



Coimisiún na Scrúduithe Stáit
State Examinations Commission

Leaving Certificate 2017

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.

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.*

Instructions to Candidates

- Section A** There are **twelve** questions in this section.
Candidates are required to answer any **ten** questions.
Each question carries **6** marks.
- Section B** There are **five** questions in this section.
Candidates are required to 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.
Candidates are required to 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.

Section A

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

Each question is worth 6 marks.

Write your answers in the spaces provided.

1. Amino acids are the building blocks of protein.
Explain **and** give an example of **each** of the following terms: (6)

Essential amino acids

Cannot be manufactured by the body; 8 essential for adults, 10 essential for children; must be supplied by the diet; etc.

Example

Valine; leucine; Isoleucine; lysine; methionine; phenylalanine; threonine; tryptophan; Histidine; arginine.

Non-essential amino acids

Can be made by the body; do not need to be supplied by the diet; etc.

Example

Alanine, asparagine, aspartic acid, cysteine, glutamic acid, glutamine, glycine, proline, serine, tyrosine.

2. Describe the effect of gelatinisation on starch. (6)

*When starch is mixed with liquid and **heated**, the starch cells burst and **absorb water**, this causes the mixture to **thicken**; thickened mixture is called a sol / colloidal solution; etc.*

Give **two** culinary examples of gelatinisation.

(i) *roux sauces; pastry; soup;* (ii) *lemon curd; rice pudding; etc.*

3. Outline the role of the Food Safety Authority of Ireland (FSAI) in the food industry. (6)

*Responsible for co-ordinating the **enforcement** of food safety regulation in Ireland; **advises** the Minister; **protects** consumers – safe food, accurate food information; works with the food industry to ensure food produced is **safe to eat** (HACCP); **takes action** when a premises is in breach of food regulations; **processes applications** for novel foods and new methods of processing; etc.*

4. Complete the following table in relation to anaemia. (6)

Cause	<i>Lack of haemoglobin / red blood cells, low iron diet; blood loss – menstruation, ulcers, operations; etc.</i>
Effect of deficiency	<i>Tiredness; pale skin; shortness of breath; irritability; dizziness; causes a reduction in oxygen levels in the blood; etc.</i>
Corrective measure	<i>Increased consumption of iron rich foods; iron supplements; foods high in vitamin C; decrease consumption of tea, coffee, excess fibre, phytic and oxalic acid, calcium; etc.</i>

5. Explain **each** of the following: (6)

Modified atmosphere packaging

Air is removed and replaced with a controlled mixture of **gases** - carbon dioxide, nitrogen and oxygen; the pack is heat **sealed**; slows down the growth of bacteria, yeasts and moulds that spoil food; enhances the shelf life of food; etc.

Biodegradable packaging

Breaks down into the raw materials of nature e.g. paper bags and cardboard; etc.

6. Name **and** describe **two** common food poisoning bacteria using the headings below. (6)

Food poisoning bacteria	Description / characteristic	Habitat
<i>Salmonella</i>	<i>Rod shaped; gram negative; non spore forming; asexual reproduction; etc.</i>	<i>Intestines of humans and animals; human and animal waste; unwashed hands; etc.</i>
<i>Listeria</i>	<i>Rod shaped; gram positive; non spore forming; asexual reproduction; etc.</i>	<i>Soil; human and animal waste; etc.</i>
<i>E-coli</i>	<i>Rod shaped; gram negative; non spore forming; asexual reproduction; etc.</i>	<i>Intestines of humans and animals; human and animal excreta; contaminated water; unwashed hands; etc.</i>

<i>Clostridium botulinum</i>	<i>Rod shaped; gram positive; spore-forming; asexual reproduction; etc.</i>	<i>Soil and decaying matter; vegetables; fish and pig intestines; etc.</i>
<i>Staphylococcus aureus</i>	<i>Spherical; gram positive; non spore forming; asexual reproduction; etc.</i>	<i>Nose, throat and infected skin e.g. boils; unwashed hands etc.</i>

Clostridium Welchii; Campylobacter; etc.

7. Explain the process of *fermentation*. (6)

The **breakdown** of organic substances by microorganisms i.e. bacteria and yeast to produce CO₂, alcohol & energy;

yeast + C₆H₁₂O₆ + moisture + warmth → 2CO₂ (carbon dioxide) + 2C₂H₅OH (alcohol) + energy

Name **two** by-products of fermentation.

- (i) carbon dioxide; acids; vinegar; (ii) alcohol; energy; etc.

8. Complete the table below in relation to the processing of milk. (6)

Process	Temperature	Time	Effect
Ultra Heat Treatment	132°C	1 to 3 seconds	Change in flavour; loss of vitamins B and C; all bacteria destroyed so milk keeps unopened for several months without refrigeration; etc.

9. Name **three** components / stages in family resource management. (6)

Inputs; throughputs; outputs;

Give **two** examples of family life which require management skills.

- (i) meal planning; decision making;
(ii) budgeting; problem solving; home management; etc.

10. Explain **each** of the following: (6)

Insurance premium

The sum of money paid annually or in instalments to the insurance company in order to be insured; etc.

Insurance policy

Written details of the terms and conditions of insurance cover; etc.

11. Name **three** social welfare payments available to individuals. (6)

(i) *supplementary welfare allowance; maternity benefit; one-parent family payments;*

(ii) *pensions – old age, widows, blind persons;*

(iii) *FIS; carer's allowance; disability allowance; job seekers benefit / allowance; etc.*

12. What protection is provided to the consumer by the Consumer Information Act, 1978 / Consumer Protection Act, 2007? (6)

(i) *protects consumers against false or misleading claims about goods or services (advertising); false trade descriptions;*

(ii) *forbids false or misleading information regarding price, previous price or recommended retail price; etc.*

Section B

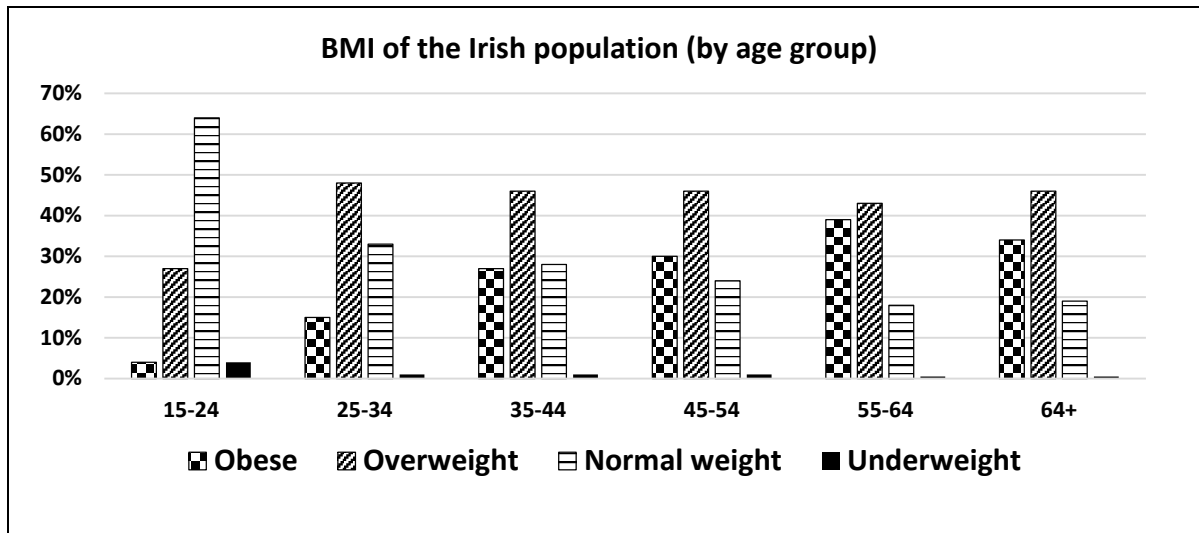
Answer **Question 1** and any other **two questions** from this section.

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

1. **Rising levels of overweight and obesity are placing an increasing burden on individuals and society. Currently, six in ten adults and one in four children are overweight or obese.**

(A Healthy Weight for Ireland: Obesity Policy and Action Plan 2016 – 2025)

Body Mass Index (BMI) is a standardised measure used to estimate whether or not someone is underweight, normal weight, overweight or obese.



- (a) Using the information provided in the chart, comment and elaborate on the variations in Body Mass Index among the different age groups of the Irish population. (20)

4 points @ 5 marks each

Obese: obesity tends to rise as one gets older up to age band 55-64, 64+ it tends to fall; poor diet; less time for exercise due to work / family commitments; sedentary jobs; metabolic rate decreasing while portion sizes remain the same; etc.

Overweight: high in the younger age band of 15-24 (28%); increases significantly in the 25-34 age group (almost 50%); remains between 40-50% throughout all other age groups; people in their teens and early 20's are quite active and participate in sports; jobs may be sedentary with little time for exercise; basal metabolic rate decreases as one gets older; increased consumption of food and alcohol; diet high in sugar, saturated fat and refined carbohydrates; poor eating patterns; reliance on convenience food; etc.

Normal weight: 60% of people in the 15-24 age group are a normal weight; decreases significantly in the 25-34 age group (30-40%) and decreases further to its lowest point between (10-20%) in the 55-64 age group; is a slight increase in the 64+ age group; teenagers are still growing; family meals being freshly prepared at home; young people in their teens and early 20's are quite active and participate in sports; awareness of healthy eating guidelines; jobs may be sedentary with little time for exercise; basal metabolic rate decreases as one gets older; increased consumption of food and alcohol; diet high in sugar, saturated fat and refined carbohydrates; poor eating patterns; reliance on convenience food; as people retire they have more time for exercise; older people can be more conscious of healthy diet and lifestyle; etc.

Underweight: less than 5% of people are underweight in the 15-24 age group; decreases throughout the other age groups; dieting and psychological conditions e.g. anorexia nervosa; energy output being greater than energy intake; etc.

(b) Classify *carbohydrates*.

With reference to **each** class give:

- the chemical formula
- examples
- food source.

(15)

Classification <i>3 classes @ 1 marks each</i>	Chemical Formula <i>3 @ 1 marks each</i>	Examples <i>2 examples of each class @ 1 marks each</i>	Food Source <i>3 sources @ 1 marks each</i>
<i>Monosaccharides</i> (simple sugars)	$C_6H_{12}O_6$	<i>Glucose</i> <i>Fructose</i> <i>Galactose</i>	<i>Fruit</i> <i>Honey/fruit</i> <i>Digested milk</i>
<i>Disaccharides</i> (double sugars)	$C_{12}H_{22}O_{11}$	<i>Sucrose</i> <i>Lactose</i> <i>Maltose</i>	<i>Table sugar</i> <i>Milk</i> <i>Barley</i>
<i>Polysaccharides</i> (Complex non-sugars)	$(C_6H_{10}O_5)_n$	<i>Starch</i> <i>Pectin</i> <i>Cellulose</i>	<i>Potatoes, cereals</i> <i>Fruit</i> <i>Fruit</i>

(c) Explain **three** properties of sugar and the related culinary use of each.

(15)

3 properties @ 5 marks each

Solubility: *sugars are white crystalline compounds that are soluble in water; solubility is increased by heating the water; a syrup is formed when sugar is heated; etc. use: icings; etc.*

Assists Aeration: *sugar denatures egg protein, enabling aeration to occur; the egg when whisked with sugar becomes aerated; etc. use: meringues; sponge cakes; etc.*

Crystallisation: *this occurs if more sugar is added than can be absorbed by a liquid; crystal particles are formed when the mixture cools; etc. use: sweets; confectionary; etc.*

Caramelisation: *when sugars are heated, they produce a range of brown substances known as a caramel; there are ten gradual changes in sugar between melting and caramelisation; these stages occur between 104°C & 177°C; eventually, the heat will cause carbonisation (burning); etc. use: crème caramel; etc.*

Maillard Reaction: *chemical reaction sugar (carbohydrate) + amino acid + dry heat = non enzymic browning of food; etc. use: roast potatoes; etc.*

Sweetness: *sugar has varying degrees of sweetness based on a point scale using the tasting method; sucrose has a relative sweetness of 100; fructose has a relative sweetness of 170; lactose has a relative sweetness of 15; etc. use: cakes; sweets; shortbread; etc.*

Hydrolysis; Inversion; *etc.*

- (d) Assess the effects of high sugar consumption on the body. (10)

1 effect @ 4 marks, 2 effects @ 3 marks each

Obesity: foods high in sugar are often calorie dense and nutrient poor, can lead to weight gain; etc.

High blood pressure: eating foods high in fructose raises blood pressure; etc.

Heart disease: overconsumption of refined carbohydrates especially those high in sugar e.g. cakes and pastries can result in excess insulin production which can raise LDLs; etc.

Type 2 diabetes: excess sugar consumption leads to an increased risk for diabetes; normal blood sugar levels are between 4.0 – 7.9mmol/l; if blood sugars drop below this range hypoglycaemia can occur; if blood sugars rise above this range hyperglycaemia can occur; etc.

Dental disease: sugar causes tooth decay, it interacts with bacteria to produce acid; etc.

Nutritional deficiency: when too much sugar is consumed, other foods that provide important nutrients, such as fruits and vegetables may be lacking in the diet; etc.

- (e) The rate of obesity in Ireland has been increasing despite the fact that it is preventable.

Outline **five** strategies to be considered when purchasing **and** preparing food in order to reduce sugar consumption. (20)

5 strategies @ 4 marks each

(1 strategy purchasing, 1 strategy preparation + 3 others)

Purchasing: choose fruit canned in juice rather than syrup; avoid cereals coated with sugar or honey; compare labels and choose foods that are lower in sugars; traffic light system - labels that include colour coding allow you to see at a glance if the food is high, medium or low in sugars; read labels, added sugar must be included in the ingredients list; watch out for words used to describe added sugars, i.e. cane sugar, honey, brown sugar, fruit juice concentrate, corn syrup, fructose, sucrose, glucose, crystalline sucrose, nectars; etc.

Preparing: replace sugar with pureed fruit; reduce the sugar in recipes; plan meals and snacks; opt for water, sugar-free, diet or no added sugar drinks; dilute fruit juice with sparkling water as an alternative to fizzy drinks; reduce sugar in hot drinks or cereals; use reduced sugar jams; etc.

2. Ireland produces more farmhouse cheese varieties per capita than any other country in the world. Our reputation for quality extends overseas, with Ireland exporting 90% of the cheese it produces.

(The National Dairy Council)

- (a) Evaluate the nutritional value **and** the dietetic contribution of cheese to the diet. (20)

5 points @ 4 marks each

(2 references to nutritional value; 2 references to dietetic contribution + 1 other)

Nutritional value:

Protein: 10 - 27%, HBV, casein, soft cheese contains less protein than hard; etc.

Fat: 4 - 35%, hard cheese is high in fat but less if made with skimmed milk; high in saturated fat; etc.

Carbohydrate: 0% - 1.5% in cottage cheese; heat and energy; etc.

Vitamins: 1%, A (retinol) and beta carotene (eyes, skin, membranes and growth); Vitamin B2 (riboflavin) for energy release; contains some vitamin D (absorption of calcium) but deficient in vitamin C; etc.

Minerals: 1.5 - 4% calcium for bones and teeth; sodium present as salt is added during production; lacks iron; etc.

Dietetic contribution:

Water content varies depending on the type of cheese; the higher the water content the less fat is present; relatively cheap protein food with no waste - good for people on a low income; no cooking necessary; can be hard to digest; wide variety available; very versatile; economical; high in saturated fat so should be avoided by those on low calorie or low cholesterol diets; soft cheeses should be avoided by pregnant women due to the risk of listeria; rich in protein and calcium - essential for growth in children, adolescents, pregnant women and nursing mothers; high-energy food - suitable for active people; cottage cheese (4% fat) and low-fat types for low-kilocalorie / low cholesterol / weight-watching diets; lacks carbohydrates so should be eaten with foods rich in carbohydrate e.g. bread; etc.

- (b) Describe the production of cheese.

Refer to:

- stages of production
- packaging and labelling.

(18)

9 points @ 2 marks each

Production: 7 stages @ 2 marks each; Packaging: 2 marks; Labelling: 2 marks

Stages of production: a culture of lactic acid bacteria is added to **pasteurised** milk; lactose (sugar in milk) changes to lactic acid which adds flavour and acts as a preservative; milk is heated to 30°C, rennet is added - contains enzymes rennin which coagulates protein (caseinogen to casein); mixture separates into **curds** (solids) and **whey** (liquid); curds are chopped to release more whey, whey is **drained** off; curds are **heated** to 35 - 40°C to squeeze out more whey and achieve correct consistency (scalding); curds are **cut** into blocks and piled on top of each other to complete drainage of whey (cheddaring); the blocks are cut and 2% **salt** is added for flavour and preservation; salted curds are placed in moulds and **pressed**; moulds may be sprayed with hot water to form a protective rind; cheese is removed from the mould, date stamped and stored for 3 - 12 months to **ripen** (mature); cheese is graded; etc.

Packaging: vacuum packed in polythene zip-lock plastic bag; waxed paper, plastic tubs; etc.

Labelling: type; brand; quantity; nutritional information; date-stamp; etc.

- (c) Discuss the role of artisan producers / small businesses in the Irish food industry. (12)

4 points @ 3 marks each

Speciality foods are produced in limited quantities by small businesses or home enterprises using non-industrial traditional skills e.g. cheeses, chutneys, jams, breads, smoked fish, chocolates etc.; many are family run and based in rural areas; provide employment for local people and bring a skilled workforce to the market; produce good quality speciality food; implement very high standards of hygiene in the production of their foods; promote the area in which they are based; enhance Irelands reputation as a producer of high quality food and drink; etc.

3. The 'taste' experience is an accumulation of multiple senses.

- (a) Discuss the influence of the senses when choosing, cooking and eating food. (16)

4 points @ 4 marks each

(1 reference to choosing, cooking, eating + 1 other)

Choosing:

Sight is used to judge appearance - colour, size, shape; presentation e.g. garnish and serving; we expect certain foods to have a certain colour e.g. apples; flavour is associated with colour e.g. lemon - yellow, strawberry - red, mint - green; appearance and colour used to judge freshness when choosing food e.g. mould on Stilton cheese but not on bread; smell can be used to determine if food is fresh, rancid or poisonous; shape, size and surface appearance can determine whether to accept or reject a food; etc.

Cooking:

Colour change due to cooking; cooking intensifies flavours - more appetising than raw food; doneness of food - under / over cooked, rare; cooking develops flavours - fruity, pungent, roasted, smoky, sour, spicy, strong; aroma develops; texture changes; sounds associated with cooking i.e. sizzling sausages; etc.

Eating:

Taste buds - bitter, sour, sweet and salty; nerves in the skin of the mouth are stimulated by thermal or chemical reactions e.g. coldness of ice cream or burning of chilli; mouth feel helps us detect the texture of food; descriptors - acidic, bitter, bland, creamy, piquant, salty, sharp, smoky, sour, spicy, sweet, tangy, tasteless; texture - consistency, roughness, smoothness of the food; detected by mouth feel; hearing / sound when eating - used to determine freshness of food e.g. crunchy vegetables or biscuits; descriptors - bubbling, crackling, crunchy, fizzy, snapping; etc.

- (b) Outline **four** conditions required for sensory analysis testing. (16)

4 conditions @ 4 marks each

Location: testing booths or adequate space between testers; **lighting:** bright room, natural light is best; **ventilation:** it is essential to remove any lingering odours; **silence** should be maintained to avoid sharing of information; **timing:** mid-morning, mid-afternoon - taste sensitivity best; no strongly flavoured foods for at least 30 minutes before tests; test organisers **should not be involved** in the tasting session; **special dietary conditions;** strict **hygiene and food safety;** each sample should be of **uniform shape, colour and amount;** **temperature** of all samples the same; **rinsing water** needed; **sample containers** identical in size, shape, colour; **coding of samples** must not cause bias; sequencing must be well planned; etc.

- (c) Write a detailed account of **one** difference test used in the food industry.

Refer to:

- name of test
- aim
- implementation.

(18)

Name: 3 marks; Aim: 3 marks; Implementation: 6 points @ 2 marks each

Name of test	Aim
<i>Simple Difference Paired Comparison Test</i>	<i>To determine if testers can detect a difference between two samples.</i>
<i>Directional Paired Comparison Test</i>	<i>To determine which of two samples has a greater degree of intensity in terms of a particular characteristic.</i>
<i>Triangle Test</i>	<i>To identify the sample that is different.</i>
<i>Duo-trio Test</i>	<i>To identify the sample that is different from the control / reference.</i>

Implementation:

Simple difference paired comparison test: set up trays; each tester is presented with two coded samples and asked if there is a difference between the samples; coded samples are presented to each tester in random order; the samples can be the same or different; tester tastes the samples in the order given; asked if they can detect a difference; yes / no responses are collated on a record sheet; codes are revealed and **results** are calculated; etc.

Directional paired comparison test: set up trays; each tester is presented with two coded samples and asked to determine which of the samples has a greater degree of intensity in terms of a particular characteristic; coded samples are presented to each tester in random order; tester tastes the samples in the order given; taste order is always specified to ensure random tasting of the samples; testers are asked to indicate which sample has the greater degree of intensity in terms of the particular characteristic being tested for e.g. sweetness; responses are collated on a record sheet; codes are revealed and **results** are calculated; etc.

Triangle test: set up trays; each tester is presented with three coded samples and asked which one is different; coded samples are presented to each tester in balanced presentation order; tester tastes the samples in the order given; taste order is always specified to ensure random tasting of the samples; asked if they can identify the sample that is different; responses are collated on a record sheet; codes are revealed and **results** are calculated; etc.

Duo-trio test: set up trays; each tester is presented with three samples; two samples are coded and one is identified as the reference; tester is asked to identify the sample that is different from the reference; samples are presented to each tester in random order; tester tastes the samples in the order given, starting with the reference sample; taste order is always specified to ensure random tasting of the samples; testers identify the sample that is different from the reference; responses are collated on a record sheet; codes are revealed and **results** are calculated; etc.

4. **Everyone needs a home: a secure, comfortable place in a pleasant and sustainable community; a place to rear a family if they so wish and to grow old in serenity.**

(Social Housing Strategy, 2020)

(a) Analyse the factors that influence housing choices.

Refer to:

- socio-economic factors **2 factors @ 3 marks each**
- availability of housing **2 factors @ 3 marks each**
- national housing policy **2 factors @ 3 marks each** (18)

Socio-economic factors: cost; location; size of the household; ages of the children; special needs of family members e.g. elderly people; personal preference – layout, view; etc.

Availability of housing – private housing: some urban areas are currently experiencing a shortage of private housing as demand is exceeding supply; increase in house prices; ghost estates; etc. **rental market:** rent has increased due to demand for rental properties; supply shortage of suitable affordable accommodation; etc.

social housing: severe shortage due to high demand; long waiting lists; etc.

National housing policy: high density living; sustainable communities supported by shops, schools, proper infrastructure; retention of listed buildings through grants; protection of natural environment; promotion of energy efficient homes; improvement grant schemes e.g. solar panels; provision of social and affordable housing; housing supports to alleviate homelessness; traveller-specific accommodation; encouragement of home ownership through mortgage interest relief; provision of rent allowance; registration of rented accommodation with the PRTB; code of conduct for financial institutions to follow when handling mortgage arrears; etc.

(b) Outline the conditions that are required in order to qualify for mortgage approval. (16)

4 conditions @ 4 marks each

Borrowing limit: loan-income-limit - set at 3.5 times the gross income; loan-value-limit - 10% minimum **deposit** needed on properties costing up to €220,000; 1st January 2017 – first time buyers of principal dwelling houses, the limit of 90% applies, 10% deposit; etc. **good financial management / credit history:** must be evident i.e. a steady build-up of savings and reasonable spending habits; etc. **employment** must be secure; **income:** must supply proof of income; etc. **term of loan:** repaid over 20 - 40 years, older applicant over a shorter term; etc. **property:** must be in good condition, house surveyed by lending agency; etc.

(c) Name and describe **one** type of mortgage available to house purchasers. (16)

Name: 4 marks; Description: 3 points @ 4 marks each

Annuity / Repayment Mortgage: each repayment goes partly to pay off the interest on the loan and partly to repay the principal amount borrowed; amount owed declines over the years; must take out a mortgage protection policy; interest rates may be variable or fixed or a combination; variable rate fluctuates in line with interest rates from the ECB – element of risk involved as interest rates may increase; fixed rate is fixed for a set number of years, generally higher than a variable interest rate and outgoings are always the same; combination – loan is divided between variable and fixed; etc.

Endowment: combination of borrowing and investing; interest is paid on the loan and in addition a premium is paid on a life assurance policy; life assurance policy is designed to pay off / cover the loan when it matures; the yield from the policy may not fully cover the loan; no extra mortgage protection policy needed (part of life assurance policy); not widely available presently to house buyers; etc.

Pension linked: pays interest on the loan and pays a sum into a pension scheme; loan is repaid from the pension fund on retirement; mortgage protection policy is necessary; popular with self-employed people because of better tax relief; etc.

Local authority mortgage / Home Choice Loan: loan may be up to 92% of price of house subject to a maximum €285,000; annuity mortgage with variable interest rates; much show you cannot get a loan elsewhere; income must satisfy income test; first time buyers; etc.

Tracker; Current account / Offset mortgage; Deferred start / Interest only mortgage; etc.

5. **Marriage is still very popular in Ireland. In 2015, religious ceremonies accounted for the highest proportion of marriages (66.3%). Civil ceremonies were the most popular choice for non-religious marriage ceremonies (28%). In recent years the Humanist Association has also risen in popularity with 5.7% of marriages.** (Central Statistics Office, 2016)

(a) Outline the variations that exist in marriages today. (16)

4 points @ 4 marks each

Cultural variations – minimum age; choice of partners; number of spouses – monogamy and polygamy; arranged marriages; interfaith marriages and different faiths; same sex marriages; different ages; type of ceremony; location of ceremony; 2nd marriages; etc.

(b) Discuss the benefits of pre-marriage courses for couples preparing for marriage. (16)

4 benefits @ 4 marks each

Provide information regarding the expectations and reality of marriage i.e. communication; conflict resolution; relationships; family planning; child rearing; financial responsibility; legality of marriage; buying a home; problems that may occur e.g. addictions; couples look at personal qualities and are encouraged to discuss issues that may have a negative impact on marriage; etc.

(c) Evaluate **each** of the following options available to couples experiencing difficulties in their marriage:

- marriage counselling **2 points @ 3 marks each**
- family mediation **2 points @ 3 marks each**
- legal separation **2 points @ 3 marks each** (18)

Marriage counselling: aims to assist couples to resolve marriage problems before they become grounds for separation or divorce; confidential service; free of charge; provided by Accord or the Marriage and Relationship Counselling Services; qualified counsellors work with the couple and may refer them to experts on issues such as sexual relations, law or addictions; etc.

Family mediation: separating couple can negotiate a separation agreement; during mediation, the couple meet in the presence of an impartial mediator; issues are discussed and decisions reached relating to all aspects of their future such as custody of children, division of finances, parenting of children and issues concerning the family home; free and confidential by the Family Mediation Service under the Department of Social and Family Affairs; etc.

Legal separation: a separation agreement / deed of separation – legally binding written contract; sets out future rights and duties i.e. agreement to live apart; responsibility and care of dependent children; maintenance; home ownership arrangements; mediator can help negotiate terms; must be drawn up by solicitor; etc.

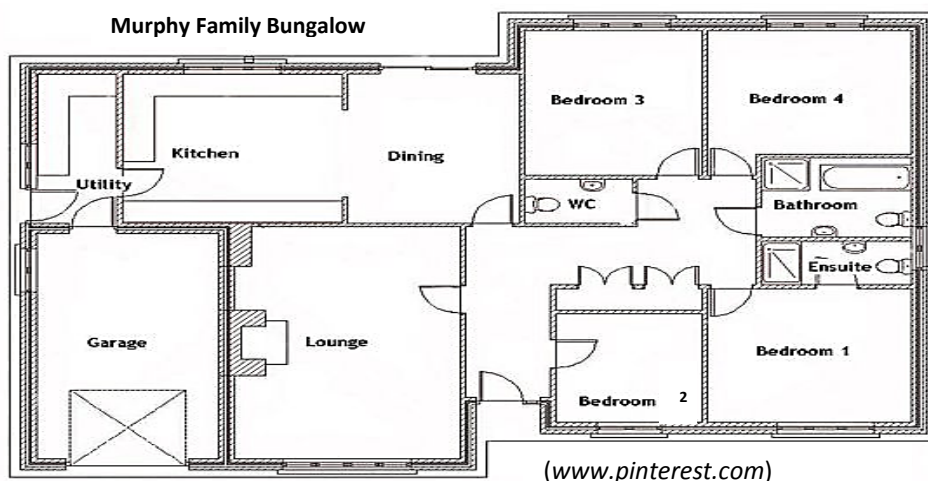
Judicial separation / decree of separation – made under the Judicial Separation and Family Law Reform Act 1989; must be based on following grounds – adultery, unreasonable behaviour; desertion; no normal marital relations; heard by judge; judge may also be used to agree custody, maintenance, property, succession rights; 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) The Murphy family live in a bungalow with their two children, John (11 years) and Emily (4 years).



- (i) Evaluate the suitability of the home for the family's present and future needs. Suggest modifications, if required. (20)

4 points @ 5 marks each

Bedroom 4 as a guest bedroom; sliding door to garden from dining room; open plan kitchen and dining room; utility room off kitchen; separate sitting room for privacy; bedroom 4 could be a study; dining and bedroom 3 combined to make a more open plan family area; garage could be converted to a playroom / study; double doors between lounge and kitchen / dining to create open plan family space; bedroom 2 could become walk in wardrobe for parents; etc.

- (ii) Identify potential energy inefficiencies in a home **and** suggest strategies for improvement. (15)

3 points @ 5 marks each

(3 energy inefficiencies and related strategies)

Inefficiencies: boilers and heating systems not serviced regularly; thermostats set too high; individual room thermostats and timers not used; un-lagged pipes and cylinders; taking baths instead of showers; turning on the heating system to heat small amounts of water; not having the correct setting / timer on the immersion thermostat; leaking hot taps; washing items under running water; choosing unnecessarily high temperature cycles for the dishwasher and washing machine; draughts - ill-fitted windows and doors; insufficient roof, attic and wall insulation; not drawing curtains at night; not using low emissivity glazing; using higher wattage bulbs than necessary; not using CFL's; leaving on unnecessary lights; not choosing A or B rated energy efficient appliances; choosing less energy efficient option when using appliances e.g. using a grill instead of a toaster; over-running appliances such as food mixers; using conventional cooking methods instead of microwaving e.g. to reheat food; not making full use of economy / half load cycles in dishwashers and washing machines; using tumble driers to dry clothes instead of clothes line; etc.

Strategies: good insulation; timer and thermostats should be used on heating systems / hot water; lag hot water cylinder and pipes; double / triple glazed and low emissivity windows prevent heat loss; lining on curtains to keep in heat; solar energy to heat living space; zone heating systems; choose energy efficient appliances; replace tungsten bulbs with CFLs or LEDs; use sensors on outside lights; consider night saver electricity; fix dripping taps; etc.

(iii) Write an informative note on the Building Energy Rating (BER) certificate.

(15)

3 points @ 5 marks each

A BER certificate is compulsory for all homes being sold or rented and must be included in commercial advertisements; the home must be assessed by a registered assessor in order to determine a BER rating and obtain a certificate; during the survey they assess the area of the rooms and windows, thickness of the walls and levels of insulation, heating system, floor and wall types; energy scale of A to G, triple A rated homes are the most efficient, G rated homes are the least efficient; etc.

and

1.(b) To the greatest extent possible, every household in Ireland will have access to secure, good quality housing suited to their needs at an affordable price and in a sustainable community.

(Vision Statement: Department of Housing, Planning, Community and Local Government)

(i) Evaluate the adequacy of social housing provision in Ireland.

(18)

3 points @ 6 marks each

Available to people on lower incomes or who are unable to afford a private house; provided by local authority or by voluntary or co-operative housing groups; effects of the recession has resulted in more people renting or applying to the local authority for housing; increase in the number of people on waiting lists - elderly people, people with a disability and homeless people account for over 10% of the total waiting list; increase in refugees and asylum seekers has increased the demand for housing; supply does not meet demand, can be on the waiting list for a long time; families, people with disabilities and the elderly get priority as opposed to single people; rent support available; tenant purchase scheme and affordable housing schemes are no longer available so this has impacted on the provision of housing; rental accommodation scheme RAS is very popular; etc.

(ii) Comment on the importance of **each** of the following services for new housing developments:

• schools **1 point @ 4 marks**

• transport **1 point @ 4 marks**

• refuse collection **1 point @ 4 marks**

(12)

Schools: *pre-schools, primary and secondary schools to facilitate the number of children in the area and allowing for future population growth; children should not have to travel far; safety when travelling - number of cars on the road, traffic congestion and pollution; well educated population; etc.*

Transport: *a well-planned road network ensures the safety of residents; links to public transport in urban areas enable people to travel with ease to and from work and to other amenities; local authority must erect signage and introduce traffic calming within housing developments as a safety measure; etc.*

Refuse collection: *keeps housing developments and the surrounding areas clean and hygienic, prevents vermin and the spread of disease; prevents unsightly littering; all these affect the property value of the homes in the development; etc.*

or

1.(c) Proper ventilation is vital to a family's health and comfort.

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

3 points @ 4 marks each

Provides fresh air; removes stale air; controls humidity levels; controls temperature; reduces condensation; removes smells; assists combustion; etc.

- (ii) Recommend **one** natural **and one** artificial method of ventilation suitable for a kitchen / living area. Explain the underlying principle of **each** method. (18)

(Name: 3 marks; Principle: 2 points @ 3 marks each) X 2

Natural methods: windows and doors; fireplaces and flues; air bricks; wall air vents; etc.

Underlying principle: natural ventilation involves introducing fresh, cool air from outside through openings on the walls, to replace stale, warm air in the room; etc.

Artificial methods

Extractor fan: when the fan is turned on the shutters open and the electric motor rotates the blades; the speed of the rotation creates suction drawing stale air out of the room; the stale air is naturally replaced by fresh air; shutters close when not in use; controlled by a switch or pull cord; variable speeds; etc.

Cooker hood: fitted over cooker hobs to expel cooking odours and vapours; an electric motor rotates a fan; high speed fan creates a suction drawing in warm, odour-laden greasy air; ducted - air is expelled to the outside; ductless - filters remove fumes and absorb grease; purifying the air; recirculates the air back into the room; 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 athleisure trend is turning workout wear into a serious style statement.

People of every age are wearing workout clothes all day.



(www.marieclaire.com)

(i) Comment on the outfit shown in the picture above.

Refer to:

- comfort **1 point @ 5 marks**
- aesthetic appeal **1 point @ 5 marks**
- current fashion trend **1 point @ 5 marks**

(15)

Comfort: loose fitting top; drawstring waist; trousers made from soft fabric; jacket zip opening is easy and can be left fully open or partially open; all contribute to the comfort and wear-ability of the outfit; etc.

Aesthetic appeal: appeals to younger people and those who are fashion conscious; may not suit all shapes and sizes; etc.

Current fashion trend: Athleisure is a trend in fashion in which clothing designed for workouts and other athletic activities is worn in other settings, such as during work, casual or social occasions; can be worn for multiple occasions without having to change, greater convenience, people do not have to carry an extra gym outfit on the way to the office; etc.

(ii) Discuss the influence of trend setters and the media on fashion.

(10)

2 points @ 5 marks each

(1 reference to trendsetters, 1 reference to media)

Trend setters and the **media** influence fashion by developing public interest and excitement in the latest styles and trends through the wide publication of glamorous photographs; celebrity endorsements and informative articles; media acts as a fashion barometer, measuring the high and low points of celebrity styles, indicating the changing fashion elements reflective of the iconic views and lifestyles of relevant popular celebrities, public figures and role models; influence of social media snapchat, instagram and fashion bloggers; etc.

2.(b) Blending is combining different fibres together to achieve a desired product characteristic.

Write a profile of **one** blended fabric.

Refer to:

- fibre production **3 points @ 3 marks each**
- fabric properties **3 properties @ 1 mark each**
- uses **3 uses @ 1 mark each** (15)

Fibre production wool and nylon; polyester cotton; etc.

Wool: fleece is graded cleaned and teased; etc. **Nylon:** two chemicals mixed together and heated; molecules link to produce a long filament; hot nylon is squirted from slit in base of steel vessels; etc.

Polyester: viscous liquid created and extruded through fine holes in a nozzle or spinneret; the filaments solidify when they reach cold air; etc. **Cotton:** boll is harvested; cotton fibres removed; spun into yarn; etc.

Blending: combinations / mixing the threads are woven together e.g. warp is one fibre and the weft is a different fibre; fibres are blended before or as fibre is being woven; etc.

Fabric properties: the properties of both fabrics blended.

Wool: warm; absorbent; soft; resilient; durable; scorches easily; damaged by moths; damaged by careless washing – shrinks and felts; piles; hairy – can irritate some skins; etc.

Nylon: strong; warm; elastic; light; etc.

Polyester: strong; warm; crease resistant; etc.

Cotton: strong; cool; absorbent; easy to launder; easy to dye and bleach; no elasticity; shrinks; burns easily; mildew damage; wrinkles; etc.

Uses: clothing, soft furnishings, bed linen; etc.

or

2.(c) The textile and fashion industry is one which is market-driven, with high levels of skill, imagination and creativity.

- (i) Outline how the Irish fashion industry is promoted at home and abroad. (9)

3 points @ 3 marks each

Support from Enterprise Boards; shops that support Irish designers - Kilkenny Design Centre, the design centre at Powerscourt Townhouse; Irish designers producing design ranges for high street stores; fashion weeks; fashion blogs; Irish designers showcase at international fashion shows; public figures wearing Irish designers; etc.

- (ii) Name and give details of **one** career opportunity in the textile and fashion industry. (6)

Name: 2 marks; Details: 2 points @ 2 marks each

Fashion designers; tailors; fashion journalist; photographer; model; stylist; clothing manufacturer; advertising; retail sales assistants; etc.

Elective 3 – Social Studies (80 marks)

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

- 3.(a) Unemployment in Ireland is now at its lowest level since December 2008. Total numbers unemployed have now fallen by 52% from the 327,000 peak recorded in 2011.

	2011	2012	2013	2014	2015	2016
Unemployment rates in Ireland	15.1%	14.1%	12.2%	10.2%	8.9%	7.2%

(The Irish Times 2016)

- (i) Comment on the information provided above and analyse why unemployment rates have changed in Ireland. (20)

4 points @ 5 marks each

Comment: unemployment rates in Ireland in 2008 were very high due to the worldwide recession; growth in the economy between 2011 and 2016 has led to a gradual decrease in unemployment; etc.

Analysis: growth in economy - economic growth causes employment figures to increase; growth in the construction, retail and service industries; greater demand for products and services; more disposable income - leads to increased spending power; manufacturing and related industries expand which results in more jobs; state investment in job creation schemes e.g. Enterprise Ireland and IDA have been successful; tourism brings employment; low corporation tax (12.5%) encourages foreign direct investment (FDI); emigration; measures like JobsWeek – match jobseekers with employers; etc.

- (ii) Discuss the effects of unemployment on individuals, families and society. (20)

5 effects @ 4 marks each

(1 reference to individuals, families and society + 2 others)

Effects on individuals

Financial insecurity: drop in income leading to drop in living standards; poverty; mortgage arrears - repossession of homes; etc. **Loss of identity and status:** feel undervalued, low self-worth; etc.

Social isolation; loneliness; individuals prevented from participating in social events due to limited income; etc. **Depression:** long term unemployment can reduce an individuals' self-esteem and create feelings of hopelessness and failure; may led to self-destructive habits e.g. alcohol / drug abuse; increase in suicide rates; etc.

Effects on families

Decline in standard of living: many families reliant on social welfare payments, provision of basic needs may become difficult; etc. **repossession of family home:** failure to make mortgage repayments due to loss of jobs can cause homes to be repossessed, families may become homeless or in need of emergency accommodation; etc. **relationship problems:** relationship between couples can become strained due to financial stress, may lead to marital breakdown; etc. **decline in education success:** children's' school work and concentration in class may be affected due to worry about family's financial situation; lack of finances may result in early school leavers; etc.

Effects on society

Emigration: many people forced to emigrate - leading to depopulation, lower birth rates, isolation of older people; etc. **antisocial behaviour;** drug and alcohol abuse; crime and vandalism; may result in unemployment black-spots; etc. **increase in taxes** when a large % of the government's budget is allocated to social welfare payments; etc.

- (iii) Name **and** give details of **one** scheme to reduce expenditure for low-income families. (10)

Name: 2 marks; Details: 2 points @ 4 marks each

Medical cards; School Books Grant Scheme; School meals; Fuel Allowance; Back to school Clothing and Footwear Allowance; Housing Assistance Payment (HAP); Back to Education Allowance; Mortgage Allowance Scheme; Family Income Supplement (FIS); One parent family payment; Farm payments e.g Farm Assist; Rural Social Schemes (RSS) e.g. Tús; etc.

and

3.(b) The percentage of men exceeds the percentage of women in the labour force.

- (i) Analyse the factors that influence the participation of women in employment. (15)

3 factors @ 5 marks each

Social acceptance; economic pressure / necessity; higher education attainment; good support structures in place - childcare supports; flexibility in the workplace e.g. part-time or job-sharing options, parental leave; equality of opportunity in employment and education; etc.

- (ii) Comment and elaborate on the childcare options available for working parents. (15)

Name: 1 option @ 2 marks; 1 option @ 1 mark

Details: (3 points @ 2 marks each) X 2

Crèche: purpose build; opening hours 8am – 6pm; children learn socialisation; stimulating environment; qualified personnel; facilities; cost; etc.

Childminder in own or child's home: convenient; cost; flexible hours; relative; parents and childminders arrange their own terms and conditions; etc.

Au pair: flexible working hours; one-one; can live in or out; etc.

Naíonra; Playschools / Playgroups; Montessori; etc.

or

3.(c) The number of people emigrating remains high, despite improvements in the economy and a fall in unemployment.

- (i) People often move from place to place in search of work, discuss the impact this has on individuals and their families. (20)

4 points @ 5 marks each

Decline of population in rural areas – as a result businesses and post offices, small primary schools, transport services may close which leads to fewer employment opportunities; other family members may follow leading to rural depopulation and a sense of isolation for elderly people who remain behind; fewer amenities available, social life declines; etc.

Entertainment and leisure facilities are more accessible; increase in air, noise and traffic pollution can affect health; educational and health services are strained due to rapid population growth; employment opportunities may become more competitive leading to unemployment and social problems e.g. drug and alcohol abuse, vandalism, crime; family break up; opportunities to experience new cultures; etc.

- (ii) Outline how a person's work ethic influences their attitude to work. (10)

2 points @ 5 marks each

A good work ethic influences their work in a positive way – highly motivated, productive, efficient employee; etc.

A poor work ethic impacts negatively on work related issues such as time wasting; punctuality; absenteeism which can affect the success of a company or business; etc.

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Coimisiún na Scrúduithe Stáit
State Examinations Commission

LEAVING CERTIFICATE 2017

MARKING SCHEME

HOME ECONOMICS – SCIENTIFIC AND SOCIAL FOOD STUDIES COURSEWORK

Food Studies Practical Coursework General Marking Criteria

Investigation: Analysis/Research - 32 marks

Research and analysis

= 24

Band A 19 - 24marks (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 - 18marks (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 each

= 4

Preparation and Planning - 8 marks

Resources:

- ingredients (2 marks), quantities (2 marks), costing (2 marks), equipment (2 marks) = 8
- AOP E – product/s (4marks), equipment (4marks)

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 (must relate to specific dish/test) **2 points @ 4 marks each** = 8
*Identification (2) and clear explanation of importance (2) of **two** factors considered which were critical to the success of the dish*

Safety/hygiene **2 points @ 2 marks each** = 4
(must relate to specific ingredients being used/dish being cooked)
*Identification (1) and explanation (1) 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 each = 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

The early years of life are a period of rapid growth and a healthy diet is critical for normal development. During this time, children establish their eating behaviours and food preferences.

Research and elaborate on the nutritional needs and the meal planning guidelines that should be considered when planning meals for children aged between two and five years. Include reference to the modifications that should be made to dishes to ensure that they are suitable for young children.

Bearing in mind these considerations, suggest a menu for **one** day (three meals and snacks) suitable for children of this age group.

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

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

2017

Key requirements of the assignment:

- dietary/nutritional needs with specific reference to **children aged between two and five years**
- relevant meal planning guidelines with specific reference to **children aged between two and five years**
- modifications that should be made to dishes to ensure that they are suitable for young children
- menu for one day (three meals and snacks)
- chosen main course dish of the main meal of the day.

Investigation

Dietary/nutritional requirements: nutritional balance; physical growth increases the need for intake of all nutrients; daily requirements of macro/micro nutrients including protein/carbohydrate/fat/iron/calcium requirements as appropriate to 2-5 year olds, with reasons for possible variations; high fibre; Vitamin C/iron absorption; Vitamin D/calcium absorption; energy balance vis a vis activity levels; current nutritional guidelines re nutrient and food intake; etc.

Meal planning guidelines: use food pyramid to ensure balance; recommended servings - cereals(4), fruit and vegetables(2-4), protein food(1), dairy(1); eat three balanced meals each day; avoid skipping meals; variety of foods; personal likes and dislikes; use foods in season; avoid unhealthy snack foods i.e. high in salt, fat and sugar, spicy foods; include porridge/muesli instead of processed breakfast cereals; meals should be attractive and colourful to encourage children to eat foods; portions should not be too big; avoid adding salt in cookery; select lean meats; limit intake of processed foods, these tend to be high in fat, salt and sugar; foods should be easy to chew and digest; use sauces to soften meat; liquidise vegetables with meat & sauces; select foods that are easy to handle; replace sugary drinks with water and milk; serve meals at regular times so children know when to expect food; offer finger food - to allow younger children feed themselves; etc.

Modifications: include easily digestible sources of HBV protein e.g. chicken/eggs; include LBV sources e.g. beans/lentils, also a good source of fibre; add fruit to breakfast cereals/desserts with yoghurt – calcium and HBV protein; use wholegrain cereals - give slow release of energy instead of refined CHO; add extra vegetables to dishes to add colour, fibre, essential vitamins; reduce sugar in recipes - add fruit as a sweetener; include oily fish, nuts/seeds to add EFA and omega 3; include sources of calcium e.g. cheese/yoghurts; use avocado or hummus as an alternative to spreads and margarines; use a variety of vegetable and seed oils when preparing foods; replace butter by using healthier choices - canola, sunflower, olive and sesame oils; remove bones from fish; grate vegetables; food presentation – food shapes, individual portions; etc.

Dishes selected

- menu for one day (three meals and snacks)
- must meet the nutritional requirements for 2-5 year olds
- must be a main course dish.

Evaluation (specific requirements of assignment)

Analysis of findings regarding the nutritional requirements of a range of dishes/meals for children between two and five years. Meal planning guidelines – range of dishes/meals suitable for 2-5 year olds etc., how the selected dish meets the requirements as identified in the investigation; etc.

Assignment 2

Iron deficiency is the most common mineral deficiency worldwide, with women and children being the most susceptible. (World Health Organisation, 2015)

With reference to the above statement, identify and discuss **(i)** the causes and **(ii)** the effects of iron deficiency anaemia.

Investigate and elaborate on the nutritional needs and meal planning guidelines that should be considered when planning and preparing meals for those who wish to increase the intake of iron in their diet.

Having regard to the factors identified in your research, suggest 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.

2017

Key requirements of the assignment:

- *causes of iron deficiency anaemia*
- *effects of iron deficiency anaemia*
- *dietary/nutritional requirements with particular reference to **women and children***
- *relevant meal planning guidelines with particular reference to **women and children***
- *range of menus (starters and main courses)*
- *chosen main course dish.*

Investigation

Causes of iron deficiency anaemia: *unbalanced diet; lack of vitamin C; excess fibre in diet; tannins in tea, coffee and cocoa; phytic acid in cereals and pulses; oxalic acid in vegetables; herb oregano reduces absorption; poorly monitored diets i.e. vegetarian/weight reducing diets; medical conditions e.g. coeliac disease can reduce the amount of iron absorbed; excessive blood loss after surgery, menstruation; illness - not being able to absorb iron; fussy eaters; difficulty finding healthy foods that are high in iron; vegetarian diets as iron from meat sources is more easily absorbed than iron from plant sources; toddlers may be deficient if they drink too much cow's milk and eat fewer iron-rich foods e.g. red meat and green leafy vegetables; etc.*

Effects of iron deficiency anaemia: *tiredness, fatigue, irritability, lethargy, lack of concentration, headaches, palpitations, breathlessness, dizziness, pale skin, feeling weak, muscle tiredness, dryness in mouth/throat, mouth sores, brittle hair/nails; etc.*

Dietary/nutritional requirements: *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; current nutritional guidelines re nutrient and food intake; knowledge of haem and non-haem iron foods; etc.*

Meal planning guidelines: *use of food pyramid to ensure balanced meals; eating three regular balanced meals each day; breakfast should include a fortified breakfast cereal; eat wide variety of fruit and vegetables; increase intake of iron rich foods and vitamin C for absorption of iron; haem-iron from animal sources is more easily absorbed than non-haem iron from plant sources; consume haem and non-haem iron foods together; foods that contain phytic acid and oxalic acid should not be consumed at the same time as iron rich foods; avoid foods high in salt and sugar i.e. processed foods; choose low fat products with polyunsaturated fats; avoid refined carbohydrate foods, replace with wholemeal products; avoid excess fibre in diet; etc.*

Dishes selected

- **menus for the main meal of the day (starters and main courses)**
- **should meet the nutritional requirements as identified to increase the intake of iron**
- **must be a main course**

Evaluation (specific requirements of assignment)

Analysis of findings regarding what you learned from the investigation regarding the management of a diet for women and children in order to increase the intake of iron; factors that should be considered when planning meals to ensure nutritional adequacy; what foods are suitable/unsuitable; what special aspects of meal planning have to be considered; how the selected dish meets the requirements as identified in the investigation; etc.

Area of Practice B: Food Preparation and Cooking Processes

Assignment 3

Consumers need to be well informed on food safety practices when purchasing, storing and preparing food. They should know common food safety hazards and how to manage food safety.

Carry out research on

- the importance of food safety for the consumer
- common food safety hazards
- practices to ensure that food is safe to eat
- dishes that require special adherence to safe food practices.

Prepare, cook and serve one of the dishes from your research.

Evaluate the assignment in terms of **(a)** a critical appraisal of the dish cooked and **(b)** how the safe food practices adhered to ensured the dish was safe to eat.

2017

Key requirements of the assignment:

- *the importance of food safety for the consumer*
- *common food safety hazards*
- *practices to ensure that food is safe to eat*
- *dishes that require special adherence to safe food practices*
- *chosen dish.*

Investigation

The importance of food safety for the consumer: *ensures food is not contaminated with potentially harmful bacteria, parasites, viruses, toxins and chemicals; prevents bacteria multiplying; helps the destruction of harmful bacteria; ensures the food we eat does not cause disease; etc.*

Common food safety hazards: **Chemical:** *e.g. cleaning products, pesticides; etc.* **Physical:** *e.g. foreign objects - parts of machinery/plasters/hairs; etc. falling into products during their manufacture; etc.*

Microbial: *contamination by bacteria; pathogenic strains cause illness in humans, can be difficult to detect e.g. campylobacter, salmonella; spoilage bacteria cause food to rot or perish and signs can be more readily detected; direct - raw meats touching ready-to-eat products; indirect - using the same knife to cut raw meat and ready-to-eat products; airborne contamination – sneezing over food; etc.*

Practices that ensure food safe to eat: **Purchasing:** *buy from a reliable source; un-damaged packaging; correct colour/smell/appearance; check for mould growth; check best before dates, use by dates; quality assurance stamps; etc.* **Storing:** *store raw foods separately from cooked/ready to eat/prepared food; rotate stock; refrigerating foods - correct position in fridge e.g. meat on bottom shelf; temperatures of 0-5°C; do not overload the fridge; defrost and clean the fridge regularly; keep doors closed to maintain the correct temperature; store frozen foods below -18°C; disposal of damaged produce to avoid contamination of other products; storage of dry goods in clean, well ventilated areas; store foods on shelves above floor level; storage containers must be covered; cleaning materials should be stored in a separate area; etc.* **Preparing:** *personal hygiene - wear clean, protective outer clothing, wash hands, tie up hair, do not smoke, cough/sneeze over food; ensure equipment is clean; use coloured coded chopping boards; minimise handling of food; thoroughly defrost frozen foods; separate work areas and utensils/equipment for fish, meats and vegetables/salad; wash food in a designated food preparation sink; cook foods to minimum core temperature of 75°C; hold hot foods above 63°C; reheat foods to a minimum core temperature of 70°C; hot food must be served within 90 minutes of cooking; only reheat foods once; cool foods quickly; cold food must be kept below 5°C; HACCP – purchasing, preparation and storage of food; high risk, low risk foods; etc.*

Dishes that require special adherence to safe food practices:

Dish selected - **chosen dish should meet the requirements as identified**

Evaluation (specific requirements of assignment)

(a) *a critical appraisal of the dish cooked* **(b)** *analysis of findings regarding what you learned from the investigation re how the safe food practices adhered to ensured the dish was safe to eat.*

Area of Practice C: Food Technology

Assignment 4

Ireland has the 3rd highest consumption of ice cream per capita in Europe. (An Bord Bia)

Carry out research on **two types** of commercially prepared ice-cream (one economy and one luxury/premium) with reference to brand, ingredients, nutritive information, cost and packaging.

Investigate **two** different methods of making ice cream (in the home) and explain the underlying principle in each case.

Prepare and make **one** ice cream using one of the methods that you have investigated. Include details of the type of packaging you would recommend for storage in the freezer.

Evaluate the assignment in terms of **(a)** implementation **(b)** practicability and **(c)** cost in comparison to a similar commercial ice cream.

2017

Key requirements of the assignment:

- research **two** types of commercially prepared ice-cream (one economy and one luxury/premium) - refer to brand, ingredients, nutritive information, cost and packaging
- investigate **two** different methods of making ice-cream and the underlying principle in each case
- packaging suitable for storage in freezer
- chosen ice-cream

Investigation

Research two types of commercially prepared ice cream (one economy and one luxury/premium)

Brands: HB, Haagen Dazs, Carte D'Or, Ben and Jerry's, Darina Allen, Walls, Weightwatchers, Nestlé, Murphy's, Tipperary Organic, Dairyglen, own brand ice creams; etc. **Ingredients:** cream, skimmed milk, whey solids, condensed milk, coconut milk, sugar, glucose, corn syrup, egg yolk, vegetable oils (coconut, sunflower, palm), fructose syrup, cocoa butter, stabilisers, cornstarch/arrowroot, guar gum, flavourings; agave nectar (sweetener helps ice crystals from forming, gives a smooth ice cream); etc. **Nutritive information:** saturated fat, trans fats, sodium, carbohydrate, sugar, fibre, protein; etc. **Cost:** economy €1.50 - €3; luxury/premium €5 - €7.50; **Packaging:** plastic tubs, push up tubs, cardboard wax cartons/tubs, waxed/foiled wrapping; etc.

Methods of making ice cream and underlying principle in each case:

Custard: coagulation – the egg protein coagulates when heated and thickens the mixture; the protein chains unravel, straighten and bond together around small pockets of water; overcooking causes the egg protein to clump together squeezing out any water causing curdling; sugar increases palatability and improves texture; **freeze** at low temperature for formation of small ice crystals; cream whipped and added for lightness; etc.

Aeration: egg whites and sugar are whisked to **incorporate air**, air beaten into cream to lighten mixture and increase volume; gelatine used to set mixture; can be cooked or uncooked; whisked for even texture; **freeze** at low temperature for formation of small ice crystals; etc.

Gel: gelatine used to form a gel as it **absorbs** large quantities of water; on heating the gel becomes a liquid called sol, on cooling sol becomes solid thickening ice cream mixture; **freeze** at low temperature for formation of small ice crystals; etc.

Frozen/egg yolk and sugar syrup (mousse): frozen syrup is flavoured with fruit juices and/or fruit puree; **aerated** with egg white; gelatine holds mixture together to make it light; freeze at low temperature for formation of small ice crystals; etc.

Use of ice cream maker (churn method); **by hand** (still method); etc.

Suitable packaging for storage of ice cream in freezer: plastic containers; foil containers; ramekin dishes for individual portions; different size waxed cardboard cartons; etc.

If no packaging investigated for storage in freezer - deduct 3 marks

Dish selected – one ice cream using one of the methods investigated.

Evaluation (as specified in assignment)

(b) Practicability of making ice cream – resource issues - time, skills, equipment, packaging, storage; etc.

(c) Cost effectiveness of making the ice cream selected when compared with a commercial product of similar quality.

Area of Practice E: Comparative Analysis including Sensory Analysis

Assignment 5

Commercially prepared pizzas are very popular due to their convenience and the wide range available.

Carry out research on the different types of pizza available (i.e. brands, types, cost).

Cook **three** commercially prepared pizzas. The pizzas should have the same toppings and be of the same thickness but the brands should be different.

Carry out a **preference ranking test** to determine which pizza is the preferred choice within your group.

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

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Key requirements of the assignment:

- *research different types of pizza available (i.e. brands, types, cost)*
- **preference ranking test**
- *conditions to be controlled during testing*
- **selected product** of your choice

Investigation

= 24

- Research/Investigation of products appropriate to the testing
i.e. investigate the different types of pizza available i.e. brands, types, cost; etc.

- **Preference Ranking test**

Description: *tester is presented with a number of coded samples, tester ranks samples in order of preference; etc.*

Aim of test: *to determine which of three brands of pizza is preferred by testers; etc.*

Possible outcomes: *to assign an order to the samples according to people's preference.*

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 sample; similar quantities of each sample; coding of samples; hygiene; timing; where testing takes place; dietary considerations; etc.

- **Selected dish/product**

Selected products

= 4

Sources: 2 sources @ 2 marks

= 4

Preparation and Planning

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

= 8

Preference Ranking Test: *6 trays, 6 glasses of water, 18 coded containers, 6 samples of food A, 6 samples of food B, 6 samples of food C, 6 score-cards, record sheet, pen; 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.

Preference Ranking Test (three products)

Cook 3 pizzas

Code 18 containers, 6 containers with symbol □, 6 containers with symbol ◊, 6 containers with symbol ○; put pizza samples in each container; set up 6 trays numbered 1-6, each tray has one container labelled with symbol □, one container with symbol ◊, one container with symbol ○; testers follow instructions on score card; taste each sample; indicate preference by placing 1st choice beside sample most preferred, 2nd choice beside next preference, 3rd choice beside the one least preferred; scorecards are collected by recorder and results transferred onto prepared record sheet; assign each choice a score value e.g. 1st choice(3 points), 2nd choice(2 points), 3rd choice(1 point); when recording results calculate the score for each product – multiply the number of ticks in each box by the score value assigned to that choice; codes are revealed and results presented; results can be presented on bar chart/pie chart/table; tidy; wash up; etc.

- **Key factors considered (any 2 @ 4 marks each)** = 8

*Key factors that may be considered in order to ensure success in this assignment include - conditions **controlled** during testing - coding; choice of product 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; 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 (one safety point @ 2 marks + one hygiene point @ 2 marks)** = 4

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

*Good **hygiene** practice with regard to preparation area and the testing area; handling of samples – use of plastic gloves, disposable glasses; etc.*

Evaluation (3 points @ 4 marks each) = 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 Preference Ranking test and draw some conclusions. The factors that may contribute to the test results obtained should be analysed.

Appendix 1

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

1. Examination requirements:
Candidates are required to complete and present a record of any **four** assignments for examination.
2. Each Food Studies assignment must include different practical activities.
Where a **candidate repeats a practical activity for a second assignment**, the examiner will mark the repeated practical as presented and disallow the marks awarded for the repeated practical activity with the lowest mark.
3. Where a **candidate completes the investigation and/or the preparation and planning and/or the evaluation aspects of an assignment and does not complete the implementation**, the examiner will mark the completed aspects of the assignment as presented. However, marks for **evaluation of implementation**, where attempted, will be disallowed.
In relation to Assignments 3, 4, and 5 **evaluation of specific requirements** will also be disallowed.
4. Where a **candidate completes the preparation and planning and/or the implementation and/or the evaluation aspects of an assignment, and does not complete the investigation**, the examiner will mark the completed aspects of the assignment as presented. However, marks for **evaluation of specific requirements of assignment**, where attempted, will be disallowed.
5. Where the **dish/product prepared has not been identified in the investigation**, but fulfils the requirements of the assignment, deduct the relevant marks awarded (-1/-2/-4) under meals /dishes/products in investigation.
6. Dish selected shows ***few process skills*** - mark pro-rata
7. Dish selected **not fully compliant** with requirements e.g.
 - An ***uncooked dish*** selected where a cooked dish specified
 - Dish ***not suitable for assignment requirements*** – Assignment 2
 - The ***investigated method not used in making the chosen dish*** – Assignment 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; no marks to be awarded.

NB *All scenarios must be checked with advising examiner before being applied.*

When applying a scenario indicate by putting S. 7 - 8 marks with the relevant comment at the beginning of the assignment.

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