



**Coimisiún na Scrúduithe Stáit**  
**State Examinations Commission**

**Leaving Certificate 2014**

**Marking Scheme**

**Home Economics – Scientific & Social**

**Ordinary Level**

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

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

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

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

### **Future Marking Schemes**

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



# Coimisiún na Scrúduithe Stáit State Examinations Commission

Leaving Certificate Examination, 2014

HOME ECONOMICS – SCIENTIFIC AND SOCIAL

ORDINARY LEVEL

Written Examination

280/320 MARKS

Marking Scheme

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.

*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.*

## Section A

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

Each question is worth 6 marks.

Write your answers in the spaces provided.

1. In relation to fats indicate with a tick (✓) whether **each** of the following statements is true **or** false. (6)

Fats	True	False
Fats contain the element nitrogen.		✓
Essential fatty acids are made in the body.		✓
Omega-3 fatty acids are found in oily fish.	✓	

2. Name the **two** classes of vitamins **and** state **one** example of each class. (6)

Class	Example
1. <i>Water-soluble</i>	1. <i>B, C.</i>
2. <i>Fat-soluble</i>	2. <i>A, D, E, K.</i>

3. List **two** biological functions of iron. (6)

- (i) *formation of the pigment haemoglobin in the red blood cells; haemoglobin transports oxygen around the body; etc.*
- (ii) *iron produces myoglobin which carries oxygen to the muscles; necessary for the efficient functioning of enzymes to release energy from food; etc.*

Name **two** good dietary sources of iron.

- (i) *offal e.g. liver, kidney, etc. red meat/meat, meat products, poultry,*
- (ii) *eggs, cereals, green vegetables, pulses, fish, etc.*

4. Indicate with a (✓) whether **each** of the following statements is true **or** false. (6)

	True	False
Diabetes can be caused by sedentary lifestyles and unhealthy diets.	✓	
Bowel disease is caused by eating high fibre foods.		✓
A person is considered obese when his/her weight is 20% or more above the recommended weight.	✓	

5. Tick (✓) which of the following nutrients is **not** found in cheese. (6)

Protein	Vitamin C	Calcium
	✓	

List **two** effects of cooking on cheese.

- (i) *there is little loss of nutrients; protein coagulates and shrinks; fat melts; colour changes as cheese browns, but if overcooked carbonises;*
- (ii) *overcooked cheese becomes tough and indigestible; overcooking causes the fat to separate; cheese becomes stringy; etc.*

6. Using the words listed below complete the following statements in relation to the preparation and cooking of meat. (6)

**denaturation, mincing, collagen**

**mincing** *helps to break up the fibres of tougher cuts of meat.*

*During cooking* **collagen** *is converted to gelatine and meat becomes tender.*

*Colour changes from red to brown due to the* **denaturation** *of myoglobin.*

7. Identify **three** changes in the eating habits of Irish people in recent years. (6)

- (i) *lifestyle changes; meals tend to be irregular with the main meal in the evening and individual family members often eating at different times;*
- (ii) *variety of foods available; cooking methods changing, barbecued and microwaved foods regularly form part of the diet; potatoes are replaced by either rice, couscous and pasta; variety of breads available; cost effectiveness;*
- (iii) *eating habits influenced by other cultures, foreign holidays, TV programmes, immigrants from other countries, holidays; etc. greater nutritional awareness; dash board dining; greater use of convenience foods; different cooking methods; price awareness; etc.*

8. Explain the term *added value foods*. (6)  
*When a raw material is processed resulting in a higher nutritional / economic value food e.g. cheese from milk; to meet the taste / preferences of consumers; etc.*

Give **two** examples of added value foods sold in supermarkets.

- (i) *cook-chill foods e.g. soup; milk further processed to produce cheese/yoghurt; sliced ham;*
- (ii) *goats cheese; readymade meals; herb flavoured oils / vinegar; jams; pickles; fruit sauces / spreads; tapenades; salsas; hot chilli sauces; etc.*

9. Named below are three parts of a microwave oven. Match **each** part with the function stated. (6)

**wave guide, turntable, magnetron**

Function	Part
Changes the electrical energy into microwave energy.	<i>magnetron</i>
Guides the microwaves into the oven.	<i>wave guide</i>
Rotates to help even cooking of food.	<i>turntable</i>

10. Explain the term *PAYE*. (6)

*Pay as You Earn; compulsory deduction from an employee's salary paid to the Revenue Commissioners representing the Government; calculated by the Revenue Commissioners; amount depends on person's income; etc.*

Give **two** examples of how PAYE contributions are used by the government.

- (i) *capital expenditure - pays public servants e.g. teachers, nurses, guards; etc., providing hospitals, schools; etc.*
- (ii) *constructing and maintaining road networks; transport; communication; heritage; culture; etc.*

11. Name **one** natural fibre and **one** synthetic fibre. (6)

Natural Fibre	Synthetic Fibre
<i>Wool, silk, cotton, linen</i>	<i>Nylon, polyester, lycra, etc.</i>

Explain why natural fibres are commonly used in household textiles.

*suitability of purpose; cost; personal choice; aesthetic appeal; fabric properties e.g. absorbency, soft, strong when wet, easy care, resilient, easy to dye; linen can withstand high temperatures; can be made flame retardant, stain resistant; available in a variety of colours; etc.*

12. Name **one** statutory body and **one** voluntary body / agency concerned with consumer protection. (6)

**Statutory body:** *National Consumer Agency; Ombudsman, National Standards Authority of Ireland; The Office of the Financial Regulator; Comhairle (CIC); etc.*

**Voluntary body / agency:** *Consumer Association of Ireland; Advertising Standards Authority of Ireland; 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. The table below illustrates the carbohydrate, protein and fat content of a range of ready-made meat dishes. (FSAI website)

Dish	Carbohydrate	Protein	Fat
Beef Lasagne	11.8g	8.1g	8.9g
Sweet & Sour Chicken & Rice	20.0g	6.8g	0.4g
Cheese Burger	27.1g	14.2g	3.2g

- (a) Using the information presented in the table above, state which dish you would recommend for a family meal. Explain **three** reasons for your choice. (18)

**Name: 3 marks, 3 reasons @ 5 marks each**

**Beef Lasagne:** meat contains HBV protein for growth and repair; CHO and fat combined for heat and energy; contains iron which is easily absorbed in the body and prevents anaemia; meal suitable for most families; economical if cost is a factor; nutritional balance; etc.

**Sweet & Sour Chicken & Rice:** good supply of HBV protein for growth and repair; high CHO content for energy; low in fat, suitable for low fat diet; ease of cooking and serving; etc.

**Cheese Burger:** provides the highest amount of protein necessary for growth and repair; CHO for energy; suitable meal for an active family; low fat content so suitable for low cholesterol / fat diets; cheap to purchase; easy to prepare / cook for a family on a budget; etc.

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

- Classification

**3 classes @ 3 marks each**

(9)

**Monosaccharides**, (simple sugars); **Disaccharides**, (double sugars); **Polysaccharides**; (complex non-sugars).

**Sugar**; **Starch**; **Cellulose**.

- dietary sources

(9)

**3 sources @ 3 marks each**

**Monosaccharides / Disaccharides/Sugars:** table sugar, biscuits, cakes, sweets, honey, jams, fruit; etc. **Polysaccharides/ Starch:** breakfast cereals, potatoes, rice, pasta, root vegetables; etc. **Polysaccharides/Cellulose:** fruit and vegetables; etc.

- functions in the body

**2 functions @ 4 marks each**

(8)

Produce heat and energy; aids peristalsis assisting the movement of food in the intestine; spares protein for growth and repair; excess carbohydrate is converted into glycogen and stored as an energy reserve; excess converted into fat and stored as adipose tissue, which acts as an insulator; fibre absorbs water which gives a feeling of fullness; etc.



- properties.

**2 properties @ 2 marks each**

(4)

*Soluble in water; adds flavour; Maillard reaction – browning occurs when sugars and amino acids react when heated; hydrolysis as in digestion; crystallisation; gelatinisation; caramelisation; assists aeration/foaming (denatures egg protein); etc.*

- (c) Outline **three** ways an individual can ensure an adequate intake of fibre in his/her diet.

(12)

**3 ways @ 4 marks each**

*Increase intake of fruit and vegetables; avoid peeling fruit and vegetables; eat with skins on; substitute white bread, pasta with whole meal products, and white rice with brown rice; add seeds, nuts and grains to breakfast cereals, yoghurts, stir fries; add bran to breakfast cereals and homemade breads; etc.*

- (d) Discuss how **each** of the following could influence the consumer when buying fresh fruit and vegetables:

(20)

**4 points @ 5 marks each  
(1 reference to each)**

- cost

*Buy fresh good quality fruit and vegetables in season when they are plentiful and at their cheapest; buy loose as packaging increases the cost; buy both in usable quantities; buy in bulk only if freezer is available or preserves can be made; amount of money available will determine type of fruit and vegetables selected; avail of special offers; buy direct from growers; etc.*

- skills

*Skills of the cook will determine type of fruit and vegetables being selected / purchased; knowledge of cooking methods is also important; peel or scrape vegetables thinly using a sharp knife to avoid waste; peel thinly to minimise the loss of vitamins and minerals especially vitamin C; etc.*

- time available for preparation

*Eat both raw where / when possible, this will depend on type of vegetable available, e.g. carrots and root vegetables need washing before peeling, chopping or slicing, whereas broccoli / cauliflower require mainly just washing; prepare vegetables shortly before cooking; fruit must be washed to remove any traces of chemicals; time available for preparation will determine the type of fruit and vegetables; use of pre-prepared fruit and vegetables in salads and stir-fry's; etc.*

- storage space.

*If vegetables and fruit are stored incorrectly they will deteriorate quickly resulting in loss of flavour, texture and nutritive value; store both in cool, dark, well ventilated larder / cupboard; pack loosely in a vegetable rack or in salad drawer / crisper of the refrigerator; use up products quickly after purchase; storage / layout in shops can influence buying; etc.*

2. For most consumers, milk and dairy products form a significant part of a well balanced diet.

- (a) Give an account of the nutritive value **and** the dietetic value of milk. (20)

**4 points @ 5 marks each**  
**(1 reference to each + 2 others)**

*Complete food; easily available; HBV protein for growth and repair; saturated fat; carbohydrate in form of lactose for energy; vitamins A, B, D; minerals: calcium in abundance plus phosphorus – both necessary for strong bones and teeth; traces of magnesium, potassium and sodium; milk contains 87% water; easily digested; relatively cheap; variety of types available; essential for growth so very important in the diets of pregnant women, children and teenagers; can be fortified with minerals, vitamins and omega-3 fatty acids; low fat and skimmed milk available for people on low cholesterol or slimming diets; versatile food with many culinary uses; should be combined with foods rich in starch, fibre, vitamin C and iron in order to balance the diet; etc.*

- (b) Explain the difference between whole milk, skimmed milk and fortified milk. (12)

**3 points @ 4 marks each**  
**(1 reference to each type)**

**Whole milk:** full fat milk - 3.5% to 4% fat; milk is pasteurised; is the most popular milk used; etc.

**Skimmed milk:** contains 0.1% to 0.4% fat as remainder has been removed; fat soluble vitamins A & D are also removed: suitable for low fat / cholesterol diets; etc.

**Fortified milk:** full fat, low fat or skimmed milk; nutrients e.g. vitamins A, D, folic acid, mineral calcium, protein, omega 3, etc. have been added; etc.

- (c) Having regard to current healthy eating guidelines, and the need for teenage girls to increase their intake of calcium, plan a menu (3 meals) for one day for a teenage girl. (18)

**3 meals @ 6 marks each**

<p style="text-align: center;"><b>Breakfast</b> Orange Juice Wheetabix and Milk Scrambled Egg on Toast Tea/Coffee/Milk/Water</p>
<p style="text-align: center;"><b>Lunch</b> Tuna and Corn Roll Strawberry Yoghurt Water/Tea/Coffee/Juice</p>
<p style="text-align: center;"><b>Dinner</b> Goats Cheese Bruschetta Chicken Stir Fry and Rice Chocolate Roulade Water/Coffee/Tea</p>

**3. Nothing says comfort like a steaming bowl of freshly made soup.**

- (a) Name **two** classes of homemade soup **and** give **one** example of **each** class. (14)

*2 classes @ 4 marks each, 2 examples @ 3 marks each*

<b>Classes</b>	<b>Example</b>
Thick	<i>Purées, thickened</i>
Thin	<i>Clear, broths, consommé</i>
Cold	<i>Gazpacho</i>

- (b) Outline:

- (i) the range of convenience soups available to the consumer

*3 types @ 4 marks each*

(12)

*dehydrated/packaged, cook-chill, canned/tinned, frozen, soups, etc.*

- (ii) the advantages **and** disadvantages of convenience soups.

(12)

*3 points @ 4 marks each*

**Advantages:** *little preparation time; simple skills required; useful in emergencies; wide variety available; easy to store; etc.*

**Disadvantages:** *can be expensive for quantity / portion size; some contain artificial colours and flavours; often high salt content and additives; etc.*

- (c) Evaluate the role of food labelling in assisting the consumer when purchasing convenience soups. (12)

*3 points @ 4 marks each*

*Name of product; list of ingredients present; quantity in metric measurements; nutritional content; cooking instructions; information on preparing and storage; best before date; manufacturer's name and address; country of origin; has food or any ingredients used been genetically modified or irradiated; has food been packaged in a modified atmosphere; does food contain nuts or any other allergens; etc.*

**4. Paul and Geraldine are responsible consumers planning to buy a new home.**

- (a) Explain how **each** of the following could influence Paul and Geraldine when planning to buy their new home: (20)

**4 points @ 5 marks each  
(1 reference to each)**

- cost

*Money available/income; lending agency fees; legal fees; stamp duty; interest rate; cost of repayments; cost determines size and location; re-sale value of property; etc.*

- size and type of house / apartment

*Personal preference; suitability of the design for the landscape; energy efficient home; adequate for family size and lifestyle; possibility of attic conversion; sufficient space for all activities, e.g. working from home, patio / garden for leisure, parking; etc. variety of house types available e.g. bungalow, dormer bungalow, two story houses, detached, semi-detached, terraced, town house, apartments, bedsits; etc.*

- location / environment

*Environmental factors i.e. shelter, natural light, aspect; proposed developments in areas; value of property in the area; rural or urban, proximity to work, shops, schools; etc. amenities i.e. ESB, water, refuse; etc. transport; local community, neighbours; privacy and security; possible risks i.e. pollution, flooding, power lines, pylons, factories, landfill sites; etc.*

- trends in housing developments.

*'Custom' designed, timber frame; developer's homes i.e. show-houses – very common in urban areas; redevelopment of inner city areas; exclusive houses in small estates; individual houses in suburbs or country; estates with large open greens; walled entrances; security; estates with a mix of housing i.e. detached, semi-detached, terraced, duplex; increase in apartment living - layout may be open plan or traditional style; refurbishing of older homes; etc.*

- (b) (i) Name **two** different types of pollution that can cause problems for householders. (10)

**2 types of pollution @ 5 marks each**

*water, air, noise, light, thermal, etc.*

- (ii) State the effect on the environment of **each** type of pollution named. (10)

**2 effects @ 5 marks each  
(1 effect on each type)**

**Air: Effects:** *acid rain – lowers pH of soil and water harming animal and plant life; corrodes metal and stone; is a threat to historical buildings; global warming; depletion of ozone layer; increase risk of skin cancer; increase in respiratory conditions i.e. asthma, bronchitis; etc.*

**Water: Effects:** *algae bloom uses up oxygen destroys aquatic life – kills fish; destroys beauty spots; kills birds so species become depleted; harms fishing and impacts on tourist industry; unfit for human consumption; etc.*

**Noise: Effects:** *anxiety; nightclubs; headaches; irritation; insomnia; tension between neighbours; etc.*

**Thermal: Effects:** *as sea temperature increases it causes world climate to change; icebergs melt; sea level rises; high tides causing flooding; etc.*

**Light: Effects:** *intrusive to neighbours; affects nocturnal animals; etc.*

(c) Identify and give details of **one** initiative aimed at promoting a clean green environment.

(10)

**Name: 5 marks, Details: 5 marks**

**Reduce, Reuse, Recycle:** reduce using packaging; disposable products; reuse shopping bags, plastic containers, newspapers, clothes, ink cartridges; etc.

**Green Dot:** signifies the user has contributed financially to the cost of recovery and recycling of the packaging; etc.

**WEEE:** producers must enable customers to dispose of electrical and electronic equipment by collecting and treating the waste products; etc.

**Blue Flower Symbol:** products within the EU that are environmentally friendly carry the eco-label with a blue flower; the aim of the label is to promote renewable resources and prevent unnecessary waste and energy expenditure i.e. dishwashers, washing machines, detergents, fridges, paint, footwear; etc.

**Plastic Bag Levy:** government environmental levy of 22cents on plastic bags; etc.

**Green Flags:** schools; etc.

**Blue Flags:** beaches; etc.

**Tidy Towns:** maintain clean environment; etc.

5. Different cultures have different marriage customs, with many symbolising the same thing; the couple starting a new life together.

- (a) Explain **three** ways in which marriage customs may differ between cultures. (18)

**3 ways @ 6 marks each**

**Arranged Marriages:** parents will decide on their child's spouse based on background and suitability; this type of marriage is popular in the travelling community, Japanese and Sikh cultures; etc.

**Number of Partners:**

**Monogamy:** is the norm in the western world i.e. one husband, one wife; those who marry for a second time without the death or divorce of the first spouse are guilty of bigamy; etc.

**Polygamy:** allows a spouse to have more than one partner, it is illegal in Ireland; etc.

**Polygyny:** allows a man to have more than one wife; etc.

**Polyandry:** allows a woman to have more than one husband; etc.

**Jewish weddings:** are held under a canopy which is symbolic of the couple's future home; at the end of the ceremony a glass is broken under the groom's foot to symbolise the destruction of the ancient Jewish temple in Jerusalem to remind the couple that a marriage can also break; etc.

**Quaker couples:** marry at a public gathering without an official in attendance – they believe that God alone makes a couple man and wife; etc.

Many **wedding customs** have been popular for centuries e.g. veils, rings, throwing rice, etc.

**Location:** church, mosque, synagogue, registry office, temporary registration of a hotel, beach, garden, etc. can be obtained; etc.

- (b) Discuss **four** conditions required to make a marriage legally valid in Ireland. (20)

**4 conditions @ 5 marks each**

Three months notice required by registrar of area; 18 years of age (over 16 years with parental / guardian consent); must be voluntary; both people must be free to marry, cannot be married already; partners must not be too closely related; two witnesses must be present; the register must be signed by the couple and witnesses; all marriages must be registered after the ceremony; etc.

- (c) Outline the role of **each** of the following in relation to marriage preparation: (12)

**2 points @ 6 marks each**  
**(1 reference to each)**

- the school

In Home Economics students examine roles and responsibilities of partners in marriage; laws relating to marriage; marriage relationships are discussed in SPHE, RSE, Science classes; etc. co-ed schools help develop interpersonal boy / girl relationships: etc.

- marriage preparation courses.

Provides information about expectations and the reality of marriage commitment; allows couples to examine what marriage consists of, discuss their vision of marriage; gives advice on finance, family planning, communication, conflict resolution, children; etc. Accord and the Marriage and Relationships Counselling Service provide marriage preparation courses; etc.

## Section C

Answer one question from this section

Candidates who submitted Textiles, Fashion and Design coursework for examination may attempt only Question 2.

### 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 diagrams below show a meter box and miniature circuit breakers.



**Meter Box**



**Miniature Circuit Breakers**

- (i) Explain how electricity enters the home. Include reference to the meter box **and** the miniature circuit breakers. (18)

**3 points @ 6 marks each**  
**(1 reference to each + 1 other)**

*Electricity flows through a supply / service cable into a sealed **fuse box**; a meter records the amount/consumption of electricity used; the electricity then flows to the main fuse box which contains the **mains switch** and **miniature circuit breakers** for a number of different circuits within the home i.e. sockets, lights; etc. each circuit has its own fuse; in modern household installations fuses have been replaced by MCB's which work on the same principle as fuses i.e. when a fault occurs in an appliance the MCB switches off the current; when the problem is located and solved the MCB can be reset by flicking it to the upward position; etc.*

- (ii) In relation to electricity explain each of the following: (12)

**3 points @ 4 marks each**

- fuse

*Safety device; used in electrical appliances; deliberate weak link in the electrical circuit which will melt cutting off electricity when a fault occurs or if too much current passes through it; fuses are colour coded indicating their amperage; etc.*

- kilowatt per hour (kWh)

*A kilowatt is a unit of electricity which equals a 1000 watts; a kWh is the amount of electricity used by an appliance per hour of operation; etc.*

- voltage.

*A measure of electrical force/pressure necessary to drive the electric current along; Irish voltage is 230 volts; etc.*

- (iii) Outline **four** guidelines for the safe use of electricity in the home. (20)

**4 guidelines @ 5 marks each**

*Never mix electricity and water; do not use electrical appliances in the bathroom except shaver sockets; use pull cords for light switches; purchase only electrical appliances that carry recognised safety symbols; avoid overuse of adaptors and extension cables; check electric blankets for sign of wear; do not pull flexes across cooker hob or sink; repair damaged flexes; avoid trailing flexes; unplug appliances before cleaning them; replace broken plugs or sockets; check plugs are correctly wired; always read manufacturer's instructions and follow with care; keep electric heaters away from curtains; etc.*

**and**

**1. (b) Amenities are as important as good quality housing and need to be in place early in the life of a new community.**

- (i) Discuss the provision of amenities in new housing developments. (12)

**3 points @ 4 marks each**

*Schools – depend on number of children in area; transport links, roads / footpaths, etc. properly finished; street lighting – sensor controlled and operate when light is insufficient; refuse collections – bin or bags; play areas for children – green open spaces must be included in all new housing developments; shops; sporting facilities – some developments include community centres / sports complex; child minding facilities / crèche; library; etc.*

- (ii) Give details of the housing requirements for **each** of the following: (18)

**3 points @ 6 marks each  
(1 reference to each)**

- a young single person

*Requires less space than a family; often prefers urban lifestyle; some like to commute, depending on access to public transport; entertainment facilities; apartment /bedsit / town house; renting on own or sharing a house can be an alternative to buying a property; proximity to work or college; internet/broadband; etc.*

- a retired couple

*Single story compact accommodation; chairlift may be necessary; good lighting to avoid falls; security; alarmed communication system; downstairs bathroom, non-slip surface in bathroom and kitchen; handrails, adapted taps; easy to use heating system; small garden or patio – easy maintenance; etc.*

- a family with young children.

*Depends on size and composition of family; proximity to schools; etc. older children like their own personal space; storage space – lockers, wardrobes, hot press for clothes; living room with books / internet / broadband; playroom for toys; garage or shed for bicycles; well equipped, ventilated, adequately lit and spacious kitchen; living room for relaxing /TV viewing; etc., enclosed garden, patio, decking for play; etc.*

**or**



**1. (c) Good natural lighting in the home saves electricity, decreases eye strain and makes people feel better physically and psychologically.**

- (i) Describe **three** ways by which the amount of natural light entering a home may be maximised (increased). (15)

**3 ways @ 5 marks each**

*Positioning, size and number of windows; aspect of the house; colour scheme; use of glass bricks and skylights; high ceilings; cut down trees blocking natural light; avoid using net curtains or roller/venetian blinds; use of clear glass instead of frosted glass; placing of furniture; reflective surfaces; etc.*

- (ii) Give an account of the factors that should be taken into account when planning the lighting system for a teenager's study bedroom. (15)

**3 factors @ 5 marks each**

*Use CFL's for economy; sufficient light to avoid eye strain; have study / desk lamp and strip lighting over the bed; have recessed lights for overall lighting; amount of natural light entering the room; aspect of room; colour of walls, furniture and soft furnishings; 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 first impression you make on a potential employer is the most important one, that is why it is important to dress professionally for an interview regardless of the work environment.**

- (i) Sketch **and** describe a two piece outfit suitable to wear for a job interview. (12)

**Sketch: 6 marks, Description: 2 points @ 3 marks each**

**Sketch:** should show detail of design features i.e. line, shape, proportion, harmony, etc. be clearly labelled, may include fabric colour; etc.

**Description:** colour; design; line; proportion; shape; pockets; seams; type of neckline; sleeves; fabric; fabric finishes / properties; accessories i.e. belt; etc.

- (ii) Suggest a suitable fabric for the outfit **and** give a reason for your choice. (6)

**Fabric = 3 marks, Reason = 3 marks**

**Fabric:** cotton, linen, light wool, silk, polyester, acrylic, etc.

**Reason:** durable; strong; washable; drapes well; conducts heat giving a 'cool' feel; dyes well; has good lustre due to its natural wax content; available in many colours; warm; resilient; soft; etc.

- (iii) Name **and** explain one principle of design shown in your sketch. (7)

**Name: 4 marks, Explanation: 3 marks**

**Balance:** can be vertical; symmetrical or asymmetrical; etc.

**Emphasis:** achieved through use of colour; lines and other details; there should only be one centre of emphasis in an outfit; etc.

**Proportion:** relationship between parts of the garment e.g. pockets should be in proportion with the rest of the garment; can be equal or unequal i.e. short jacket, long skirt; etc.

**Rhythm:** associated with repetition in clothing; etc.

**and**

2.(b) **Hobbies can be turned into businesses in recessionary times.**

- (i) Discuss the role played by small businesses **and** cottage/home based industries in the Irish fashion industry. (9)

**3 roles @ 3 marks each**

Small firms in rural communities for employment; work is often subcontracted to locals to do at home i.e. Aran knitting; etc., Avoca Handweavers have several regional outlets; skilled or unskilled work available; promotes Irish traditional crafts; encourages the survival of traditional crafts; encouraged by Government incentives; businesses can be set up without a large capital outlay; sheep for wool can be reared; cotton/linen can be grown; spun dyed and woven into products; etc.

- (ii) Describe two career opportunities in the clothing **and** fashion industry. (6)

**2 career opportunities @ 3 marks each**

Fashion designer, milliner, tailor, machinist, models, photographers, stylists, factory workers, sales people, fashion buyer, fashion writers, etc.

or

**2.(c) Fabrics may be treated with specific fabric finishes for a variety of reasons.**

- (i) Explain why fabric finishes are used when manufacturing fabrics. (5)

**1 point @ 5 marks**

*Change appearance; improve the look and feel of a fabric; prevent shrinkage and creasing; make fabric more durable during washing and wearing; make fabric flame retardant; waterproof; texture can be added i.e. embossing; easy care; anti-bacterial finish; etc.*

- (ii) Name **and** describe **two** fabric finishes. (10)

**2 @ 5 marks each ((Name: 3 marks, Detail: 2 marks)**

**Crease resistant:** prevents fabric from creasing; etc. **stain resistant:** fabrics are made easier to launder; etc. **waterproof:** makes fabric water repellent; etc. **anti static:** prevents fabric from clinging; etc. **mercerising:** makes fabric stronger and more absorbent; etc. **flame retardant (Proban);** reduces the flammability of a fabric; etc. **turbenising:** stiffens fabrics for use in cuffs and collars, etc. **moth proofing:** on wool; etc.

### Elective 3 - Social Studies (80 marks)

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

3.(a) In Ireland in the early 1960's just 5% of women were in paid employment, now 56% of women work outside the home. (Irish Times, June 2013 MRBI Poll 2013)

- (i) Discuss **four** factors that have contributed to 56% of women being in paid employment in Ireland today. (20)

**4 factors @ 5 marks each**

*Self-esteem; status; better educated; equality in the workplace; social contact; equal pay; part-time work available in the service industry; better working conditions e.g. job sharing; career breaks; flexitime; higher standard of living; more stay at home partners; greater variety of child care options available; two incomes needed to pay mortgages; independence – with increasing marital breakdown; etc.*

- (ii) Discuss the impact of dual-earner families on family life: (20)

**4 points @ 5 marks each  
(1 reference to each + 1 other)**

Refer to:

- role overload

*Occurs when an individual attempts to play several roles at one time; reduced leisure time; increased stress and tension between spouses and other members of the family; difficult to find time to do both roles; can interfere with promotion prospects; no one available to care for the more vulnerable members of the family; women suffer more than men as childcare primarily falls to women; etc.*

- role conflict

*Is caused when the expectations of a person in one role clash with what is expected in another role, i.e. sick child v work; conflict balancing work and home activities; work or family has to be prioritised; competition between spouses / partners; one partner/spouse may feel the other is not supportive in their job; conflict as to whom is contributing most to the family; etc.*

- distribution of parental and homecare responsibilities.

*Greater reliance on labour saving appliances; decision making shared by both partners; less time available to spend with children; outside help may take over some parental duties; no one is seen as responsible for running the house as everyone has to play an equal part; father actively involved in child care; children become more independent as they learn to do jobs for themselves; children have a positive attitude to parental and homecare responsibilities; extra responsibility on older children; etc.*

- (iii) Write an informative note on Family Income Supplement (FIS). (10)

**2 points @ 5 marks each**

*Weekly payment for low income workers or lone parent families; money payable is dependent on income and number of dependents; must work at least 19 hours a week; have at least one dependent child; have an average weekly income which falls below a fixed amount for the particular family size; FIS payment is 60% of the difference between your average weekly family income and the income limit of your family size; etc.*

and

**3.(b) Having less money to spend has impacted on consumer's lifestyles and leisure habits.**

- (i) Evaluate the importance of leisure for all family members **and** state the impact of the recession on family leisure activities. (20)

**4 points @ 5 marks each**  
**(1 reference to each + 2 others)**

**Importance of leisure:** contributes to the physical, social, emotional and intellectual well-being of a person: allows time to de-stress and relax; encourages family bonding; social interaction; fosters relationships in communities; helps the development of new skills; self-esteem; sets good example for children on how to use their free time positively; relieves boredom; satisfies the senses i.e. going to an opera; etc.

**Impact of recession:** less money available for leisure activities; more time available to spend with family members for people not working; people involved in more activities that cost no money e.g. walking; expensive leisure activities e.g. foreign holidays and school trips may have to be curtailed, etc.

- (ii) Outline how leisure activities may contribute to the development of the individual. (10)

**2 points @ 5 marks each**

**Physical** activities contribute to good health and wellbeing: fitness; learning new skill i.e. swimming; coordination skills; **social** development i.e. team sports; involves communication and cooperation, winning/losing; helps people to cope with the successes and failures of life; **intellectual** development i.e. analysis of situations - card games, debating; concentration – playing bridge; etc. **emotional** development – relaxation, yoga, improves self-esteem; confidence; self-development; gives a sense of belonging and independence; greater ability to form and express opinions; encourages new relationships; relieves boredom, stimulation of senses; promotes and encourages team based skills/new skills; fosters new friendships; facilitates social outings; helps to develop leadership skills in people; etc.

or

**3.(c) 'People are living in poverty if they do not have enough money to do the things that most people in Ireland take for granted.'** (Combat Poverty Agency)

- (i) Discuss **four** of the main reasons why poverty continues to be a feature of Irish society. (20)

**4 reasons @ 5 marks each**

Early school leavers depend on the minimum wage if employed; large families – high cost of living; education expenses; child-rearing; unemployment; recession; unskilled workers; lack of educational qualifications; cycle of poverty; inability to manage money effectively; social welfare system inadequate; high cost of housing during celtic tiger; high taxes; alcohol/drug abuse, gambling; etc.

- (ii) Name **and** give details of **one** national voluntary agency that provides support to those at risk of poverty. (10)

**Name: 5 marks, Details: 5 marks**

**St. Vincent De Paul:** raises money through church gate collections, charity shops, sales of work, etc., provides financial assistance to people in need in the local community, assist in paying bills; buying school books, uniforms, etc., provides person-person contact, members visit needy families in their area - the elderly to do housework, gardening, shopping; provide emergency housing; holiday breaks; homework clubs; etc.

**Simon Community:** provides support and emergency accommodation to people who are homeless or at risk of homelessness; soup kitchens; addiction treatment options; provide assistance with food and clothing; provides counselling and education services; etc.

**Focus Ireland:** works to combat and prevent homelessness; provide training in personal and life skills; information on job opportunities; provide coffee shop, accommodation; etc.



Coimisiún na Scrúduithe Stáit  
State Examinations Commission

# LEAVING CERTIFICATE 2014

## MARKING SCHEME

### HOME ECONOMICS – SCIENTIFIC AND SOCIAL FOOD STUDIES COURSEWORK

*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*

<b>Grade</b>	<b>Mark bands</b>
A1	360
A2	340
B1	320
B2	300
B3	280
C1	260
C2	240
C3	220
D1	200
D2	180
D3	160
E	100
F	40
N.G.	Less than 40

*To calculate weighted mark -- divide the raw mark awarded by 5.  
(Round down any part marks e.g. 324 = 64)*

# Food Studies Practical Coursework General Marking Criteria

## **Investigation: Analysis/Research - 30 marks**

### **Research and analysis**

**= 20**

#### **Band A 16-20 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 11-15 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 6-10 marks (basic to 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 0-5 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. - 2 two course meals / 2 dishes / 2 products / menu for day**

**= 4**

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

*(menu – starter/desert = 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**

#### **Reasons / selection criteria - (2 x 2 marks)**

**= 4**

*clearly indicate criteria that determined choice of dish or product selected to prepare.*

#### **Sources including source of recipe - 2 x 1 mark (2 marks)**

**= 2**



## Preparation and Planning - 6 marks

- Resources (ingredients incl. costing, equipment) = 3
  - *main ingredients, unit cost, key equipment used as determined by dish (expect cost for all except AOP E)*
- Time allocation / Work sequence = 3
  - Preparation, sequence of tasks, evaluation
  - Band A 3 marks - all key steps identified, correct sequence*
  - Band B 2 marks - some key steps identified or sequence incorrect*
  - Band C 1 mark - few key stages identified and sequence incorrect*

## 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 to 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 x 4 marks = 8  
*Identification (2) and clear explanation of importance (2) of two factors considered which were critical to success of dish*
- Safety/hygiene** 2 x 2 marks = 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 - 16 marks

Evaluate the assignment in terms of:

- Implementation** 2 x 4 marks each = 8  
*Band A -4 marks - identified and analysed specific weaknesses/strengths in carrying out the task, modifications, where suggested, were clearly justified, critical analysis of use of resources / planning*  
*Band B- 3 marks - identified weaknesses / strengths in carrying out task, some justification of proposed modifications, limited analysis of use of resources / planning*  
*Band C- 2 mark - some attempt made at identifying weaknesses or strengths in completion of task, modifications where suggested not justified, reference made to use of resources / planning*
- The **specific requirements** of the assignment 2 x 4 marks each = 8  
*Band A 4 marks - draws informed conclusions in relation to two key requirements of the assignment*  
*Band B 3 marks - draws limited conclusions in relation to two key requirements of the assignment*  
*Band C 2 mark - summarises two outcomes in relation to the assignment*

## **Area of Practice A – Application of Nutritional Principles**

### **Assignment 1**

***Healthy meal plans do not have to be complicated or expensive and should be suitable for the whole family to enjoy.***

With reference to this statement, research and elaborate on the nutritional needs and the meal planning guidelines that should be considered when planning meals for a family with a range of different dietary needs and a limited food budget.

Bearing in mind these considerations, investigate a range of main course dishes suitable for the main meal of the day for this family.

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.

#### **Key requirements of the assignment**

- *dietary/nutritional needs that should be consider when planning meals for a family with a range of different dietary needs and a limited food budget*
- *relevant meal planning guidelines with specific reference to a family with a range of different dietary needs and a limited food budget*
- *range of main course dishes suitable for the main meal*
- *main course dish and reasons for choice.*

#### **Investigation**

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

**Meal planning guidelines** – *use of food pyramid to ensure balanced meals, variety of foods, personal likes and dislikes, correct fluid intake to prevent dehydration - 8 glasses of fluids per day; foods will be determined by dietary needs e.g. high fibre foods – constipation and bowel disorders; increased calcium – osteoporosis; avoid foods high in salt – high blood pressure; avoid saturated fat and sugar i.e. convenience foods – obesity, coronary heart disease, etc.; avoid all foods that contain wheat – coeliac; diabetic – avoid sugar, eat regular meals; vegetarian – avoid meat /meat products depending on the type of vegetarian diet; if choosing convenience foods choose fortified foods; choose healthy snacks; use of foods in season – resource issues with particular reference to foods that are relatively inexpensive but are nutritionally balanced – own brand foods, special offers, bulk buying; choice of cheaper protein foods e.g. use of meat substitutes and meat extenders; use of energy efficient methods of cooking e.g. microwave, steamer, making full use of oven; avoid convenience foods as they are more expensive – make your own cakes, bread etc.; use of leftovers to avoid waste; cook extra portions for freezing; time available for preparation; etc.*

#### **Dishes selected - range of main course dishes**

- **must be suitable for range of different dietary needs and limited food budget**
- **must be a main course.**

#### **Evaluation (specific requirements of assignment)**

*Analysis of findings regarding the nutritional requirements of a family with a range of different dietary needs and a limited food budget.*

*Meal planning guidelines – range of main course dishes suitable for a family with a range of different dietary needs and a limited food budget, how the selected dish meets the requirements as identified in the investigation.*

## Assignment 2

**Research from the World Health Organisation has found that Ireland has the highest death rate from heart disease in people under 65 in the EU.**

With reference to the above statement, identify the risk factors associated with poor cardiovascular health. Research and elaborate on the nutritional needs and the meal planning guidelines that should be considered when planning and preparing meals for people with this condition.

Having regard to the factors identified in your research, write a menu (three meals) for **one** day for a person who wishes to improve his/her cardiovascular health.

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.

### Key requirements of the assignment

- risk factors associated with **poor cardiovascular health**
- dietary/nutritional requirements when planning meals for **people with poor cardiovascular health**
- relevant meal planning guidelines
- menu (three meals) for **one** day
- chosen main course dish and reasons for choice.

### Investigation

**Risk factors associated with poor cardiovascular health:** e.g. family history, ethnicity, age, smoking, high blood pressure, high cholesterol, obesity, diabetes, physical inactivity, unhealthy diet e.g. high intake of saturated fat and salt, harmful use of alcohol, certain medicines, increased stress levels; etc. arteriosclerosis, angina, heart attack/coronary thrombosis, heart disease, stroke, aneurisms, sudden death, etc.

**Dietary practices / nutritional requirements when planning meals for people with poor cardiovascular health:** nutritional balance, daily requirements of macro / micro- nutrients including protein / cho / fat / iron / calcium requirements as appropriate, increase polyunsaturated fats, increase fibre, vitamin C / iron absorption, vitamin D / calcium absorption, vitamin B, follow current nutritional guidelines re nutrient and food intake; etc.

**Meal planning guidelines** – use of food pyramid to ensure balanced meals, plan well balanced meals; reduce intake of salt, avoid convenience foods, read food labels and avoid processed foods that contain hidden fats and salt; reduce intake of saturated fats as the body can convert saturated fats into cholesterol, choose low fat products, limit the use of hydrogenated or partially hydrogenated foods – choose tub margarine rather than block, increase polyunsaturated fats as they counteract the effect of cholesterol on the lining of arteries, lower triglycerides intake, increase intake of omega 3 rich foods; reduce intake of refined carbohydrate foods such as bread and cereals, increase fibre intake e.g. fruit and vegetables – helps to lower LDL; avoid foods naturally rich in cholesterol e.g. liver, kidney and some shell fish, choose low cholesterol foods; consider peoples likes and dislikes; choose fat free cooking methods e.g. steaming, poaching, baking, grilling, etc.; choose pure vegetable oils e.g. olive oil, rapeseed oil or canola oil; modify traditional recipes e.g. replace salt with herbs for flavour; include functional foods in meal planning; use soya protein products; etc.

### Dishes selected - menu (three meals) for **one** day

- should meet the nutritional requirements as identified for people with poor cardiovascular health
- must be a main course dish

### Evaluation (specific requirements of assignment)

Analysis of findings regarding what you learned from the investigation regarding the management of a diet for people with poor cardiovascular health, factors that should be considered when planning meals for people with poor cardiovascular health 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.

## Area of Practice B – Food Preparation and Cooking Processes

### Assignment 3

***Gelatine (gelatin) has a wide range of uses both culinary and in food manufacture.***

Carry out research on *gelatine* in relation to each of the following:

- what is gelatine and the types available
- how gelatine is used in food preparation
- dishes that illustrate the use of gelatine
- the key points that should be observed to ensure success when using gelatine.

Prepare and make **one** of the dishes from your research.

Evaluate the assignment in terms of **(a)** implementation and **(b)** the advantages and the disadvantages of using gelatine.

#### **Key requirements of the assignment**

- *what is gelatine* - *types of gelatine available*
- *how gelatine is used in food preparation* - *dishes that illustrate the use of gelatine*
- *key points that should be observed to ensure success when using gelatine*
- *chosen dish and reasons for choice*

#### **Investigation**

**What is gelatine:** *colourless, tasteless, odourless substance made from protein derived from beef and veal bones, tendons and connective tissue; commercial gelatine is a by-product of pig skin; used as a gelling or setting agent in sweet and savoury cookery; it is an irreversible hydrolyzed form of collagen; etc.*

**Types of gelatine available:** *powdered gelatine, leaf (sheet) gelatine, agar-agar which has similar properties to gelatine but comes from seaweed, isinglass extracted from the air bladders of fish, etc.*

**How gelatine is used in food preparation:** *leaf gelatine: soak in cold water, if soaking more than one sheet separate them in the water, completely cover the gelatine, soak until gelatine blooms (expands) and goes wrinkly 5 - 10 minutes, several sheets together take longer, remove gelatine from water, squeeze between fingers to remove excess water; melt slowly over a gentle heat - 35C; add to cold ingredients; etc.*

*powdered gelatine: sprinkle powder into a bowl containing 2-3 tablespoons of liquid – water/recipe liquid, stir and leave until the gelatine has soaked up the liquid 5 – 10 minutes; place the bowl in a saucepan of barely simmering water, allow gelatine to dissolve completely and turn transparent; strain to extract any bit of skin that may have formed if necessary; add to cold mixture stirring well; quick method using microwave; etc. gelatine may be used for thickening, setting, glazing, clarifying; etc.*

**Dishes that illustrate the use of gelatine:** *chilled soufflés, mousses / moulds (sweet & savoury), bavarois, ice creams, marshmallows, blancmange, jelly chews, pate, savoury pies, pressed chicken, meat moulds, jellies; etc.*

#### **Key points that should be observed to ensure success when using gelatine:**

*Boiling destroys gelatine's ability to set, use lowest temperature possible to dissolve it and heat for the shortest time; do not use with fruits that contain protein-splitting enzymes e.g. pineapple, kiwi as they prevent gelatine setting - cook first to deactivate the enzymes; too much sugar can inhibit gelling; dairy products strengthen gelling process; salt, fruit juices and wine(ph below 4) lower the strength of gelatine – increase the amount of gelatine used; gelatine takes twice as long to dissolve if used with cream or milk; leaf gelatine if not soaked properly the use will be diminished; do not soak leaf gelatine for too long – it will start to break down and disintegrate; chill the mixture to a consistency of cold egg white before adding gelatine to help suspend fruits, meat, vegetables; drain all solids of their liquid before adding gelatine; add gelatine from a height and stir while adding to avoid streaks of gelatine forming; to unmould easily – spray mould with oil, rinse with cold water or dip mould in warm water for 5 – 10 seconds; store gelatine deserts in a covered container to avoid the formation of a rubbery skin on the surface; etc.*

#### **Dishes selected – must show the use of gelatine**

**Evaluation** (as specified in assignment) – *the advantages and the disadvantages of using gelatine.*

## Area of Practice C: Food Technology

### Assignment 4

**Consumer demand for artisan/speciality food is highlighted by the rise in the number of farmers' markets across the country. Preserved foods are popular choices especially homemade pickles.**

Carry out research on making pickles in relation to each of the following:

- the different vegetables and combinations of vegetables that can be used
- how this method of preservation is carried out and the underlying principles involved
- the possible problems which may arise.

Prepare and make a pickle of your choice. Include details of the container and labelling you used.

Evaluate the assignment in terms of **(a)** implementation **(b)** the practicability of making pickles at home.

#### **Key requirements of the assignment**

##### **Investigate:**

- *the different vegetables and combinations of vegetables that can be used when making pickles*
- *how the method of preservation is carried out*      - *the underlying principles involved*
- *suitable container and labelling used*                      - *the possible problems that may arise*
- *chosen product and reasons for choice*

#### **Investigation**

##### **Research on different vegetables and combinations of vegetables that can be used.**

*Cauliflower, cucumber, onions, red cabbage, gherkins, mushrooms, tomatoes, garlic, artichokes, zucchini, green beans, asparagus, peppers, horseradish, etc. combinations e.g. cucumber and onion; cauliflower, cucumber, radishes and garlic; etc.*

**How the method of preservation is carried out:** *e.g. pickles can be preserved in vinegar or a salt brine/dry salt; vegetables prepared according to type; cook if required; place in bowl and sprinkle with salt between layers/submerge in brine solution; put aside for required time; dissolve sugar in vinegar hot/cold; addition of other ingredients; rinse vegetables to remove salt if necessary; drain, boil (depends on vegetable used); place in sterilised jars, pack well, pour hot/cold vinegar over, release air bubbles; cover, label, date; pickles can be stored for a few weeks in fridge or years depending on the method used; etc.*

**The underlying principle involved:** *e.g. low ph of the acid in the vinegar inhibits the growth of micro organisms; salt preserves the vegetables by lowering the amount of 'free' water molecules available, salt draws water and carbohydrate from the tissues of the vegetables and also toughens them slightly changing the texture as vegetable softening enzymes are deactivated, salt/brine causes fermentation – growth of good bacteria makes foods less vulnerable to spoilage causing bacteria; 10% salt solution needed if food is to last for years; anaerobic fermentation in brine to produce lactic acid, - gives pickles their characteristic flavour and colour change(colours become stronger), products of fermentation lower the ph, inhibit the growth of microorganisms; etc. Fresh Pack process – pickles produced are not fermented as they are placed in brine solution for few hours only and then added to boiling vinegar and pickling spices – heat kills the micro organisms; spices penetrate the food and add flavour; sealed in sterilised jars to remove oxygen; etc.*

##### **Possible problems that may arise**

**Dark or discoloured pickles:** *e.g. vinegar and salt can react with galvanized metal and produce toxic substance, cider, malt or wine vinegar may darken the pickle; etc. soft pickles: vinegar too weak – less than 5% or insufficient amount of brine used; etc. white sediment in the jar: salt e.g. iodized salt or table salt used contains an anti caking agent – must use pure salt; etc. keeping quality of the vegetables affected: boiling for too long causes loss of acetic acid; etc. bacteria growth: if vinegar with a minimum level of acid is used; etc. hard outer coat: salad cucumbers are coated with wax so must be scored; etc.*

**Suitable containers and labelling** *e.g. kilner/glass jars, screw top lacquered / plastic coated lids, vinegar proof paper, freezer grade polythene, labels; etc.*

##### **If no packaging investigated – 3 marks**

##### **Dishes selected – pickle.**

**Evaluation** (as specified in assignment) *Practicability of making pickles at home – resource issues –cost, time, skills, equipment, packaging, storage; etc.*

## **Area of Practice D – Dishes illustrating the Properties of a Food**

### **Assignment 5**

#### ***Denaturation of protein occurs during food preparation and cooking.***

Carry out research on the causes of protein denaturation and explain the underlying principle in each case. Identify a range of dishes that illustrate protein denaturation. Dishes investigated should illustrate different methods of denaturation.

Prepare, cook and serve a dish of your choice that you have investigated that demonstrates protein denaturation.

Evaluate the assignment in terms of **(a)** implementation and **(b)** the effects of protein denaturation on the dish prepared.

#### **Key requirements of the assignment**

- *the causes of protein denaturation*
- *the underlying principle in **each** case*
- *range of dishes to illustrate different methods of protein denaturation*
- *chosen dish and reasons for choice.*

#### **Causes of protein denaturation**

*Caused by physical and chemical means e.g. heat, acids, enzymes, salt, mechanical action/agitation.*

#### **The underlying principle in each case**

*Denaturation occurs during food preparation, it is usually irreversible; as a result of denaturation the unfolded protein chains bond with each other forming clumps; it involves a change in the tertiary / secondary structure, and the result is the setting/hardening of the protein food which is known as coagulation.*

*Coagulation is caused by:*

**Heat:** *e.g. protein coagulates when heated – egg white coagulates at 60°C, egg yolk at 68°C; colour changes from transparent to opaque; etc. moist heat:* *changes the collagen to gelatine thereby tenderising meat; myoglobin in meat causes its colour to change from red to brown; over cooking makes food indigestible; milk protein casein shrinks and forms a skin on the surface; etc. dry heat:* *causes shrinkage and toughening of muscle tissue with loss of moisture resulting in a dry texture; etc.*

**Acids:** *bacteria present in milk ferment the lactose when milk sours, producing lactic acid, ph of milk is lowered; protein caesinogen coagulates; lemon juice / vinegar cause milk to curdle; and the acid vinegar used in marinades denatures the protein in meat; the addition of heat in cooking with the acid leads to slow tenderising of the muscle in meat; etc.*

**Enzymes:** *the enzyme rennin coagulates milk protein in the stomach, rennet used to form the curd in the manufacture of cheese, proteolytic enzymes e.g. papain, bromelin and ficin when sprinkled on the surface of meat cause a slow tenderisation of the muscle of the meat, etc.*

**Salt:** *sodium chloride coagulates some proteins e.g. in cheese making salt is added to the curd to increase firmness, etc.*

**Mechanical action/agitation** *whisking of egg white causes a partial coagulation of the protein; the protein chains unfold and line up around the air bubbles entrapping air which results in the formation of a foam; whisking produces heat which sets the egg white slightly; etc.*

#### **Range of dishes/products to illustrate different methods of denaturation**

**Heat:** *egg custard, sponge cake, quiche, beef stew, boiled bacon, roast chicken, grilled meats, etc.*

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

**Enzymes:** *cheese, marinated meats, etc.*

**Salt:** *cheese, etc*

**Mechanical action/agitation:** *meringues, soufflés, mousses, etc.*

#### **Dishes selected – must show protein denaturation**

**Evaluation** (as specified in assignment)

*The effects of protein denaturation on the dish prepared, i.e. the effect of coagulation, mechanical action/agitation, heat, acids, enzymes or salt on the dish prepared, etc.*

## Area of Practice E: Comparative Analysis including Sensory Analysis

### Assignment 6

***Ireland has the highest per capita consumption of chocolate in the world with Irish consumers eating on average 11.2 kg of chocolate confectionary each year.***

Research and evaluate the range of chocolate (milk/dark/white) bars available in Ireland.

Include reference to brands, cocoa content, price etc.

Using **three** different brands of milk chocolate carry out a **preference ranking test** to determine which brand of chocolate is the preferred choice within your group.

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

(i.e. an analysis of the factors that may contribute to the test results obtained).

#### Key requirements of the assignment

- research on **the range of chocolate (milk/dark/white) bars** available in Ireland
- **selected product** of your choice and reasons for choice
- **preference ranking test**
- conditions to be controlled during testing.

#### Investigation

= 20

- Research / Investigation of products appropriate to the testing  
*i.e. investigate the range of chocolate (milk/dark/white) bars available in Ireland - brands, cocoa content, price, 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 chocolate 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 samples, similar quantities in each sample, coding of samples, hygiene, timing, where testing takes place, dietary considerations, etc.

- **Selected dish/product and selection criteria**

**Selected products** – milk chocolate bars

**(3 products)**

= 4

State reasons for choice.

**(2 reasons @ 2 marks each)**

= 4

**Sources** – 2 x 1 mark (2 marks)

= 2

#### Preparation and Planning

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

= 3

**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, 1 record sheet, pen etc.

#### Work sequence

= 3

**Preference Ranking Test:** code containers, set up trays, put chocolate samples in containers, label score cards and record sheets, follow instructions on score cards, carry out preference ranking test, collect score cards, transfer results onto record sheet, calculate results, reveal codes, present and evaluate results, tidy and wash up, 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)

*Code 18 containers, 6 containers with symbol □, 6 containers with symbol ◇, 6 containers with symbol ○, put chocolate 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 1<sup>st</sup> choice beside sample most preferred, 2<sup>nd</sup> choice beside next preference, 3<sup>rd</sup> 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. 1<sup>st</sup> choice – 3 points, 2<sup>nd</sup> choice – 2 points, 3<sup>rd</sup> 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, product in the container changes, 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 @ 2 marks + one hygiene @ 2 marks)**

= 4

***Safety:** testers with allergies – product with nuts etc, special diets e.g. diabetic, 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

- **Implementation (2 points x 4 marks each)**

= 8

*Testing procedures used*

*Key factors when conducting the test*

*Safety and hygiene issues considered*

*Problems encountered and suggested solutions*

*Evaluate efficiency of work sequence*

- **Specific requirements of the assignment (2 points x 4 marks)**

= 8

*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.*

**Band A = 4 marks**

**Band B = 3marks**

**Band C = 2 marks**



**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 **five** assignments for examination.  
In respect of **Areas of Practice**, candidates must complete  
Area A - **One** assignment  
Area B - **One** assignment  
Area C - **One** assignment  
Area D - **One** assignment  
**One** other assignment from either Area A or Area E  
Where a **candidate completes five assignments and does not meet the examination requirements** as set out above, the examiner will mark the five assignments as presented and disallow the marks awarded for the assignment with the lowest mark from AOP A or E
  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, 5 and 6 **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) under meals /dishes/products in investigation and reasons for choice (4 marks).
  6. **Teacher demonstration** work is **not acceptable**, therefore no marks to be awarded for implementation and evaluation of implementation.
  7. **Dish** selected **not fully compliant** with requirements e.g.
    - An **uncooked dish** selected where a cooked dish specified
    - Dish **not suitable for people with poor cardiovascular health** - Assignment 2
    - **Gelatine not used** – Assignment 3, **dish selected does not show denaturation** – Assignment 5
    - Dish selected shows **few process skills**
    - 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.
  9. Where a teacher disallows a practical application, no marks are allowed for **Implementation and Evaluation of Implementation**. All other areas may be credited.
- 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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