hot holding	Multiplication of bacteria;	• Food must be covered and stored properly before reheating • If reheating food, make sure it reaches temperatures above 100° C • Reheat once only • Cooked foods must be kept at 63°C or higher • Hold cooked food for a maximum of 90 minutes etc.

(c) Differentiate between infectious food poisoning and toxic food poisoning. (10 marks)

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

Infectious food poisoning - caused by consumption of food containing large numbers of pathogenic bacteria; these bacteria produce endotoxins as they grow, which are released when they die; endotoxins are easy to destroy; proper cooking and reheating will destroy both toxins and bacteria; if not destroyed symptoms will appear after approximately 12 hours; etc. Examples: salmonella, E coli, campylobacter; listeria; etc.

Toxic food poisoning - ingesting food that is contaminated by a toxin produced by a bacterial cell; some bacteria produce exotoxins as they grow in food both before and after it is eaten; exotoxins are hard to destroy; boiling for 30 mins is required; symptoms develop quickly, often within 2 hours; etc. Examples: staphylococcus aureus; clostridium botulinum; clostridium perfringens/welchii; etc.

Question 4

Efficient home management guides the smooth running of the home.

- (a) Explain how good management systems contribute to a well-run home. (16 marks)

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

Needs of the family are met; provision of basic needs are provided for; all available resources are used; roles clearly identified and housework load shared; all managerial skills are utilised including: organising, scheduling, budgeting, analysing, negotiating; decision making easier with good communication skills; prevents conflict; prevents stress, fatigue; improves the quality of life; allows for the unexpected; can be evaluated and altered; personal responsibility encouraged; etc.

- (b) Using the management framework (inputs, throughputs and outputs) outline the strategies to be followed when planning a family holiday to ensure effective management of resources. (18 marks)

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

2 references to inputs, 2 references to throughputs, 2 references to outputs

Inputs – Demands – needs e.g. physical and social; wants of family members; goals – long, medium and short term; family values; etc.

Resources – human resources; material resources; environmental resources; time; etc

Throughputs – planning; organising; implementing; etc.

Planning – gathering information; considering alternatives; deciding on course of action; etc.

Organising – allocating different tasks to family members; communication with each other; etc.

Implementing – putting the plan into action e.g. booking accommodation/travel; making necessary changes as needs arise; etc.

Outputs – assess / evaluate; demands met or goals achieved; resources used; process followed; satisfaction; changes in values; feedback; etc.

- (c) Evaluate the use of credit as a method of payment for a family holiday. (16 marks)

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

Advantages - consumer has the use of travel, accommodation, car rental and other facilities in advance of payment; can take advantage of holiday sales; helps economy; useful in emergencies; safer than carrying cash; credit cards are widely accepted; etc.

Disadvantages – expensive, high rates of interest; surcharge when paying by credit; encourages impulse buying; may lead to overspending and not keeping to holiday budget; repayments may lead to financial stress; risk of fraud, identity theft with credit cards; etc.

Question 5

The modern Irish family is smaller and more diverse than ever before.

- (a) Define the term *family* and explain the concept of the *universality* of the family. (10 marks)

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

Group of people related to each other by blood, marriage or adoption.

'The basic unit of society, which acts as a support for its members and which transmits values from one generation to the next.' (*United Nations*)

'The natural, primary and fundamental unit group of society.' (*Irish Constitution*)

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

Family is present in all known societies; etc.

The form the family takes may differ from one society to another, but the concept of the family is universal; etc.

- (b) Explain how the family can meet the physical, emotional, economic and social needs of its members. (24 marks)

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

Physical - family protects; care for young, elderly, people with special needs; provides for the basic physical needs; etc.

Emotional - family cares for emotional and psychological development of children; provides reassurance, encouragement, love and security; helping children to develop well balanced personalities; providing a safe, secure loving environment for its members; etc.

Economic - adults in the family work to earn money to provide for dependents; etc.

Social - family is the primary centre of socialisation, introduces children to beliefs culture, language, norms, traditions and values of the society in which they live; family acts as agent of social control by creating an awareness of acceptable and unacceptable behaviour in children; etc.

- (c) Discuss the challenges that may be experienced by the family of a child with special needs. (16 marks)

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

Coping with challenging behaviour in the home; providing emotional support for the special needs child and for each other; modification of the family home to assist those with physical difficulties; encouraging independence in the special needs child; financial difficulties may arise if one parent has to give up work to be a full time carer; children may have more responsibilities helping with the special needs sibling or in the home; advocating for access to supports available; tiredness due to lack of sleep; less attention given to other members of the family; high stress levels and worry for the future; providing financial assistance for the child with special needs; etc.

Section C

Answer **one** elective question **or** question 4 (core) 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.

Write your answer in the answerbook containing **Section A**.

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) A well designed home should have a positive impact on people's lives.

- (i) Explain the importance of location and house style when building a new home. (16 marks)

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

1 reference to location, 1 reference to house style + 2 other points

Location: urban or rural setting; proximity to work, school, amenities, and transport links; available services e.g. water, sewage, electricity, etc.; site orientation – south facing; good drainage; future development plans for the area - local building regulations; environmental regulations in the area as planning permission can affect the style of the house and materials used; local authorities determine what is allowed e.g. visual impact; income – cost of site, building materials; etc.

House style: personal preference - two story, single storey, detached, semi-detached, terraced; low-maintenance house; sufficient space for all family members to live comfortably; stage of family members; family members with special needs; withstand local weather conditions; aspect to ensure the best use of natural light; if on a gradient site houses may need to be split-level; open plan; office – working from home; sustainable heating methods; houses must fit into surrounding area; may have to use local materials e.g. stone; conform to planning regulations; etc.

- (ii) Discuss the following factors that influence house design/construction: (24 marks)

- initial and/or maintenance costs **2 points @ 4 marks** (graded 4:2:0)
- technological developments **2 points @ 4 marks** (graded 4:2:0)
- energy efficiency. **2 points @ 4 marks** (graded 4:2:0)

Initial and maintenance costs – budget; cost of site; cost of building materials; professional fees; design; finishes on exterior –e.g. natural stone/plaster; initial spend can reduce long term costs e.g. solar panels, underfloor heating; passive heating; etc;

Technological developments – CAD – computer aided design; electric gates; virtual reality tours of house designs; sensor windows; sensor lights; recessed lighting – LED's; monitored security systems; sensor-operated cameras; intelligent appliances; thermostatic controls; zoned heating systems; integrated sound & lighting systems; streamlined fixtures for kitchen/bathrooms; smart technology; etc.

Energy efficiency - double or triple glazed windows, with low emissivity glass; insulation in walls, roof and doors; zoned heating system; use of renewable energy sources e.g. solar, wind, hydro; use of thermostats, timers and energy efficient appliances; smart energy; apps; etc.

- (iii) Outline the procedure involved in obtaining full planning permission to build a house. (10 marks)

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

Pre-planning meeting; notice of intention/planning permission published in a local newspaper; pay fee and lodge detailed application to local planning authority; site notice erected; public inspection – any member of the public is free to inspect the plans; site inspection by planning officials; permission granted or refused with reasons given for refusal; etc.

and

- 1.(b)** 'Lighting isn't just a practical necessity. It's a style accessory, too.' (www.ikea.com)

- (i) Discuss **three** properties of light and in each case give an example of the application of each in the home. (18 marks)

3 properties @ 6 marks (graded 6:4:2:0)

Reflected – rays of light bounce off a shiny surface e.g. glazed ceramic tiles, mirrors, white ceiling; etc.

Refracted – rays of light bend when they pass through thick glass e.g. glass bricks, frosted glass; etc.

Diffused – rays are scattered when they pass through translucent substances or hit non-reflecting surface e.g. opaque lamp shades; etc.

Absorbed – dark and matt surfaces absorb light rays e.g. dark colours on walls make rooms appear smaller; etc.

Dispersed – rays of light that pass through a prism or crystal break down into their component colours e.g. crystal chandelier; etc.

- (ii) Identify and evaluate **two** contemporary developments in lighting technology. (12 marks)

2 developments @ 6 marks

Name: **2 marks** (graded 2:0) x 2, evaluate: **1 point @ 4 marks** (graded 4:2:0) x 2

Sensor and motion activated lights; use of smart technology to remotely control lighting; human centric lighting; recess ceiling lights; rise and fall lights; ceramic and plaster-based wall lights; under counter and cabinet lights; picture display lights; LED lighting; surface mounted/suspended tubular LED lighting; architectural lighting; CFL lighting; track lighting; spot lights; chandeliers; colour changing lighting; kinetic lighting; LED rope lighting; outdoor lighting with photovoltaic cells; outdoor lights; built in lighting in staircase/steps; motion sensor lighting; remote control lighting; etc.

or

1.(c) Water covers 71% of the planet but only 1% is available to us as drinking water. (*Irish Water*)

(i) Explain how water is supplied to and stored in the home.

Refer to:

- urban or rural supply **2 points @ 3 marks** (graded 3:2:0)
- stop cock **2 points @ 3 marks** (graded 3:2:0)
- storage tank/cistern. **2 points @ 3 marks** (graded 3:2:0)

(18 marks)

Urban or rural supply

Urban areas: public supply (Irish Water): water travels from the reservoir to urban areas by mains (pipes); service pipe leads to each building; a valve (stopcock, located externally) allows water to be turned off during repairs; service pipe enters the house under the kitchen sink (another stopcock) which supplies the sink with fresh drinking water while another branch fills the storage tank (cistern) in the attic; this storage tank supplies all other cold taps, toilets, hot press tank and back boiler; etc.

Rural areas: public supply; private wells/springs: natural springs – cleaner quality water, less impurities; water is tested and treated for harmful impurities; wells are lined with steel or concrete to prevent contamination from the soil; water is pumped into the house by an electric pump; water purifiers are fitted to remove suspended impurities; etc.

Stop cock - a valve found on a service pipe outside the house/under the kitchen sink; allows the water supply to be shut off if there is a problem; etc.

Storage tank/cistern – located in the attic as high level improves pressure to supply the system; a ball valve controls the level of water in the tank; stores the cold water which supplies the cold water taps, toilets and hot press tank in the home; etc.

(ii) Identify inefficient uses of water in the home. Suggest strategies for conserving and managing this resource. (12 marks)

Inefficient uses 2 @2 marks (graded 2:0), **strategies 2 @ 4 marks** (graded 4:2:0)

Inefficient uses of water – toilet systems; appliances; taps; etc;

Strategies for conserving and managing water - Toilet: install a dual flush toilet; a rainwater harvesting system linked to the water system etc. Taps: repair leaking taps as they waste up to one litre of water per hour; do not wash items under a running tap; do not leave taps running while brushing teeth; use a basin in the sink rather than washing under a running tap; etc. Appliances: choose A rated appliances e.g. dishwashers as they are more efficient in use of water; fill kettle as required; use washing machines and dishwashers at full capacity; use economy or quick wash cycle; etc. Water: take shower instead of baths; 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) Athleisure wear is a way of dressing that combines sportswear with ready-to-wear.



(www.pinterest.com)

(i) Evaluate the suitability of athleisure wear as a wardrobe staple. (15 marks)

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

Comfort; versatility; durability; ease of movement; affordable; adaptability to function; casual style; trendy; absorbent; fresh feeling; aids posture; allows skin breathability; reduces pain/discomfort; improves confidence; healthier lifestyle; encourages exercise; promotes positivity; etc.

(ii) Outline the steps of the design process when constructing a garment (10 marks)

5 steps @ 2 marks (graded 2:0)

Define the task; analysis of brief; investigation/research; possible ideas/solutions; presenting ideas to others; refining the design; implementation; evaluation; etc.

and

2.(b) The sustainability of natural fibres has led to an upsurge in their use.

Write a profile of **one** fabric manufactured from natural fibres.

Refer to:

(15 marks)

- fibre production **3 points @ 2 marks** (graded 2:0)
- fabric properties **3 properties @ 1 mark** (graded 1:0)
- uses. **3 uses @ 1 mark** (graded 1:0)

Name of fabric: **3 marks** (graded 3:0)

Cotton

Fibre production: comes from the boll or seed head of the cotton plant, with each fibre being between 2-3cm long; fibres are white and fluffy; the bolls are picked, by either hand or machine; the fibres are separated from the seeds; they are then pressed into bales; the cotton is then graded according to the length of the fibres; these fibres can be combed or spun into yarn; etc.

Properties: strong; absorbent; cool; washes and dries easily; dyes easily; shrinks; creases; affected by mildew; weakened by sun; etc.

Uses: shirts; blouses; skirts; towels; sheets; curtains; etc.

Linen

Fibre production: made from the stem of the flax plant; flax stems are pulled and stems are retted, soaked until outer stem rots; stems are crushed and combed; fibres are spun into yarn; yarn is bleached and dyed; woven into a textured fabric; etc.

Properties: strong; absorbent; cool; strong; washes well; creases easily; shrinks easily; difficult to dye; damaged by mildew; etc.

Uses: dresses; suits; soft furnishings; towels; napkins; tablecloths; handkerchiefs; etc.

Wool

Fibre production: comes from the soft hair / fleece of sheep, goats, llamas etc; fleece is removed/shorn from the animal; it is then collected and graded to the length of the fibres and also the colour and fineness of the wool; it is then cleaned and combed (carding); it is then spun into yarn and can then be used to produce textiles; etc.

Properties: warm; absorbent; does not burn easily; hardwearing; resilient; shrinks if washed at too high a temperature or if tumble dried; can irritate the skin; etc.

Uses: jumpers; coats; blankets; carpets; soft furnishings; etc.

Silk

Fibre production: silkworm feeds on mulberry leaves; it spins a cocoon of silk around itself; cocoons are soaked in water; silk threads are unwound from cocoons onto reels; several of these thin silk threads are spun or twisted together to make thicker thread; these are then woven into fabric; etc.

Properties: absorbent; crease resistant; strong; smooth; light; drapes well; damaged by careless washing, moths, sunshine, chemicals; etc.

Uses: blouses; shirts; dresses; suits; ties; paintings; cushion covers; curtains; sheets; etc.

or

2.(c) The design of fashion can be influenced by cultural, historical and social factors.

(i) Explain how the choice of clothing is determined by its function. (6 marks)

1 point @ 6 marks (graded 6:3:0)

Modesty; protection from weather; self-expression; identification; status; season; occasion; personal preference; etc.

(ii) Analyse the impact of social influences on the design of clothing. (9 marks)

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

Public figures; celebrities; influencers; fashion houses and designers; environmental issues; dance influences; music influences; increase in travel; cultural influences; etc.

Elective 3 – Social Studies – 80 marks

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

3.(a) 'Life on a low income is the norm for a large proportion of our society.'

(Poverty Focus, Social Justice Ireland, 2020)

- (i) Define *poverty*. (8 marks)

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

Poverty: being without adequate food, clothing or shelter; income and resources are inadequate and do not allow them an adequate standard of living that is acceptable by Irish society; having little or no wealth; inadequate income and resources may exclude and marginalise people from participating in activities that are considered the norm for people in society; etc.

- (ii) In relation to poverty explain each of the following:

- relative poverty **2 points @ 3 marks** (graded 3:2:0)
- the poverty line **2 points @ 3 marks** (graded 3:2:0)
- the poverty trap. **2 points @ 3 marks** (graded 3:2:0) (18 marks)

Relative poverty: people living below what society recognises as a basic standard of living; prevents people from partaking in activities which are looked upon as normal in society; etc.

Poverty line: may be described as the estimated minimum income considered necessary to maintain a basic standard of living; minimum amount of money a person would need to provide for basic needs such as food, clothing and shelter; etc.

Poverty trap: people who receive social welfare assistance/benefits lose them if they return to work; social welfare assistance/benefits may be more financially rewarding than wages in a low paid job; some people may choose to remain financially dependent on the state; etc.

- (iii) Discuss the extent and distribution of poverty in Ireland today. (12 marks)

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

1 reference to extent, 1 reference to distribution + 1 other point

Extent: the number of people below the poverty line decreased since the 1960's and 1970's, during the 1980's the number of people unemployed increased as there was a recession; the Celtic tiger in the 1990's meant an increase in employment and a decrease in the number of people living below the poverty line; towards the early/mid 2000's there was an increase in the number of people living below the poverty line due to the extremely high house prices and the high cost of living; over 20% of Irish households live below the poverty line; one in four children live below the poverty line; Ireland has one of the highest poverty rates in Europe including a very high rate of child poverty; increase in poverty as a result of COVID - 19 pandemic; etc.

Distribution: groups at risk – women over 65; households where the head of the household is working in the home; elderly; disabled; unemployed; low paid workers; lone parents; members of the travelling community; ethnic minorities; cycle of deprivation in families; etc.

- (iv) Name and give details of **one** social welfare assistance/benefit available to people who are experiencing poverty. (12 marks)

1 payment @ 12 marks

Name: **4 marks** (graded 4:2:0), Details: **2 points @ 4 marks** (graded 4:2:0)

State pension (non-contributory); widow's/widower's or surviving civil partner's pension (non-contributory); jobseeker's allowance/benefit; working family payment; COVID - 19 pandemic unemployment payment (PUP); supplementary welfare allowance; one-parent family payment; child benefit; etc.

and

- 3.(b)** People in work, paid or unpaid, tend to enjoy happier and healthier lives.

- (i) Identify and elaborate on the factors that affect an individual's attitude to work. (15 marks)

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

Social group: children from higher socio-economic groups tend to have higher educational aspirations and long-term goals; they are encouraged and therefore more likely to attain work in desired area; children from lower socio-economic group tend to have fewer educational opportunities and are often less qualified; they may attain employment in low-status positions, with little chance of advancement and little job satisfaction; etc.

Education: higher socio-economic groups have better qualifications and higher career expectations, they have a more positive experience of work and remain in employment for longer; early school leavers find it difficult to find well paid long term employment; etc.

Extrinsic satisfaction: based on bonuses associated with work rather than the job itself; repetitive uninteresting work e.g. assembly line – may fail to stimulate so the wage alone may become the focus for satisfaction; satisfaction is derived from spending the money on luxury goods and/or socialising; etc.

Intrinsic satisfaction: work gives sense of fulfilment, pleasure; scope for creativity; pride in work; develops self-esteem, confidence, independence; confers status and respect; satisfies psychological and social needs; etc.

Work ethic: attitude to work including absenteeism, punctuality, commitment to work and respect for authority; etc.

Personal identity: some professions confer status in the community and as a result may link to a positive attitude to work, etc.

Working conditions: availability of part time work, job sharing, flexitime and working from home make work life balance easier; atmosphere at work; physical working environment etc.

Social contact: influenced by background, experience, peer pressure; etc.

- (ii) Discuss giving examples, how a community can benefit from the work of volunteers. (15 marks)

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

Provides range of services quickly to those in need in a community i.e. older people, people with disabilities or homeless people, reducing disadvantage for community members; complement the work carried out by statutory bodies; offer a more personal local service e.g. St. Vincent de Paul; when state funding is lacking or inadequate they organise and run services which should have been provided by the state; improves community by restoring and cleaning the local landscape or by alleviating poverty and social problems; creates a sense of community spirit, as volunteers come together to achieve a common goal e.g. tidy towns; friendships formed which can create a sense of closeness within community; issues can be dealt with quickly before they become major social problems; attracting media attention, can initiate change and social reform; etc.

or

- 3.(c)** 42% of people who are working from home said that “managing the boundary between work and home life was very difficult”. (Irish Independent, 2020)

- (i) Explain the importance of the distribution of work tasks and childcare responsibilities in families. (15 marks)

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

1 reference to work tasks, 1 reference to childcare + 1 other point

Both parents now generally involved in childcare leading to closer relationships between parents and children; reduces role overload and role conflict; introduce children to gender equity from an early age as parents are seen as role models sharing household tasks; reduces stress; work tasks are generally shared among family members e.g. cooking, vacuuming laundry; children become more responsible and learn to take pride in their environment e.g. tidying own bedrooms; etc.

- (ii) Discuss how improvements in the provision of education has impacted on family life. (15 marks)

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

Pre-schools /Naíonraí – qualified staff available for part of / whole working day; after school/ homework clubs; schools for pupils with special educational needs; SNAs are available at both primary and secondary level to assist pupils with special educational needs; multisensory rooms; autism units; abolishment of fees, availability of grants and access programmes, have made third level education more accessible; adult and second-chance education improves self-esteem; various PLC courses and SOLAS training programmes facilitate upskilling, improving employment opportunities and promotional prospects; VTOS for long term unemployed; distance learning – e.g. Open University – functions across Europe and has no defined entry requirements; etc.

Question 4 – Core – 80 marks

Candidates selecting this elective must answer **4(a)** and either **4(b)** or **4(c)**.

- 4.(a)** Ireland has a population of less than five million people, yet it produces enough dairy to feed multiples of that.
(Dairy Sector Profile, Bord Bia)

- (i)** Discuss the nutritional significance of milk in the diet of young children. (20 marks)
5 points @ 4 marks (graded 4:3:2:1:0)

Nutritional significance - Protein: 3.5%, HBV, lactalbumin, lactoglobulin, caseinogen, essential for growth and repair, important in the diet of children; etc. **Fat:** 0.2% in skimmed, 4% in whole milk, saturated fat, easily digested – convalescent; full fat milk for children; can be fortified with omega 3; etc. **Carbohydrate:** 4-5% lactose for energy; should be combined with foods rich in starch, fibre; etc. **Vitamins:** 0.3% A, B group and D in whole milk, B group in skimmed; Retinol - vitamin A produces rhodopsin, maintains healthy lining membranes; keeps skin and hair healthy and helps to regulate growth; Riboflavin - B₂ releases energy from protein, fats and carbohydrates, promotes healthy mucous membranes in eyes, nose and mouth; promotes healthy skin, hair and nails; Cobalamin - B₁₂ is required for the production of red blood cells; is involved in fatty acid and folate metabolism; promotes growth; maintains a healthy nervous system; milk can be fortified with vitamins; should be combined with foods rich in vitamin C; etc. **Minerals:** 0.7% - calcium and phosphorus – both necessary for strong bones and teeth; traces of magnesium, potassium and sodium; can be fortified with minerals; should be combined with foods rich in iron in order to balance the diet; etc. **Water:** 87%, necessary for hydration; etc.

- (ii)** Describe one process used by manufacturers to extend the shelf life of milk.
Refer to:

- name of process **2 marks** (graded 2:0)
- how the process is carried out **4 points @ 2 marks** (graded 2:1:0)
- Packaging and labelling. **8 points @ 1 mark** (graded 1:0)

4 references to packaging, 4 references to labelling (18 marks)

Process	How the process is carried out
Pasteurisation	Milk is homogenised; heated to 72°C - 75°C; for 15 - 25 seconds; cooled rapidly to 10 °C.
Sterilisation	Milk is homogenised; sealed into glass bottles; and heated to 104°C -113°C; for 30 minutes; then cooled.
UHT	Milk is heated to 132°C; for 1 to 3 seconds; cooled quickly; packed in sterile containers.
Evaporated	Milk is homogenised; heated to 115°C; for 20 minutes; evaporated to half its volume; It is then sealed in sterile cans.
Dried	Milk is homogenised; pasteurised; then evaporated to 60% of its original volume; It is then spray or roller dried to form a powdered milk.
Condensed	Milk is homogenised; It is then heated to 72°C to 80 °C; for 15 minutes; to evaporate it to one-third of its volume; 15% sugar is added; It is then sealed in sterile cans.

Packaging: type: glass bottles; metal cans; plastic cartons; waxed cardboard; carbon neutral packaging; quantity etc.

Labelling: type of milk; brand; quantity of milk; nutritional information; date-stamp; storage instructions; etc.

- (iii) Outline the measures (initiatives) taken by the dairy industry to meet current consumer trends. (12 marks)

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

Milk- variety – low fat, skimmed, semi-skimmed; fortified – vitamin D, calcium, iron, protein; variety of sizes; infant formula; etc.

Cheese – low fat; convenience e.g. grated, pizza mix cheese, cheese bars, snack packs; cubed cheese, sliced; flavoured cheese using herbs, fruit etc; family sized packs; resealable packaging; etc.

Yoghurt – flavoured; functional – lowering cholesterol; bio yoghurt – probiotics; various textures e.g. set, drinking, stirred; snack packs with fruit puree and biscuit crumb; frozen yoghurt; Greek yoghurt; unsweetened; etc.

Butter – sustainable packaging; low-fat variety; unsalted; flavoured; spreadable; Love Irish Food advertising campaign; etc.

Cream – single cream; double cream; sour cream; flavoured cream; whipped cream; various sizes; etc.

Others – crème fraiche; fromage frais; etc.

and

- 4.(b) “It is anticipated that the prevalence of diabetes in Ireland will increase to 278,000 by 2030”
(*Changing Lives 2016 – 2020, Diabetes Ireland*)

- (i) In relation to diabetes give an account of
- types
 - dietary requirements that should be followed for individuals with diabetes.
- (20 marks)

Types – 2 points @ 4 marks (graded 4:2:0) x2
expect **reference to 2 types**

Type 1 - (insulin dependent, juvenile or childhood onset), deficient insulin production; requires daily administration of insulin; etc.

Type 2 - (non-insulin dependent or adult onset) results from the body's ineffective use of insulin; Type 2 comprises 90% of people with diabetes and is largely the result of excess body weight and physical inactivity; previously associated with adults only but now also occurring in children; etc.

Gestational - is hyperglycaemia; with onset or first recognition during pregnancy; etc.

dietary requirements – 4 points @ 3 marks (graded 3:2:0)

Eat 3 regular meals a day to stabilise blood sugar levels; reduce sugar intake, use artificial sweetener; eat a healthy diet of between 3 and 5 servings of fruit and vegetables a day; follow a low glycaemic index (GI) diet; reduce saturated fat intake; increase fibre foods and starch based carbohydrate foods; etc.

- (ii) Outline the uses of sweeteners in food production. (10 marks)
2 uses @ 5 marks (graded 5:3:0)

Used to sweeten food; to improve flavour and palatability; as a method of preservation in jam making; used in the manufacture of sweets; used in diabetic foods as an alternative to sugar; as a humectant to prevent foods such as cakes drying out; used as a bulking agent; used in soft drinks; used in slimming and low-calorie recipes; etc.

or

4.(c) Market research involves the use of a variety of consumer research methods.

- (i) Name and describe **two** methods of consumer research. (12 marks)

Name: **2 marks** (graded 2:0) **x2**, describe **2 points @ 2 marks** (graded 2:1:0) **x 2**
Desk research/ Primary research: involves the collection of data from state agencies, internet etc; large quantities of information can be collected quickly; relatively inexpensive; information tends to be general and not very detailed (quantitative) e.g. phone/written surveys; etc.

Field research/ Secondary research: information collected using techniques such as observing, interviews, surveys etc.; primary source; information is detailed e.g. study consumer behaviour and attitudes (qualitative) e.g. vox pops, interviews, consumer panels; focus groups; etc

- (ii) Outline the benefits of consumer research for both the consumer and the retailer. (18 marks)

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

2 references to consumer, 2 references to retailer + 2 other points

Consumer: Requirements of consumer can be identified; helps to improve on the quality of a product; allows for competition in the market which may lead to more competitively priced goods; etc.

Retailer: Identifies the type of person who will use the product; identifies extent to which product meets requirements; size of the target market; location of the target market; etc.

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Leaving Certificate 2021

Home Economics – Scientific and Social

Food Studies Coursework

Marking Scheme

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. Information must be presented under the appropriate headings.*

Grading Table

Grade	Mark bands
1	144-160
2	128-143
3	112-127
4	96-111
5	80-95
6	64-79
7	48-63
8	< 47

Food Studies Practical Coursework General Marking Criteria

Investigation: Analysis/Research - 32

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

Healthy eating, combined with regular physical activity, can help a person live a full, active life, preserving independence into older age.

Research and elaborate on the nutritional needs and the meal planning guidelines that should be considered when planning and preparing meals for older people.

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

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.

2021

Key requirements of the assignment:

- dietary/nutritional needs that **older people** should consider when planning meals
- relevant meal planning guidelines with specific reference to **older people**
- range of menus (two courses) for the main meal

Investigation

Dietary/nutritional requirements: *nutritional balance; daily requirements of macro/micro nutrients including protein/carbohydrate/fat/iron/calcium requirements as appropriate to the needs of older people with reasons for possible variations; omega 3 fatty acids; high fibre; Vitamin C/iron absorption; Vitamin C/antioxidant properties; Vitamin D/calcium absorption; magnesium; potassium; need to increase B6, B12, and folate due to low intakes and malabsorption; possible variations in energy requirements – lower BMR rate; energy balance vis a vis activity levels; current nutritional guidelines re nutrient and food intake; use of meal supplements e.g. drinks; food supplements; etc.*

Meal planning guidelines: *use of food pyramid to ensure balance; variety of foods; regular eating patterns; personal likes and dislikes; correct fluid intake to prevent dehydration; increase protein rich foods; high fibre foods; calcium rich foods; avoid empty calorie foods; foods high in salt, saturated fat and sugar i.e. convenience foods; use of fortified convenience foods; healthy snacks; easily digested foods; use of foods in season; resource issues; smaller portion sizes; consider easy to eat/chew foods; physical limitations e.g. arthritis; use of pre-prepared/easy to prepare foods; medical conditions may influence foods eaten; sensory changes – taste for food may change; use of milk powder to boost calcium, protein and calorie content; budget; own brand products; organic produce; etc.*

Dishes selected

- range of menus (2) for main meal
- must meet the nutritional requirements for older people
- must be a main course (from menu).

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

Analysis of findings regarding the dietary/nutritional requirements when planning meals for older people. Meal planning guidelines – range of foods/dishes suitable when planning meals for older people, how the selected dish meets the requirements as identified in the investigation; etc.

Assignment 2

It is estimated that each person in Ireland is consuming approximately 166% of the salt that they need per day. (Irish Nutrition & Dietetic Institute)

Identify the health risks associated with a diet that is high in salt.

Research and elaborate on the nutritional needs and the meal planning guidelines that should be considered when planning and preparing meals for people who wish to reduce salt in their diet.

Bearing in mind these factors, investigate a range of menus (starters and main courses) suitable for the main meal of the day for this group of people.

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.

2021

Key requirements of the assignment:

- health risks associated with a diet that is high in salt
- dietary/nutritional requirements when planning meals for people who wish to **reduce salt** in their diet.
- relevant meal planning guidelines for people who wish to **reduce salt** in their diet.
- range of menus (starters and main courses) for the main meal of the day.

Investigation

Health risks associated with a diet that is high in salt: cardiovascular disease; high blood pressure; stroke; kidney disease; kidney stones; osteoporosis; gastric ulcers; headaches; stomach cancer; aggravates asthma symptoms; water retention; fluctuating bodyweight; Meniere's disease; Vascular dementia; etc.

Dietary/nutritional requirements for people who wish to reduce salt in their diet -

nutritional balance; daily requirements of macro/micro- nutrients including protein/cho/fat/iron/calcium requirements as appropriate; high fibre; vitamin C/iron absorption; vitamin D/calcium absorption; potassium helps balance sodium levels; follow current nutritional guidelines re nutrient and food intake; etc.

Meal planning guidelines for people who wish to reduce salt in their diet

Avoid adding salt to food when cooking and at the table; taste foods before adding salt; use alternative flavourings; reduce the use of convenience foods; avoid high salt snacks; avoid salted meats and salted fish; choose fresh foods; check salt content of breakfast cereals and breads; check food labels on readymade meals; limit use of stock cubes, gravy granules, readymade sauces; select low salt/reduced salt options, cook using oils instead of butter; cooking methods to bring out natural flavours; drain and rinse canned beans and vegetables; serve dressings/sauces on the side; use low sodium salt; check the salt content of foods in restaurants; RDA adults 6 grams/children 0 - 4g depending on age; etc. (high is more than 1.5g salt per 100g, low is 0.3g salt or less per 100g)

- Dishes selected**
- range of menus (2) starters and main courses for main meal
 - must meet the nutritional requirements for people who wish to **reduce salt** in their diet
 - must be a main course (from menu)

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

Analysis of findings regarding what you learned from the investigation regarding the management of a diet that is high in salt; factors that should be considered when planning meals for people who wish to reduce salt in their diet, and to ensure nutritional adequacy; what foods are suitable/unsuitable; what special aspects of meal planning have to be considered etc.; how the selected dish meets the requirements as identified in the investigation; etc.

Area of Practice B: Food Preparation and Cooking Processes

Assignment 3

Careful selection of cooking equipment will help you to cook healthy meals at home.

Select either a wok or a steamer and research

- the different types available
- the reasons for its popularity
- the key points necessary for successful use of the equipment
- foods/dishes that can be cooked using this item of equipment

Prepare, cook and serve one of the dishes you have investigated using the selected item of equipment.

Evaluate the assignment in terms of **(a)** implementation and **(b)** the advantages and/or the disadvantages of using this item of equipment.

2021

Key requirements of the assignment:

- *research on different types of woks or steamers available*
- *reasons for its popularity*
- *the key points necessary for successful use of the equipment*
- *foods/dishes that can be cooked using this item of equipment – wok or steamer*

Investigation

Types of woks or steamers

Wok – electric/stand alone: *bases – round/flat bottomed etc.; materials - carbon steel, stainless steel, copper, non-stick Teflon coated, aluminium; cast iron; ceramic coated; etc.; handles – long wooden/metal, two small side wood/metal etc.; brands – accept all brands; etc.*

Steamer - electric/non electric/counter top, etc.; *basic standard tiered steamer, tiered bamboo, microwave steamer, steamer oven etc.; materials –stainless steel, aluminium, hard plastic, heat resistant handles, glass perforated containers, aluminium baskets; etc.; brands – accept all brands; etc.*

Reasons for its popularity

Wok – *speed of cooking; economical – uses less fuel; full meal cooked in one appliance; versatile; foods retain their nutritional value and flavour; convenience; cooked dishes low in fat; ethnic influence; etc.* **Steamer** – *healthy method of cooking; suitable for low fat/low cholesterol diets; nutritive value; flavour and colour of foods retained; economical; little wash up; wide variety of foods can be steamed; can be used to reheat food; cuts down on energy costs; foods can be timed and left unattended; etc.*

Key points for successful use of the equipment – wok or steamer

Wok – *season wok before cooking; pre-heat; correct temperature; use of good quality oil; uniform size pieces of food; food cooked in batches; toss food continuously; etc.* **Steamer** – *ensure water is boiling; accurate timing; ensure foods are arranged in steamer according to density; avoid over filling steamer; use a tightly fitted lid; etc.*

Foods/dishes that can be cooked using this item of equipment - wok or steamer

Wok – *chicken/beef/vegetable stir-fry; noodles; rice; chow mein; spring rolls; fruit fritters; sweet and sour pork; etc.* **Steamer** – *fish; chicken; rice; eggs; vegetables; puddings; etc.*

Dishes selected – wok or steamer must be used for the main cooking process in the chosen dish

Evaluation **(a)** implementation and **(b)** the advantages and/or the disadvantages of using this item of equipment

What you learned from the assignment regarding the advantages and/or the disadvantages of using a wok/steamer, how the selected dish meets the requirements as identified in the investigation etc.

Area of Practice C: Food Technology

Assignment 4

Fruit and vegetables can be preserved by making chutneys and relishes. These piquant or spicy condiments can be served with food to add flavour.

Investigate

- fruit and vegetables that can be preserved to make chutneys/relishes
- how this method of preservation is carried out
- the underlying principles involved
- possible problems which may arise
- containers and labelling that can be used.

Using your choice of fruit/vegetables, prepare and pot a chutney or relish.

Evaluate the assignment in terms of **(a)** implementation and **(b)** the practicability of making homemade chutneys/relishes.

2021

Key requirements of the assignment:

- *fruit and vegetables that can be preserved to make chutneys/relishes*
- *how this method of preservation is carried out*
- *the underlying principles involved*
- *possible problems which may arise*
- *containers and labelling that can be used*

Investigation: Fruit and vegetables that can be preserved to make chutneys/relishes: Fruit -

apples, plums, gooseberries, mangos, cranberries, dates, rhubarb, raisins, sultanas, pumpkin, etc.

Vegetables - *tomatoes, peppers, marrows, onions, garlic, beetroot, chillies, etc.*

How the method of preservation is carried out: Chutney: *wash jars, sterilise in oven 140°C; fruit and/or vegetables are washed, peeled, chopped; simmered until soft; sugar is dissolved in mixture; returned to boil; all other ingredients are added; simmered until thick; potted; covered; labelled; stored in a cool dark place; etc.* **Relishes:** *wash jars, sterilise in oven 140°C; fruit and/vegetables are washed, peeled and coarsely chopped; vinegar, salt, sugar and spices act as a preserving agent; a combination of spices and flavourings are used to make them sweet, sour or spiced; all ingredients are put into a heavy based saucepan; mixture brought to the boil; heat reduced, mixture simmered to reduce and thicken, potted; covered; labelled; stored in a cool dark place; etc.*

Underlying principles involved – *chutney/relish using a mixture of fruit and or vegetables is **boiled to 100°C**, destroys micro-organisms and lowers available moisture needed for growth, heat denatures enzymes; preserved by use of vinegar, salt & spices; vinegar **reduces the pH** of the food with the natural acids of the fruit, provides conditions unfavourable for micro-organisms to grow; liquid passes from the micro-organisms by **osmosis** to the food in an attempt to correct the imbalance, **dehydrates the micro-organisms**, thus destroys them, high concentration of sugar causes water to pass out of bacterial cells by osmosis, sugar salt and spices act as preserving agents also; jars are sterilised to prevent mould growth; cover with wax disc and plastic coated/glass lid; etc.*

Possible problems that may arise: *incorrect consistency; hardening effect on fruit/vegetables; colour too dark/light; chutney/relish sticking to base of saucepan; 'caking'; discolouration; poor flavour; shrinks/dries out; liquid on top of jar; mould growth; etc.*

Containers and labelling: *e.g. glass jars; screw top lacquered/plastic coated lids; vinegar proof paper; freezer bags; greaseproof paper; cotton dipped in wax or fat; labels – contents, date; etc.*

Dishes selected – chutney or relish using fruit/vegetables.

Evaluation (a) implementation and **(b)** the practicability of making homemade chutneys/relishes
Practicability of making homemade chutneys and relishes – resource issues – time, skills, equipment, packaging, storage, availability of ingredients, cost factors; etc.

Area of Practice D: Properties of a Food

Assignment 5

Due to their inherent properties, eggs are a very versatile ingredient for both sweet and savoury dishes.

Carry out research on the properties of eggs and explain the underlying principle in each case. Identify dishes that illustrate the use of each property.

Prepare, cook and serve one of the dishes that you have investigated, which has eggs as a key ingredient.

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

2021

Key requirements of the assignment:

- *research on the properties of eggs and the underlying principle in each case*
- *identify dishes that illustrate the use of each property*

Properties of eggs: *coagulation, aeration/foam formation, emulsification.*

Property, underlying principle and dishes that illustrate the use of each property:

Coagulation: *protein in eggs sets in cooking, proteins in the white coagulate between 60°C and 65°C causing the egg white to become opaque and solid, proteins in the egg yolk coagulate between 65°C and 70°C, coagulation causes the protein chain to unravel, straighten and bond together around small pockets of water; curdling can be caused by the addition of too much heat too quickly or for too long a time; eggs should be well beaten to combine white and yolk so one does not set quicker than the other; etc. Dishes: **Cooking:** boiled, poached, fried, scrambled eggs, etc. **Thickening:** quiche, omelettes, custards etc. **Coating:** fish goujons, chicken kiev, etc. **Binding:** burgers, fish cakes, etc. **Glazing:** apple tart, scones, etc. **Clarifying:** consommé, jellies, etc.*

Aeration / foam formation: *egg protein can trap air and produce a foam, whisking egg whites introduces bubbles of air into mixture; whisking also produces heat to coagulate albumin slightly, protein chains unravel, straighten and line up around the air bubbles, form a thin layer around the bubbles and the mixture becomes stiff, formation of a temporary white foam, in cooking coagulation of the protein chains occurs and sets the foam permanently or it will collapse, gelatine can be used to set the foam; etc. Dishes: sponge cakes, meringues, soufflés, cheesecake, mousse, lemon meringue pie, etc.*

Emulsification: *egg yolk contains lecithin an emulsifying agent; when lecithin is added to liquids e.g. oil and vinegar that are immiscible; the two liquids are held together in an emulsion; lecithin surrounds the droplets and prevents them separating; emulsifier lecithin consists of hydrophilic (water loving) head & hydrophobic (water hating) tail; hydrophilic part attracted to the water (vinegar) part; hydrophobic part is attracted to the oil part; holds the two liquids together and prevents them from separating, oil-in-water emulsion (mayonnaise); etc. Dishes: egg mayonnaise – mayonnaise (oil, egg & vinegar), salmon hollandaise, eggs benedict - hollandaise sauce (vinegar & butter), cake making (sugar & fat), ice cream, etc.*

Dishes selected - must illustrate a culinary application of a property investigated
- eggs must be a key ingredient

Evaluation (a) implementation and **(b)** success in applying the selected property/properties when making the dish

Success of the property/properties selected when making the dish.

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 **two** 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.

