Coimisiún na Scrúduithe Stáit
State Examinations Commission

Leaving Certificate 2015

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, 2015

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 <u>ten</u> questions from this section.
Each question is worth 6 marks.
Write your answers in the spaces provided.

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

	True	False
Calcium causes weak bones and teeth.		✓
Calcium is required for blood clotting.	✓	
Calcium is necessary for normal muscle contraction.	✓	

2. Using the words listed below, complete the following statements in relation to the effect of heat on protein foods. **(6)**

maillard reaction, coagulate, opaque

Heat causes the protein in eggs to ***coagulate.***

The non-enzymic browning of protein foods is called ***maillard reaction***.

Fish flesh changes from translucent to ***opaque*** during cooking.

3. Outline **<u>two</u>** ways in which culture has an impact on the food choices of young people. **(6)**

(i) *certain foods are associated with certain cultures; religion; television; travel;*

(ii) *immigration; improved methods of food processing have brought multi-cultural influences to the Irish diet; family lifestyle; eating patterns; etc.*

4. State **<u>two</u>** functions of Vitamin C. **(6)**

(i) *production of collagen; growth; formation of healthy blood vessels; prevents bruising;*

(ii) *speeds up wound healing; antioxidant; maintains immune system by fighting infection; absorption of iron and calcium; prevents scurvy; etc.*

Name **<u>two</u>** good dietary sources of Vitamin C.

(i) **Fruit:** *blackcurrants, kiwis, oranges, grapefruit, strawberries, melons, rosehip; etc.*

(ii) **Vegetables:** *peppers, cabbage, tomatoes, spinach, broccoli, potatoes; etc.*

5. State **three** lifestyle changes recommended for people at risk of coronary heart disease. **(6)**

(i) follow a low cholesterol, low fat, low salt diet; reduce weight;

(ii) do not smoke; avoid alcohol; increase exercise;

(iii) reduce stress levels; etc.

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

	True	**False**
Enzymes present in food cause it to decay.	✓	
Chutney making is a method of preventing food spoilage.	✓	
The Food Safety Authority of Ireland is responsible for promoting Irish food nationally and internationally.		✓

7. Match the types of cheese listed with their corresponding class. **(6)**

cheese slices, Parmesan, mozzarella

Classes of cheese	**Type**
Hard cheese	*Parmesan*
Soft cheese	*mozzarella*
Processed cheese	*cheese slices*

8. List **two** desirable characteristics (qualities) of food packaging materials. **(6)**

(i) *strong; durable; airtight; hygienic; safe; attractive; easy to open; easy to reseal; odourless;*

(ii) *easy to store; biodegradable; recyclable; moisture and vapour proof; can be heat resistant; information can be written on it; wax-coated containers are strong and durable; lacquered tins prevent reaction with food; lightweight and flexible; reusable; etc.*

Name **two** materials used to package food.

(i) *glass; paper; metal;* (ii) *plastic; polystyrene; polyethylene; PET (terephthalate); etc.*

9. Using the words listed below, complete the following statements in relation to flame retardant finishes applied to textiles. **(6)**

self-extinguish, Proban, flammability

Flame retardant finishes reduce the ***flammability*** of a fabric.

Proban is a flame retardant finish.

Flame retardant finishes cause fabric to ***self-extinguish***.

10. Name **<u>two</u>** types of credit available to consumers when buying household goods. **(6)**

(i) *personal / term loan; overdraft; hire purchase;*

(ii) *credit cards; charge cards; store cards; etc.*

State the main advantage of **<u>one</u>** of the types of credit named.

Immediate use of goods; allows the purchase of large expensive items e.g. fridges, furniture, etc.; credit cards can offer up to 56 days interest free if bill is paid on time; useful in emergencies; loan repaid at fixed amounts over a set period of time; safety – no need to carry large amounts of cash; etc.

11. Explain why loyalty schemes, used by retail outlets, encourage consumers to purchase goods. **(6)**

Can be used as a method of saving for different occasions e.g. Christmas; money spent is converted into points, points accumulated can be exchanged for cash reduction on goods at the end of a fixed period; points can be used to buy goods; etc.

Name **<u>one</u>** shopper loyalty scheme.

Applegreen; SuperValu Real Rewards card; Dunnes stores value club card; Tesco club card; Costa coffee; Boots; IKEA; etc.

12. Outline **<u>two</u>** consumer rights. **(6)**

(i) *right to honest and truthful information; right to choice; right to value for money;*

(ii) *right to safety; right to redress – repair, replace, refund; etc.*

State the function of the Small Claims Procedure.

Deals quickly with consumer disputes; inexpensive; claims up to €2,000 may be resolved by the Registrar or Court; 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. ***'Iron deficiency remains a common condition in children, with research suggesting many negative effects on the developing child'.***

(Siobhan O'Sullivan, Dietician, Our Lady's Hospital, Crumlin.)

The table below shows the nutritional content of four different meats.

Meat	Protein	Fat	Calcium	Iron	Vitamins
Beef	18.1g	17.1g	7mg	1.9mg	B group
Chicken	24.8g	5.4g	9mg	0.8mg	B group
Liver	24.9g	13.7g	14mg	8.8mg	B group, C, D
Pork	15.8g	29.6g	8mg	0.8mg	B group

(a) Why, in your opinion, is iron deficiency a common condition in children? **(8)**

2 points @ 4 marks each

Children prefer chicken meat which is low in iron to red meat; some children do not like meat; they do not include sufficient green vegetables in their daily diet; they may lack vitamin C for iron absorption; children eat a lot of highly processed foods; etc.

(b) Using the information provided in the table **and** having regard to current healthy eating guidelines comment on the nutritional value of the different meats named above. **(24)**

4 points @ 6 marks each

Liver has the highest percentage of HBV protein for growth and repair of body cells; calcium for bones and teeth; iron to prevent anaemia; contains vitamins C and D which other meats do not; pork is high in saturated fat which can cause obesity and CHD; contains the least amount of protein; beef is second highest in iron necessary to prevent anaemia; chicken is low in fat, contains the second highest amount of HBV protein; all meats contain B group vitamins for energy release, for production of red blood cells; helps maintain healthy nervous and immune systems; all meats contain varying amounts of calcium; etc.

(c) (i) Give an account of iron under **each** of the following headings:

- dietary sources **(12)**

3 sources @ 4 marks each

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

- functions in the body **(8)**

2 functions @ 4 marks

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

- effect of deficiency. **(4)**

1 effect @ 4 marks

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

(ii) Name **one** nutrient that is necessary for the absorption of iron. **(4)**

1 nutrient @ 4 marks

Vitamin C

(d) Describe **four** ways that the weekly food bill can be reduced when selecting **and** buying fresh meat and meat products. **(20)**

4 points @ 5 marks each
(1 reference to fresh meat, 1 reference to meat products + 2 others)

Buy cheaper cuts of meat e.g. mince; shop around for special offers; shop in large supermarkets rather than small convenience stores as these are usually cheaper; choose fresh meat without bone and without too much fat; buy meat products in bulk when on special offer and freeze; plan meals in advance; buy only the required amount to avoid waste; buy meats that reheat well and freeze well if left over; etc.

2. 'The obesity time bomb is no longer just ticking – it has exploded, as a nation we are getting fatter by the year'. *(Irish Independent October 2014)*

(a) Discuss: **(i)** the causes of obesity **and (ii)** the health risks associated with obesity. **(20)**

2 causes @ 5 marks each

Causes: *imbalance in energy intake and energy expenditure; sedentary lifestyles; lack of exercise; psychological factors – depression, boredom; hormonal imbalance (thyroid gland); unhealthy eating patterns; snacking; poor food choices; excessive use of processed foods; etc.*

2 health risks @ 5 marks each

Health risks: *diabetes; gall stones; poor self-esteem; stroke; heart disease; arthritis; high blood pressure; high cholesterol; depression; back pain due to excess weight; varicose veins; infertility; difficulties at childbirth; reduced life expectancy; etc.*

(b) Having regard to current healthy eating guidelines, plan a menu (3 meals) for one day for a person who is obese. **(18)**

3 menus (meals) @ 6 marks each

Breakfast
Orange Juice *Bran Flakes and low fat milk* *Poached egg on toast* *Tea/Coffee/Water/ Low fat milk*
Lunch
Homemade Mushroom Soup *Brown Bread* *Strawberry Yoghurt* *Apple* *Water/ Tea/Coffee*
Dinner
Melon Balls *Chicken Stir Fry and Rice* *Fresh Fruit Salad* *Tea/Coffee*

(c) Write an informative account of the changes in the Irish diet in the 21st century. **(12)**

3 points @ 4 marks each

A variety of foods and cooking methods are replacing more traditional ones; irregular meals; main meal eaten in the evening; individual family members eating at different times; move to convenient, easy to prepare foods with short cooking time; microwave and barbecued foods frequently form part of diet; replacing potatoes with rice, pasta, couscous, etc.; people eating out more frequently; people more health conscious, low fat varieties of foods available; demand for processed / convenience foods; eating patterns are influenced by holidays abroad; immigrants into Ireland; T.V. programmes; people are more conscious of nutritive value and avail of food labelling when selecting/purchasing foods; less availability of home grown products; products available all year round due to imports; etc.

3. Low in calories and packed with goodness, fish is the perfect food.

(a) Give an account of **(i)** the nutritional value **and (ii)** the dietetic value of fish. **(24)**

4 points @ 6 marks each

(1 reference to nutritional value, 1 reference to dietetic value, + 2 others)

Nutritional value: *HBV Protein; unsaturated fat; vitamin B in all fish; vitamins A and D and Omega-3 fatty acids present in oily fish; vitamin C in oysters; Vitamins A & D in fish liver oils; minerals – iodine; phosphorus; fluoride; zinc in most fish; calcium in tinned fish; iron in shellfish and sardines; no carbohydrates in fish; etc.*

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

(b) Name **three** different methods of cooking fish **and** explain how **one** of the cooking methods is carried out. **(20)**

3 methods @ 4 marks each

Baking; grilling; roasting; frying - shallow, deep frying, stir frying; steaming; microwave cooking; poaching; stewing/casserole cooking; barbecuing; etc.

2 points @ 4 marks each

Cooking method:

Baking: *cooking by dry heat of the oven by convection; etc.* ***Barbecuing:*** *cooking food by radiant heat on a grid over burning charcoal or gas flames; etc.* ***Grilling:*** *food cooked by radiant heat under a grill, heat seals the surface of the food preventing heat loss; etc.*

Roasting: *cooking food in a little fat in the roasting tin in the oven; etc.* ***Steaming:*** *food is cooked by steam rising from boiling water, can be done between two plates over a saucepan of boiling water/in a covered bowl standing in a saucepan of boiling water/in a steamer; etc.* ***Microwave:*** *quick method of cooking, heat is generated within the food by electromagnetic waves, waves cause the molecules in food to vibrate creating heat; etc.* ***Poaching:*** *cooking food gently in liquid which is slightly below simmering i.e. 85°C; can be done in a saucepan on the hob or casserole in the oven; etc.* ***Stewing/Casserole:*** *using gentle heat in liquid in a covered container on the hob or in oven, food cooked by convection and conduction; etc.*

Frying: Stir-frying - *cooking food in a wok in a small amount of oil; etc.* ***Deep frying -*** *cooking food immersed in hot fat in a deep fat fryer; etc.* ***Shallow frying -*** *cooking food in hot fat in a pan on the hob; etc.*

(c) State the benefit of *Omega-3 Fatty Acids* in the diet. **(6)**

1 point @ 6 marks

Reduces the risk of heart attack; stroke; circulatory disease and formation of blood clots; reduces the build-up of cholesterol; reduces high blood pressure; reduces risk of certain cancers (prostate); promotes healthy brain activity; improves concentration; needed for joint care; etc.

4. John and Barry are 1st year college students living in rented accommodation and plan to cook their main meal each day.

(a) Set out the results of a study you have carried out on a small electrical household appliance which would assist John and Barry in carrying out food preparation tasks.

Refer to:

- type of appliance you would recommend and reason for choice **(8)**

1 type @ 4 marks

Type: *microwave; kettle; sandwich maker/contact grill; juicer/smoothie maker; toaster; food processor; etc.*

1 reason @ 4 marks

Reason: *e.g.* ***microwave –*** *reheating prepared meals; cooking foods; etc.* ***kettle –*** *boiling water quickly in large or small quantities; etc.* ***sandwich maker/contact grill –*** *entire meal can be cooked in minutes; etc.* ***juicer/smoothie maker -*** *for the quick preparation of fresh juices and smoothies; etc.* ***toaster –*** *toasting and defrosting breads; etc.* ***food processor –*** *can be used to chop, slice, and grate; etc.*

- factors to be considered when selecting the appliance **(9)**

3 factors @ 3 marks each

Cost; running costs; quality; efficiency; space available; size; brand; design and construction; easy to operate; ease of cleaning; safety features; guarantee; after sales service; etc.

- guidelines for use **(9)**

3 guidelines @ 3 marks each

Follow manufacturer's instructions; follow safety instructions; suitable location for safety; assemble correctly; use correct speed/temperature; use correct attachments; etc.

(b) Suggest **<u>one</u>** method of payment that could be used to purchase the appliance **and** state why this method of payment would be suitable. **(12)**

1 method @ 6 marks, 1 point @ 6 marks

Cash: *quick; convenient; does not lead to overspending; etc.* ***Cheque:*** *safe and convenient; overdraft facility can be arranged; etc.* ***Debit card (Laser Card):*** *convenient; accepted by all retailers; cash back option; safer than carrying cash; etc.* ***Credit card:*** *safer than carrying cash; convenient; accepted at most outlets; if balance is paid in full no interest charged; etc.* ***On line banking/Paypal:*** *accessible 24 hours a day; payment can be at customer's convenience; etc.*

(c) Describe the procedure to be followed should a problem occur with the new household appliance. **(12)**

3 points @ 4 marks

Return to shop with appliance; guarantee; receipt; speak to manager; explain problem; state what you require – (refund, replacement, repair); etc.

5. A world without a family would be a very different place, primarily because of the many functions it fulfils.

(a) Discuss **each** of the following functions of the family:

- physical function
- emotional function
- educational function
- socialisation. **(28)**

4 functions @ 7 marks each

Physical: *protects the vulnerable (young, elderly, sick and the physically and mentally impaired); food; warmth; shelter; procreation; etc.*
Emotional: *safe and secure home, a place for children to discuss feelings and express emotions; helps children develop self-esteem resulting in well-adjusted personalities; capable of forming healthy relationships; children loved and cared for; parents support each other, role models for children; etc.*
Educational: *family is the primary educator; valued beliefs and customs passed from parents to children; much learning and intellectual development takes place in early life; games and educational toys provide a stimulating environment; home supports school; praise and encouragement are important; etc.*
Socialisation: *children learn through observation, imitation, and consistent discipline which will help them to develop a set of values and behaviour patterns enabling them to conform and to integrate into society while still appreciating their ethnic background, religious belief, skin colour; etc.*

(b) Describe **two** ways of dealing with conflict within the family. **(12)**

2 ways @ 6 marks each

Avoid confrontation; communication is most important – it is necessary that both parties talk and listen to each other, so that each is aware of the other's position; compromise - give and take on both sides; take time out and give people time to calm down; the ability to empathise helps to reduce conflict; both sides should have a clear understanding of what is expected and how deviation from any rules will be dealt with; etc.

(c) Explain why good communication is important between family members. **(10)**

2 points @ 5 marks each

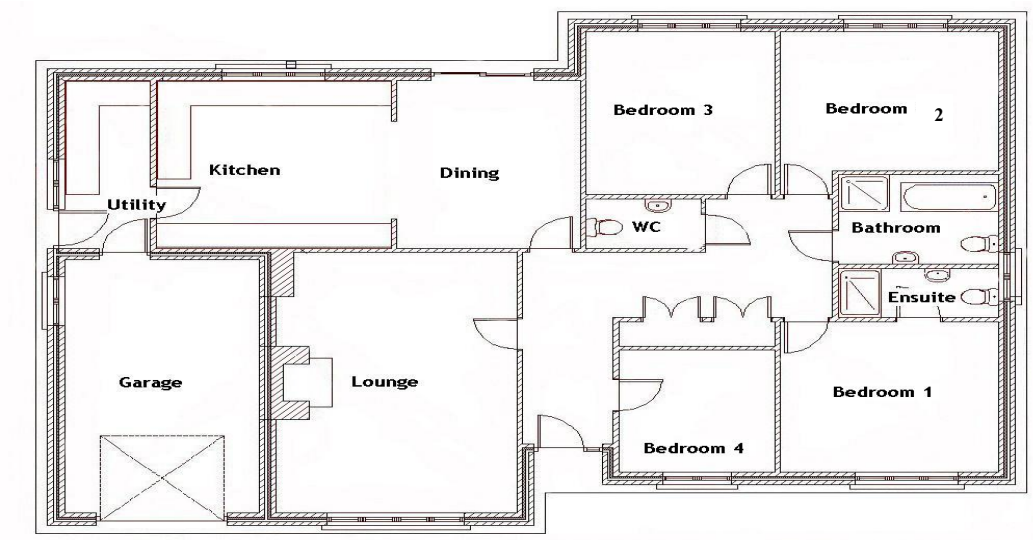
Respect is paramount in good communication; discussions give people a broader view of issues; all members of a family should feel comfortable and safe to express their opinions and feelings; all family members are aware of how each feels about different issues; communication is needed to compromise; conflict cannot be resolved without communication; praise and encouragement involves communication and are important in developing positive self-esteem; etc.

Section C

Elective 1 – Home Design and Management (80 marks)

Candidates selecting this elective must answer 1(a) and either 1(b) <u>or</u> 1(c).

1.(a) Sean and Julie have three young children and are planning to build a new house. The diagram below shows the floor plan for the house.



(i) Evaluate the suitability of this house plan for Sean, Julie and family. **(15)**

3 points @ 5 marks each

All children have their own bedroom; children's bedrooms are large enough to put a study desk in each and have adequate storage area; parent's bedroom has own en-suite for privacy; garage suitable for conversion into playroom; large kitchen/dining area suitable for entertaining and family space; separate lounge provides space for reading, watching T.V.; possible play area; casual entertaining; has ease of access to check on children after bedtime; etc.

Suggest **<u>two</u>** modifications (changes) that could be made to the house plan in order to cater for family needs in the future. **(10)**

2 modifications @ 5 marks each

Convert garage into a playroom at the present and later it could be transformed into a study room; toilet next to third bedroom can be converted into an en-suite to cater for guests when necessary; utility room could incorporate storage space for sports gear; etc.

(ii) Name **and** describe **<u>three</u>** professional services used when designing and building a new house. **(18)**

3 services @ 6 marks each

Architect: *advises on choice of site; designs and draws up house plans; advises on contractors; makes planning application; house design suitability for the needs of the family; may oversee construction of the house; etc.*

Surveyor: *completes site survey; identifies potential problem areas; advises on how to deal with these problems before they affect the building; etc.*

Engineer: *provides advice on the structure of the house; oversees projects; advises on building problems; etc.*

Solicitor: *deals with the legal aspect e.g. advises on building and planning regulations; ensures that title deeds are in order; checks rights of way with land registry; etc.*

Builder; Electrician; Plumber; Plasterer; etc.

(iii) Why is it necessary to obtain planning permission when building a house? **(7)**

1 point @ 7 marks

The law requires a person to obtain planning permission to build a house; houses will not be built overlooking neighbours; industrial factories will not be built in residential areas; scenic areas have restrictions on house building; style of house must conform with others in the area; etc.

and

1.(b) (i) Outline **three** factors to consider when choosing furniture. **(12)**

3 factors @ 4 marks each

Type – antique, traditional or contemporary; space available; style and function of room; cost; construction and materials used; quality; décor of room; personal preferences; availability; safety labels; etc.

(ii) Name and describe **two** items of storage furniture suitable for a modern living room. Give reasons for your choice. **(18)**

2 items @ 5 marks each

(Name: 3 marks, Description: 2 marks)

Items: *can be free standing or built-in; modular units; wood/metal shelving units; wall, filing, and T.V. cabinets; furniture chest; flat packs for home assembly; storage boxes and baskets; toy-box; etc.*

2 reasons @ 4 marks each

Reasons: *avoid untidy cluttered rooms; conceal items; displaying photos, trophies, etc.; items can be found easily; enhance the appearance of a room; etc.*

or

1.(c) A new system of domestic water charges is being introduced in Ireland for homes that are connected to a public water supply.

(i) Describe **three** methods of conserving water in the home. **(15)**

3 methods @ 5 marks each

Have shower instead of bath; do not leave taps running while washing teeth; use basin in sink when washing vegetables or dishes by hand; fix leaks / dripping taps; two flush system in toilet; use full loads in the washing machine and dishwasher before turning on; use economy or quick wash for lightly soiled clothes / dishes; etc.

(ii) State the function of **each** of the following parts of the cold water supply to a domestic house: **(i)** stop cock, **(ii)** storage tank and **(iii)** overflow pipe**.** **(15)**

3 functions @ 5 marks each

Stop cock: *allows the water to be turned off for repairs or in the case of burst water pipes or flooding; etc.*
Storage tank: *located in the attic as high level improves pressure to supply the system; a ball valve controls the level of water in the tank; stores the cold water which supplies the cold water taps, toilets and hot press tank in the home; etc.*
Overflow pipe: *attic storage tanks are fitted with an overflow pipe leading to the outside of the house and carries excess water out of the house; if the ball valve fails to work it prevents flooding; 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) Fashion trends for teenagers are quite similar to their adult counterparts, albeit with a more youthful flavour.

(i) Sketch **and** describe an outfit of your choice that reflects teenage fashion trends. **(10)**

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

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

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

(ii) Explain how the following elements of design have been applied in the design of the outfit:

- colour
- line
- shape. **(15)**

3 points @ 5 marks each

Colour: *colours selected – primary – draw attention; neutral colours do not date; pastels give a summery feminine feel; dark colours make people look slimmer; light colours make people look bigger; etc.*

Line: *creates different illusions; gives eye a direction to follow; vertical lines giving impression of length; horizontal lines used to widen and shorten; curved lines soften; diagonal lines add contrast and emphasis; etc.*

Shape: *to suit figure of person e.g. person with wide hips should avoid gathers / pleats; persons with straight body shapes can opt for tightly woven fabrics; etc.*

and

2.(b) Write a profile of a synthetic / manmade fabric under **each** of the following headings:

- fibre production
- properties
- fabric construction technique. **(15)**

5 points @ 3marks each

Name: 3 marks, (1 reference to each + 1 other)

Fibre production:

Nylon: *two chemicals called monomers are mixed in a 1:1 ratio and heated creating a long chain polymer; the fibre is run onto a water-cooled revolving wheel which cools the ribbon; drawn through a cold water tank where it solidifies; cut into chips which have to be dried; they are then melted, extruded from a small hole; on contact with cold air they solidify into nylon yarn ready for spinning; etc.*

Polyester: *polyester similar to nylon, viscous liquid is created and extruded through fine holes in a nozzle or spinneret; filaments solidify when they reach cold air; etc.*

Properties:
Nylon: *light to wear; drapes well; strong; crease resistant; easy to dye; fire resistant; mildew resistant; high abrasion resistance; can be 'set' permanently in size and shape which prevents stretching or shrinking after washing; etc.*

Polyester: *good wash-wear performance; wrinkle resistant; drip dries quickly; resists staining; etc.*

Fabric construction technique:
Weaving*: warp stretched on a loom, weft passed over and under warp from one side to another; as the weft threads come down the outside edges of the warp threads a selvedge edge is formed which prevents fraying; etc.*

Knitting; crochet; lace making; macramé; bonding; etc.

or

2.(c) Commercial patterns are full scale tissue paper clothing patterns used when making garments.

(i) List **three** factors to consider when selecting a commercial pattern. **(9)**

3 factors @ 3 marks each

Suitability for purpose; cost; availability of suitable materials; notions included; etc.

(ii) State the importance of pressing a garment during construction. **(6)**

2 points @ 3 marks each

Remove creasing; necessary to emphasise darts; opens up seams; improves the overall appearance of clothes: etc.

Elective 3 – Social Studies (80 marks)

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

3.(a) Despite success over recent years in raising the number of students who stay in school to do Leaving Certificate, the chart below shows that a significant number of students are dropping out of school at an early age. *(Irish Examiner, May 2013)*

2009 / 2010	Number of students who leave school early
1st Year / 2nd Year	1,500
3rd Year	1,777
Transition Year	1,064
5th Year / 6th Year	3,299

(i) Referring to the above chart, discuss **<u>four</u>** reasons why students drop out of school at an early age. **(20)**

4 reasons @ 5 marks each

Family problems; health issues; cycle of poverty; financial problems; parent's attitude to education; negative peer pressure; bullying; individual's ability; family size; home environment; locality of the school (socially deprived area); etc.

(ii) Give an account of **<u>four</u>** major factors that influence the educational achievement of students attending third-level. **(20)**

4 factors @ 5 marks each

Intellectual ability; correct choice of course; family situation – cost - working part time; home environment; peers – can be positive or negative; locality; college environment; parental attitude to education; study facilities; bullying; etc.

(iii) Name **and** give details of **<u>one</u>** education initiative that helps to retain young people in school. **(10)**

Name: 5 marks, Details: 5 marks

Leaving Cert Applied: *two year programme; modular based; continuous assessment with practical, oral and written exams at the end; can be used to access Post Leaving Certificate courses; certification is awarded on a 'pass', 'merit' or 'distinction' basis; etc.*
LCVP: *two year programme; compulsory link modules; foreign language must be studied; assessed by portfolio work(60%) and written exam(40%); 'pass', 'merit' or 'distinction' may be attained; this result may be used instead of one of the traditional Leaving Cert subjects for points to qualify for entry into higher education; etc.*
Transition Year: *is a student-centred non-exam based programme which encourages self-awareness, self-development, teamwork, responsibility; students learn new skills; explore new subjects; complete work experience; participate in mini companies, drama; mainstream subjects are also studied as part of programme; etc.*
JCSP: *students are awarded certification for skills attained and completion of subject statements and student profiles; it targets students most at risk of leaving school early; etc.*

School Completion Programme: *aims to increase the numbers of young children staying in primary and second level schools; plan is put in place to retain pupils in school and to ease transfer from primary to secondary school; etc.*
Home School Community Liaison Scheme: *incorporates parents and community into the school; identifies students needing financial and learning assistance; etc.*
DEIS: *increases educational opportunity in disadvantaged areas; reduced pupil teacher ratio; etc.*
NBSS: *targets students who are in danger of being excluded from school due to behavioural problems; provide counselling; anger management programmes; etc.*

and

3.(b) (i) Discuss the impact of **each** of the following on family life: **(20)**

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

- changes in settlement patterns from rural to urban areas

Urban population increased; better opportunities – employment, education, amenities; etc. farming less labour intensive therefore less jobs in agriculture; rural areas have greater elderly population; services limited in rural areas e.g. closure of small post offices, garda stations; less government funding is put into infrastructure and transport; less social amenities; etc.

- reduction in working hours

Change of lifestyle; *shorter working hours; more time to spend with families; parents can collect children from school, increase in physical activities resulting from more leisure time; less disposable income for family; uncertainty regarding future; leisure pursuits change from gym to cycling, hill-walking; etc.*

- improved conditions of work.

Shorter working week / day; better hourly pay rates; more disposable income and a higher standard of living; people are happier at work which can have a positive effect on family life and also they are healthier and less prone to physical and mental illness; etc.

(ii) Explain how the rights of young people in part-time work are protected. **(10)**

2 points @ 5 marks each

Sets out working conditions – hours, age limit and rest periods; applies to all employees under18 years of age; employment of under 16's in full time position is prohibited; 14 & 15 year olds may be employed for light work during school holidays or term time or work experience; 16 -18 year olds may work up to 40 hours a week; under 18's cannot be required to work after 10.00pm; etc.

or

3.(c) Child care costs are a large financial outlay for working parents.

(i) Identify **and** describe **<u>three</u>** child care options that a family with young children could consider. **(21)**

3 options @ 7 marks each

Childminder: *children cared for in childminder's own home; one to one care and attention can be given; less expensive; may not have adequate training or experience to provide for physical, emotional, social and intellectual needs of the child; reliability / punctuality; etc.*
Creche: *fully qualified staff; may be attached to workplace; hours; expensive; helps a child's social skills; hygiene and safety standards must be maintained to receive grants; etc.*
Montessori: *generally privately run; trained teachers; provides education for pre-school children up to 7 years old; learning encouraged through play and at one's own pace; etc.*
Early Start Programme: *one year preventative intervention scheme offered in selected schools in disadvantaged areas for 3 to 4 year old children; staffed by trained teachers, SNA's and parents; etc.*
Naíonraí: *nursery schools or play schools operating through Irish; etc.*
Playschools: *children are given opportunity to play with other children of a similar age; learn to share and take turns and to understand classroom rules; etc.*
Au pair: *young person who is treated as a family member; given room and board, weekly pocket money and helps to mind the children; voluntary arrangement between a private household and a private individual; etc.*

(ii) Name **and** give details of **<u>one</u>** social welfare support / benefit paid to families with children. **(9)**

Name: 5 marks, Details: 2 points @ 2 marks each

Back to School Supports: *clothing and footwear allowance to meet the cost of uniforms and footwear for children going to school; book rental; etc.*
Child Benefit: *monthly payment paid to parents/carers of children under 16 years of age or 18 years in full-time education; etc.*
F.I.S.: *one or both parents must be working for 19 hours a week; income must be below set levels depending on family size; not subject to income tax; etc.*
Rent Allowance; Fuel vouchers; Widow/Widower's Allowance; etc.

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Coimisiún na Scrúduithe Stáit
State Examinations Commission

LEAVING CERTIFICATE 2015

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

Grade	*Mark bands*
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/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

Reasons / selection criteria - (2 x 2 marks) **= 4**
clearly indicates 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

Many third level students living away from home find shopping and cooking for themselves is a new and challenging experience.

Discuss the nutritional needs of third level students. Research and elaborate on the meal planning guidelines that should be considered when planning and preparing meals for third level students who are living away from home in shared accommodation.
Bearing in mind these considerations, investigate a range of main course dishes suitable for the main meal of the day.
Prepare, cook and serve **one** of the main courses from your research.
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* ***third level students*** *living away from home in shared accommodation*
- *relevant* ***meal planning guidelines*** *when planning and preparing meals for* ***third level students*** *living away from home in shared accommodation*
- ***main course dishes*** *suitable for the main meal of the day*
- *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 third level students 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; supply of glucose to help concentration levels; low GI carbohydrate foods that release energy slowly; 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 balance; variety of foods; personal likes and dislikes; correct fluid intake to prevent dehydration - 8 glasses of fluids per day; high fibre foods; increase calcium; avoid foods high in salt, saturated fat and sugar i.e. convenience foods, if choosing convenience foods choose fortified foods; choose healthy snacks; use of foods in season – resource issues; medical needs / diets e.g. coeliac, vegetarian, etc.; advance planning of meals; making a list; sharing workload; bulk cooking; skills; facilities available – cooker, microwave, freezer, slow cooker, etc.; avoid waste - use of left over's for lunch; equipment available i.e. preparation - weighing scales etc., cooking/reheating – slow cooker, microwave, etc.; cost – special offers, buying in bulk, buy 'own brands', meal deals and value packs; use meat alternatives e.g. eggs, tofu, Quorn, pulse vegetables; buy affordable lean meats i.e. mince, top rib, etc; bulk up casseroles and stews with vegetables; avoid skipping meals; preparation of suitable foods for reheating and freezing; etc.*

Dishes selected - range of main course dishes
- must be suitable for third level students
- must be a main course.

Evaluation (specific requirements of assignment)
Analysis of findings regarding the nutritional requirements of a range of main course dishes for third level students.
*Meal planning guidelines – range of main course dishes suitable for third level students***,** *how the selected dish meets the requirements as identified in the investigation.*

Assignment 2

The body needs about 4 grams of salt each day and an acceptable maximum level is 6 grams or one teaspoon of salt per day. Many people exceed this level of salt intake and eat on average about 9 to 10 grams of salt per day. (Irish Heart Foundation)

With reference to the above statement, identify the health risks associated with a diet that is high in salt.
Research and elaborate on the nutritional needs and meal planning guidelines (strategies to reduce salt in the diet) that should be considered when planning and preparing meals for people who wish to reduce the salt content in their diet.
Bearing in mind these factors, investigate a range of menus (starters and main course dishes) 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.

Key requirements of the assignment

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

Investigation

Health risks associated with a diet that is high in salt: *cardiovascular disease, high blood pressure, stroke, kidney disease, osteoporosis, gastric ulcers, headaches, stomach cancer, aggravates asthma symptoms, short term increase in dietary salt increases urinary calcium loss which increases bone loss in post menopausal women, water retention in the body – bloated puffy appearance which leads to stiffness and fluctuating body weight, etc.*

Dietary practices / nutritional requirements for people who wish to reduce the salt content of their diet - *nutritional balance; daily requirements of macro / micro- nutrients including protein / cho / fat / iron / calcium requirements as appropriate; high fibre; vitamin C / iron absorption; vitamin D / calcium absorption; potassium helps balance sodium levels; follow current nutritional guidelines re nutrient and food intake; etc.*

Meal planning guidelines (strategies to reduce salt in the diet*)* –
Avoid adding salt to food when cooking and at the table; use alternative flavourings i.e. herbs, spices, black pepper, garlic, chillies, ginger etc; avoid using convenience foods i.e. stock cubes, soy sauce, gravy mixes, readymade sauces and soups, cereals, tinned and processed meats and vegetables; avoid salted meats and fish: avoid high salt snacks- crisps, salted nuts etc., choose fresh meats and vegetables; check breakfast cereals and breads for salt content as it can be high; choose healthy snacks; check food labels on all readymade meals and select low salt/reduced salt options, cook using oils as butter is high in salt; high is more than 1.5g salt per 100g, low is 0.3g salt or less per 100g; taste foods before adding salt; use low sodium salt; RDA adults 6 grams / children 4 grams; ask about the salt content of foods in restaurants; etc.

Dishes selected - must show low salt/salt reduction/salt modification
- 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 that is high in salt; factors that should be considered when planning meals for people who wish to reduce the salt content in their diet, and to ensure nutritional adequacy; what foods are suitable/unsuitable; what special aspects of meal planning have to be considered etc.; how the selected dish meets the requirements as identified in the investigation.

Area of Practice B – Food Preparation and Cooking Processes
Assignment 3

Commercially prepared pastry is a popular option for many consumers.

Carry out research on commercially prepared pastry in relation to each of the following:

- brands and types available
- dishes that can be made, stating the type of pastry used in each case
- cost.

Choose one type of commercially prepared pastry. Give an account of the key points that should be considered in order to ensure success when using this pastry.
Prepare, cook and serve **one** dish (either sweet **or** savoury) using the pastry that you have investigated.
Evaluate the assignment in terms of **(a)** implementation and **(b)** the advantages and / or the disadvantages of commercially prepared pastry.

Key requirements of the assignment

- *research on **commercially prepared pastry** –**brand**s and **types** available*
- ***range of dishes** that can be made, stating the **type of pastry used in each case***
- ***cost***
- ***type of pastry** chosen*
- ***key points** that should be considered in order to ensure success when using chosen pastry*
- *chosen dish **either sweet or savoury** and reasons for choice.*

Investigation

Research on commercially prepared pastry –brands and types available
Brands: *Jus-Rol, Belbake (Lidl), Anchor, Pepper Ridge farm, Dufour, ds gluten free, Antoniou, Tesco, Lidl, etc.*
Types: *short crust, sweet / light short crust, rough puff, filo, puff, all butter / light puff, etc.*

Dishes that can be made stating the type of pastry used in each case: Short crust: *quiche, apple/lemon tart, mushroom tartlets, etc.* **Rough puff:** *sausage rolls, sweet and savoury pies, apple turnovers, etc.* **Filo:** *samosas, vegetable spring rolls, apple strudel, baklava, etc.* **Puff:** *pies and tarts, vol au vents, cream slices, etc.* **Choux:** *éclairs, profiteroles, etc.*

Cost: *cost of the different types of pastry investigated.*

Key points that should be considered in order to ensure success when using chosen pastry.

Follow manufacturer's instructions on packet for all types of commercial pastry

Short crust pastry/Rough puff pastry/ Puff pastry: *use of cold utensils, coldness is essential in rolling so fat will not melt; thaw pastry overnight in refrigerator or for 45 minutes at room temperature; avoid using too much flour to roll out pastry; handle as little and lightly as possible; use marble slab to roll out, chill after rolling and before cooking; avoid stretching the pastry when rolling out as it will cause shrinkage in cooking; lightly flour the rolling pin; roll lightly and evenly in one direction only; use water to seal edges; lightly grease baking dishes to avoid sticking; dampen baking dish instead of greasing to prevent base overcooking in pastry with a high fat content; cook in a pre-heated hot oven 200˚C – 220˚C, starch grains burst and absorb fat, reduce the temperature to 180˚C after 10 minutes to cook the filling; if puff pastry becomes sticky when handling chill in refrigerator before continuing; use a sharp knife to cut puff pastry so that layers will not fuse together and thwart rising; etc.*
Filo pastry: *keep filo pastry wrapped / covered in cling film/damp tea towel to prevent drying out; work with one sheet at a time; brush filo sheets with melted butter or oil in baked recipes for a light crisp texture; line tins with parchment paper or lightly grease; cool cooked fillings before use or pastry will soften; use sharp knife to cut pastry; glaze pastry; pre heat oven to 200˚C, reduce temperature to 180˚C to cook filling; etc.*
Choux pastry: *defrost if frozen in refrigerator or at room temperature for 30 minutes; pre heat oven to hot; avoid opening door during cooking; base should sound hollow when cooked; inside should not be wet; make hole in side of pastry to allow steam escape; cool, fill and eat soon after cooking as products can go soggy; etc.*

Dishes selected – must be a sweet or savoury dish that you have researched using the pastry investigated

Evaluation (as specified in assignment) - *advantages and / or the disadvantages **of commercially prepared pastry**.*
(can be one advantage and one disadvantage / two advantages / two disadvantages)

Area of Practice C: Food Technology
Assignment 4

Artisan hand-made foods have emerged as an important niche sector in the Irish food industry. This sector is supplied by a group of dedicated small-scale producers of foods such as breads, preserves and many other products.

Identify a range of different breads currently popular and list the different ingredients used.
Investigate **two** different methods of bread making and explain the underlying principles involved in each case.
Using one of the methods investigated, prepare and bake **one** type of bread.
Describe the packaging you would recommend for the bread having regard to keeping the product fresh, hygienic and presented attractively.
Evaluate the assignment in terms of **(a)** implementation and **(b)** practicability and **(c)** cost.

Key requirements of the assignment
Investigate:

- *range of **different breads** currently popular **and list of different ingredients** used.*
- *investigate **two different methods of bread making** and explain the **underlying principles** in **each** case.*
- *suitable packaging to keep product fresh, hygienic and attractively presented.*
- *chosen product and reasons for choice.*

Investigation
Range of different breads currently popular:
Traditional brown / white soda bread, yeast breads (savoury and sweet), savoury breads (tomato/onion/herb) gluten free breads, sourdough breads, spelt breads, flat breads, rye breads, corn breads, beer bread, etc.

The different ingredients used:
Flour: *brown, wholemeal, white, strong, gluten free, rice, corn flour, wheat, rye, buckwheat, spelt, soya, oat, chickpea, bean flour, etc.* **Fat:** *butter, margarine, olive oil, flavoured oils, etc.* **Eggs, Sugar:** *brown, white, etc.* **Milk, Raising Agent:** *bread soda, baking powder, yeast, etc.* ***Other ingredients*** - salt, nuts, olives, cheese, fruit, beer, onions, herbs, seeds, olives, tomatoes, *etc.*

Methods of bread making and the underlying principles in each case
Rubbed in method / wet method/ all in one method: *using bread soda, baking powder, yeast.*
Rubbed in method: *air is introduced mechanically by sieving dry ingredients, rubbing in fat; etc.*
Wet method/all in one method: *all ingredients are beaten together; etc.*
Bread Soda: *bicarbonate of soda (alkali) when mixed with buttermilk/sour milk (acid and liquid) produces CO2; etc.*
Baking Powder: *bicarbonate of soda (alkali) + cream of tartar (acid) + milk / water (liquid) produces CO2, etc. Heat of the oven causes the carbon dioxide to expand and rise, pushing up the mixture; gluten becomes elastic when moistened allowing the dough to rise when the CO2 expands; heat of the oven causes coagulation of the gluten, coagulation starts at 74˚C and continues until baking is complete; starch grains absorb water, swell and gelatinise, causing the bread structure to become firmer; Maillard reaction occurs contributing to browning; surface starch changes to dextrin, forming a crust on the bread; bread can be made using all in one / wet method; etc.*
Yeast: *fermentation process by which yeast breaks down sugar forming CO2 and alcohol, takes place in the absence of oxygen; the carbon dioxide is utilised, the alcohol is evaporated into the atmosphere; in flour enzyme diastase converts starch to maltose; in yeast the enzyme maltase converts maltose to glucose, enzyme invertase converts sucrose to glucose and fructose, enzyme zymase converts glucose and fructose to CO2 and alcohol; gluten matures and becomes elastic and springy; CO2 gas is trapped as tiny air bubbles by the gluten, which on heating, expands and rises pushing the dough upwards; yeast is killed by the high temperature of the oven and the rising process stops, gluten sets; temperature reduced to cook product; etc.*
Air: *air can be introduced by sifting, rubbing in, creaming, folding, beating and kneading; air is entrapped in the mixture by physical means, air expands when heated and makes the food light; etc.*

Suitable packaging *e.g. perforated plastic bag, paper bag, zip lock bag, plastic / tin / cardboard containers, decorative baking liners, ties, ribbon, etc.*

If no packaging investigated – 3 marks

Dishes selected – one of the methods investigated must be used to make bread.

Evaluation (a) (as specified in assignment) **(b)** *Practicability of bread making – resource issues – time, skills, equipment, packaging, storage, availability of ingredients, etc.* **(c)** *cost.*

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

Assignment 5

The success of many dishes relies on the gelatinisation of starch which may be present in one or more ingredients.

Define gelatinisation. Identify a range of sweet and savoury dishes that illustrate this property.
Investigate and elaborate on the application of gelatinisation in the making of sweet and savoury dishes and explain the scientific principle involved.
Prepare, cook and serve **one** of the dishes (either sweet or savoury) that you have investigated.
Evaluate the assignment in terms of **(a)** implementation and **(b)** success in applying the property of gelatinisation when making the dish.

Key requirements of the assignment

- ***define gelatinisation***
- *range of **sweet and savoury dishes** that illustrate the property of gelatinisation*
- *investigate and elaborate on the **application of gelatinisation** in the making of sweet and savoury dishes*
- *the **scientific principle** involved*
- *chosen dish and reasons for choice.*

Definition of gelatinisation: *the process wherein starch granules form a suspension in cold water; when mixed with a liquid and heated, starch grains swell and burst and absorb moisture; resulting in thickening of the liquid; a gel forms; etc.*

Range of sweet and savoury dishes that illustrate the property of gelatinisation:
Sweet Dishes: *dishes that are made using sauces which are thickened with a starchy substance – flour/cornflour/arrowroot e.g. lemon meringue pie, rice pudding, éclairs, vol-au-vents, etc.*
Savoury Dishes: *dishes that are made using sauces which are thickened with a starchy substance – flour/ cornflour/arrowroot/potato etc., soups, stews, curry, lasagne, pastry dishes – vol-au-vents, pasta dishes, etc.*

The application of gelatinisation in the making of sweet and savoury dishes and the scientific principle involved:
Moist heat: *starch, a complex carbohydrate has powerful thickening properties; three stages of gelatinisation using starch – **heating** the starch, **absorbing** the liquid, **thickening** the liquid; starch grains(flour/cornflour) are mixed with a liquid and heated to an initial temperature of 55˚C - 70˚C – the temperatures differ for different starches i.e. root-based starches(potato and arrowroot) thicken at lower temperature but break down more slowly, cereal based starches(corn and wheat) thicken at higher temperatures but break down more quickly; when the liquid is heated the hydrogen bonds holding the starch together weaken allowing water to penetrate the starch molecules; the starch granules swell, burst and absorb the liquid; water is absorbed into the individual starch granules and held there tightly; as swelling continues the viscosity of the solution increases, the granules move together and form a paste like solution (thick and gluey); the mixture becomes more viscose as the temperature increases; on cooling hydrogen bonds are formed and a gel like paste results; starch molecules have many hydroxyl groups that attract and hold the water molecules; mixture does not separate on cooling instead a gel is formed; temperature in excess of 85˚will create a sol - sol is a solution that contains particles that do not dissolve but are evenly dispersed throughout the liquid; some starches have greater thickening powers e.g. cornflour - thickens better than wheat flour as it is purely starch; too much sugar decreases starch's ability to gelatinise as both the starch and sugar are competing for available water which leaves less water for the starch to attach itself to; acids also affect starch's ability to gelatinise; combination of acid and heat causes hydrolytic reaction, breaks down starch molecules into smaller molecules, these can move unlike bigger molecules resulting in a thinner paste; add acid after gelatinisation takes place; the presence of salt can promote gelatinisation; the amount of fat and protein used can also affect the thickening properties of starch; etc.*
Dry heat: *starch grains swell, burst and absorb any moisture (fat) present, used in the making of pastry and popcorn, etc.*

Dishes selected – sweet or savoury dish must show gelatinisation.

Evaluation (as specified in assignment)
How successful the property / properties selected was applied when making the dish i.e. success of gelatinisation in achieving its intended purpose e.g. thickening etc.

Area of Practice E: Comparative Analysis including Sensory Analysis

Assignment 6

In the food industry there is constant modification and testing of products for the purpose of making improvements to flavour or increasing profitability. This may result in a change of ingredients used.

Investigate a range of baked products (e.g. biscuits, buns, cakes) which can be made using different types of fat. Choose one of the products that you have investigated and using a different fat in each case bake two batches of the product. (The same recipe, using a different type of fat, should be used for each product.)
Carry out a **simple difference paired comparison test** to determine if the tasters can detect a difference between the products.
Evaluate the assignment in terms of **(a)** implementation and **(b)** the test results obtained (i.e. an analysis of the factors that may have contributed to the test results).

Key requirements of the assignment

- *research on **a range of baked products(e.g. biscuits, buns, cakes)** which can be made using **different types of fat.***
- ***selected product** of your choice and reasons for choice*
- ***simple difference paired comparison test***
- *conditions to be controlled during testing.*

Investigation = 20

- Research / Investigation of products appropriate to the testing
  i.e. investigate a range of baked products (e.g. biscuits, buns, cakes) which can be made using different types of fat,

- **Simple difference paired comparison test**

***Description:** tester is presented with two coded samples, tester is asked if there is a difference between the samples, etc.*
***Aim of test:** to identify can a difference be detected.*
***Possible outcomes**: testers can / cannot detect the sample that is different etc.*

Identification of the conditions to be controlled during the testing

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

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

Selected products –** product selected using **two different types of fat **(2 @ 2 marks each)** **= 4**
State reasons for choice. **(2 reasons @ 2 marks each)** **= 4**

Sources – *2 x 1 mark (2 marks)* **= 2**

Preparation and Planning

- **Resources** **= 3**
- **Main equipment needed to carry out assignment**

Simple difference paired comparison test (based on 6 testers):– *6 trays, 6 glasses of water, 12 coded containers, 6 samples of product A, 6 samples of product B, (could vary if control goup/s included, 6 score-cards, record sheet, pen, etc.*

Work sequence **= 3**

Prepare and cook two batches of product.
Simple difference paired comparison test: *code containers; set up trays; put product samples in containers in random order; label score cards and record sheet; follow instructions on score cards; carry out test; collect score-cards; transfer results to prepared record sheet; 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.
Prepare and cook two batches of product one with fat A and one with fat B.

Simple difference paired comparison test (assuming 6 testers)

Code 12 containers, 6 containers with symbol □, 6 containers with symbol ◊; put product samples in each container; set up 6 trays numbered 1-6, each tray has one container labelled with symbol □, one container with symbol ◊; samples presented in random order on each tray, each product is offered an equal number of times i.e. 6 times; samples on each tray can be the same or different; codes on each tray remain the same; testers follow instructions on score card, circle on the score card if they can detect a difference; scorecards are collected by recorder and results transferred onto prepared record sheet, when recording results transfer responses by indicating whether testers answered yes or no; tick correct responses; codes are revealed and results presented; results can be presented on bar chart or pie chart; 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, coeliac etc.*
Good ***hygiene*** *practice with regard to preparation area and 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 point x 4 marks)** **= 8**

Test results obtained: *i.e. an analysis of the factors that may have contributed to the test results obtained. Students may give reasons as to why the testers could / could not identify the sample that was different, etc.*

Band A = 4 marks
Band B = 3 marks
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.

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 who wish to reduce salt in the diet*** - Assignment 2
   - The ***property of gelatinisation not used*** in the making of the chosen dish – 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.

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.

If an assignment is being disallowed, this must be checked with the advising examiner.

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