



Coimisiún na Scrúduithe Stáit
State Examinations Commission

LEAVING CERTIFICATE 2010

MARKING SCHEME

**HOME ECONOMICS –
SCIENTIFIC AND SOCIAL**

HIGHER LEVEL

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 10 questions from this section.

Each question is worth 6 marks.

1. Complete the following in relation to the digestion of proteins. (6)

Organ / Gland	Secretion	Enzyme	Substrate	Product
Pancreas	Pancreatic Juice	Trypsin	Protein/Peptones	Peptones/Peptides/ Amino Acids

2. Name **three** properties of sugar and state **one** culinary use of each. (6)

Property	Culinary use
Sweetener / flavouring	Cakes, desserts, beverages
Preservative	Jam
Caramelisation	Desserts
Fermentation	Bread making
Gel formation	Jam
Maillard reaction	Browning of food
Inversion	Jam
Crystallisation	Confectionary
Solubility	Syrups
Assists aeration	Sponges

3. State **two** functions of folate (folic acid) in the diet. (6)

- (i) **essential for the manufacture of DNA and RNA**
- (ii) **helps vitamin B12 form red blood cells; essential for the development of the brain and spinal cord in the foetus; prevents neural tube defects e.g. spina bifida; supports the functions of the immune system; may play a role in prevention of CHD and / some cancers etc.**

4. List **three** main functions of energy in the body. (6)

- (i) **basal metabolism**
- (ii) **growth**
- (iii) **physical activity; functioning of internal organs; production of heat to maintain body temperature etc.**

5. State the role of **each** of the following in relation to the processing of cheese. (6)

(i) *lactic acid bacteria*

Starter culture / changes lactose to lactic acid / acts as a preservative

(ii) *rennet*

Contains an enzyme that coagulates the milk protein caseinogen into curds

6. Name **two** types of pastry. (6)

(i) **short crust,** (ii) **rough puff, puff, flaky, choux, suet, filo, biscuit, cheese etc.**

State **one** difference between the types of pastry named.

Accept differences in terms of ingredients used, proportions, method of making, characteristics / appearance of the pastry etc.

7. State the function of **two** of the physical conditioning agents named below. (6)

Type	Function
Humectants	Prevents food drying out
Polyphosphates	Prevents lumping (anti-caking), increases water retention
Stabilisers	Prevents emulsions from separating

8. Outline **three** benefits of implementing a HACCP system. (6)

(i) **eliminates or reduces potential hazards / produces a safer product**

(ii) **workers are focused on food safety**

(iii) **legal requirements for safety are fulfilled, records provide evidence of efforts to improve food safety, records can influence future planning re safety, time and money etc.**

9. State the function of **each** of the following parts of the refrigerator. (6)

Refrigerant

Draws heat from inside the refrigerator thereby reducing its temperature/the refrigerant evaporates by removing heat.

Condenser

Converts the gaseous refrigerant to a liquid.

10. Identify **three** desirable performance properties in textiles. (6)

(i) **colour fast**

(ii) **absorbent**

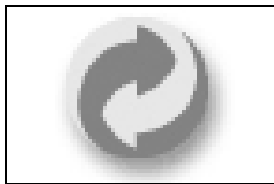
(iii) **warm, strong, drapes well, fade resistant, stain resistant, crease resistant etc.**

11. Explain how borrowers are protected by the Consumer Credit Act (1995). Give **two** points. (6)

(i) **credit advertisements must show APR, deposit required, instalments, extra charges, restrictions, cash price, total cost of credit etc.**

(ii) **10 day “cooling off” period; credit agreements must be in writing, costs and penalties must be outlined; certain practices not allowed e.g. lenders visiting borrowers in their workplace; act transfers the responsibility for the control of bank charges from the Central Bank to the Director of Consumer Affairs therefore there is openness and transparency for the consumer.**

12. What information does each of the following symbols convey to the consumer? (6)



Packaging suppliers are committed to protecting the environment and have made a financial contribution to the cost of recycling the packaging waste... used only in Ireland by members of Repak

Green Dot

(ii)



Products that have this label cause minimum damage to the environment...

Eco Label

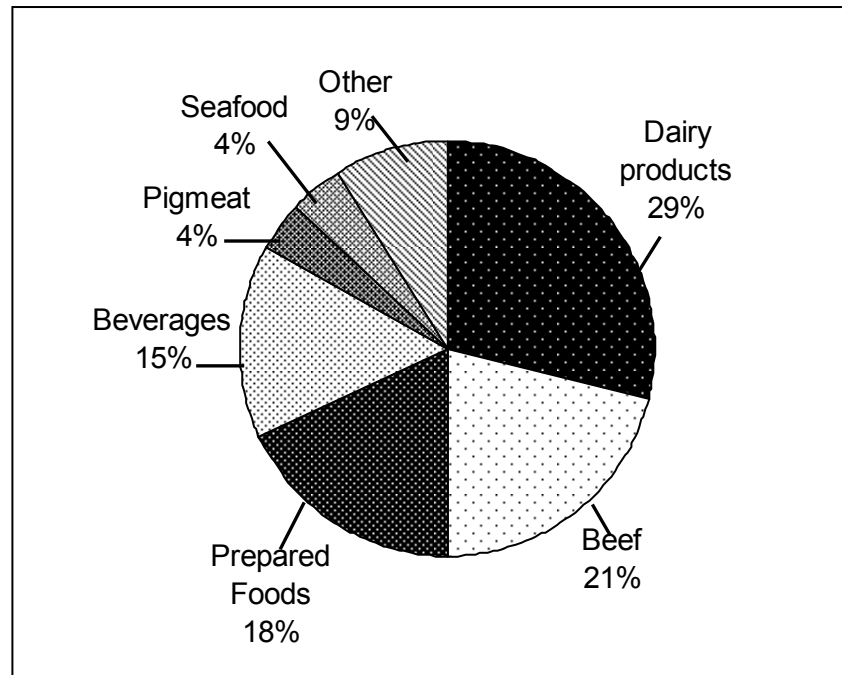
Section B

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. Estimates of the distribution of Irish agri-food and drink exports in 2008 by sector are shown below.

Breakdown of Irish food and drink exports, 2008 (%) source *Bord Bia*



- (a) (i) Comment and elaborate on the distribution (%) of Irish food and drink exports as shown above. In your answer refer to **four** sectors.

4 points @ 5 marks each

(20)

Dairy products – includes butter, cheese, cream, milk powder, dairy spreads, yoghurt, ice cream; exports widely; dairy farming, milk and other dairy products make up the largest share of agricultural exports etc.

Beef – Ireland is one of the largest exporters of beef to many different countries; high demand due to high standards of production and traceability etc.

Prepared foods – exports a wide range of convenience foods; includes ready meals, single portion products, pizzas, sauces etc., fastest growing sector of the Irish food industry; many of the companies are small companies; changing lifestyles, smaller households and travel have increased the demand for convenience foods and foods from other countries and Irish food industry has responded to these demands etc.

Beverages – includes non-alcoholic drinks such as spring water, fruit juices, soft drinks and alcoholic drinks such as whiskey, cider and cream liqueur e.g. Baileys; some companies have moved from Ireland to countries with a cheaper labour force etc.

Seafood – includes shellfish, fresh fish and processed fish e.g. smoked salmon, breaded fish and prepared meals. Ireland has an extensive coastline and easy access to relatively unpolluted waters and has a reputation for high quality fish and fish products; aquaculture /fish farming is a growing sector within this industry etc.

Pig meat – includes pork, bacon and pork products. UK is the main market for exports; also exported to the EU, US and Japan etc.

Other – includes edible horticulture i.e. fruit and vegetables, potatoes, cereals, confectionery; processed mushrooms and chilled potato products also produced; the Irish climate and soil conditions are ideal for the growth of products e.g. mushrooms, potatoes, salad ingredients; Ireland has high quality cereal production and milling industry – products include a wide range of breads, handmade chocolates and biscuits etc.

- (ii) Give details of career opportunities available within one of the sectors named.

2 points @ 2 marks each

(4)

Farmers, fishermen, horticulturist, butcher/abattoir worker, baker/confectioner, chef, cheese makers, marketing, advertising industry, retailers, careers in hotel and catering industry, dietician, food technologist, food technician, product developer, production, support services etc.

- (b) Meat makes an important contribution to the intake of micronutrients such as iron.
Give an account of iron and refer to

- sources in the diet (*3 sources @ 3 marks each*)
- biological functions (*3 functions @ 3 marks each*)
- recommended daily allowance (RDA) for adults (*1 point @ 3 marks*)

(21)

Sources

Haem iron found in red meats, chicken, offal etc.

Non-haem iron in broccoli, cereals, eggs, leafy green vegetables and pulses, tofu, dried fruits, fish, cocoa, plain chocolate, Guinness, curry powder etc.

Functions

Essential component of haemoglobin in red blood cells which carries oxygen to the cells; forms part of myoglobin, which is an oxygen carrier; essential component of enzyme system which is important in the use of oxygen to release energy from food; essential for the immune system and brain development; prevents anaemia; aids the transfer of electrons.

RDA adults 10-14mg, pregnancy/lactation 15mg

- (c) Identify and explain **three** factors which affect the absorption of iron in the body. **(15)**

3 points @ 5 marks each

Factors that assist iron absorption

Vitamin C assists the absorption of iron by changing the ferric iron to a more absorbable ferrous state; as haem iron in animal foods is more easily absorbed than non haem iron in vegetable foods, consuming non haem and haem iron together increases non haem absorption; hydrochloric acid in the stomach helps absorption of non haem iron by converting it to haem iron; sugars, citric acid and amines assist the absorption of non haem iron; protein is thought to assist iron absorption etc.

Factors that decrease iron absorption

oxalic acid found in fruit and vegetables; phytic acid found in cereal binds to the iron decreasing its absorption; fibre intake above 35g per day binds with iron and decreases its absorption; tannin found in tea and other polyphenols bind with iron and decreases its absorption; lack of vitamin C; caffeine, excess alcohol, smoking can also decrease iron absorption etc.

- (d) Discuss the factors that may affect consumers' decision making in relation to the purchase of meat and meat products. **(20)**

4 points @ 5 marks each

Financial – money available, less expensive cuts

Convenience – ready prepared, time, skills

Environmental – organic

Health – nutritious – low fat, high iron, low salt

Flavour – lamb in season has a better flavour

Trace ability – labelling, Irish produced

Advertising – Bord Bia runs Quality Assurance scheme and publish recipes

Meat products – smaller portions, easier to eat etc.

2. 'Few Irish people consume the two portions of fish recommended each week. Despite being surrounded by some of the best fishing and fish in the world we are often reluctant to try this incredibly healthy food.'

Press Release – Evening Herald

- (a) Evaluate the nutritional and dietetic contribution that fish makes to the diet. (20)

5 points @ 4 marks each

(Expect two nutritional and two dietetic and one other point)

Nutritional

Excellent source of easily digested HBV protein; no lipid in white fish; oily fish high in polyunsaturated fatty acids (omega 3 EPA and DHA); shell fish contains cholesterol; iodine and fluorine are present in sea fish; fish is a good source of phosphorous, potassium and zinc; calcium in shellfish and bones of tinned fish; all fish contain B group vitamins, vitamins A and D in oily fish; oysters contain vitamin C etc.

Dietetic

Good alternative to meat; supplies HBV proteins; low in fat therefore useful in low calorie and low cholesterol diets; types of fatty acids present are linked with lowering risk of heart disease; easy to digest so useful for diets for elderly and invalids; no carbohydrate so must serve with this; little vitamin C and iron therefore best served with foods rich in these nutrients; many different cooking methods can be used etc.

- (b) Recommend **one** dry method of cooking and **one** moist method of cooking suitable for fish.

In relation to each method recommended:

- state the underlying cooking principle involved
- comment on the palatability of the cooked fish.

(20)

(method- 2 marks; principle- 2 points @ 3 marks each, palatability- 2 marks) x 2

Dry Methods

Baking – convection currents, top shelf hottest, fan oven has even distribution of heat, steam produced by food prevents drying out, enhances flavour, crisp finish e.g. breaded fish.

Grilling / Barbecuing – radiant heat, heat from grill seals the surface of the food and seals in the flavour, moisture and nutrients. Digestible, over cooking can easily occur.

Roasting, Smoking etc.

Moist Methods

Poaching – conduction and convection, cooking in liquid below simmering point 80°C to 90°C, digestible but can lack flavour. Usually served with an appropriate sauce to add flavour.

Steaming – fish cooked as a result of the steam rising from boiling water, food does not touch the water, steam circulates around the fish, digestible but can lack flavour.

Stewing - conduction and convection, fish cooked in a small amount of liquid simmering between 80°C and 90°C, flavour retained, digestible, overcooking can cause the fish to become mushy.

Braising etc.

Microwave cooking – dry/moist method

- (c) Identify and discuss **two** contemporary trends in Irish eating patterns. (10)

2 points @ 5 marks each

New foods /ingredients; influence of foreign cultures; health conscious; value for money; organic; free trade; take away foods/ foods on the go/dash board dining; prepared food / meals from delis; the new going out is to entertain at home etc.

3. Preserving food to extend its shelf life, whilst ensuring its safety and quality, is a central aim of the food industry.

(a) Set out details of the findings of a comparative evaluation you have carried out on a food which can be preserved using **two** different methods of preservation. In your answer refer to:

- name of food (1 point @ 2 marks)
- suitable methods of preservation (2 methods @ 3 marks each)
- the underlying principle of each method (4 points @ 3 marks each- 2 points for each method)
- risk of food spoilage. (2 points at 3 marks each)

(26)

Freezing – removal of warmth and moisture to inactivate enzymes; ice crystals formed so liquid is unavailable to bacteria; on thawing temperature rises, moisture becomes available and bacteria grow again; blanching before freezing inactivates enzymes; colour, flavour and nutritive value maintained if stored correctly; freeze at -25°C store at -18°C; repeated defrosting / thawing can encourage microbial growth; freezer burn results in toughening, drying out and discolouration etc.

Bottling/canning – sterilisation at high temperatures destroys enzymes and micro-organisms; a vacuum is formed by the lid preventing re-entry of air and micro-organisms; loss of colour, flavour due to high temps; if cans are dented, food could become spoiled due to presence of clostridium botulinum, “blown” cans indicate the presence of bacteria etc.

Dehydration – moisture removed and sugar/salt concentration increases, micro-organisms cannot multiply; long shelf life when stored correctly in cool, dry well ventilated area; risk of bacterial contamination when liquid added; pests etc.

Chemical – e.g. addition of salt, sugar, alcohol, vinegar, acids, sulphur dioxide, and nitrate; chemical preservatives form a concentrated solution in the food, in an attempt to equalise the concentration water is drawn from the microbial cell and dies; alcohol denatures protein in bacterial cells; acids lower pH to unacceptable level for microbial growth and enzyme activity; micro-organisms cannot survive sugar concentrations above 65%, salt causes microbial cells to become dehydrated by osmosis etc.

Irradiation – a defined dose of ionising gamma rays go through the food to sterilise it, to delay ripening, to inhibit or destroy food poisoning bacteria and to prevent sprouting; little change in colour, flavour & texture; food is sterilised – very long shelf life etc.

Pasteurisation; UHT; Sterilisation; Freeze-drying etc.

(b) Assess the use of plastics as a packaging material having regard to:

- types (2 types @ 2 marks each)
- suitability for purpose (2 points @ 3 marks each)
- environmental impact (2 points @ 3 marks each)

(16)

Types – polythene bags, plastic cartons/boxes, PET bottles, polystyrene

Suitability for purpose – strong, moisture proof, convenient, easy to handle, lightweight, flexible, can be heat sealed, relatively low cost, suitable for frozen foods, variety of weights, thickness, can be printed on, less hazardous, some may contaminate foodstuffs etc.

Environmental impact – made from crude oil which is a non renewable resource, lack of facilities for recycling, contributes a huge bulk to landfill sites, non-biodegradable, not all plastics are recyclable etc.

PET bottles can be shredded and used as fibre for polyester linings etc.

(c) Outline the protection provided to the consumer by Labelling Regulations (1982, 1991 and 2002).

(8)

2 points @ 4 marks each

All labels must be clear, legible, indelible; must not mislead the consumer i.e. no claims that suggest a food product is capable of preventing or curing disease; language understood by the consumer; should not be obscured in any way; essential information must be present on the package etc.

4. **The average household in Ireland owes a whopping €115,000 according to the Central Statistics Office and as the recession bites a growing number of people are struggling with the burden of personal debt.** *(CSO – Press release April '09)*

- (a) Suggest some strategies that should be followed when planning family budgets to ensure effective management of financial resources. **(20)**

5 points @ 4 marks each

List all sources of net income. List planned expenditure - fixed, irregular and discretionary. Calculate weekly/monthly expenditure, allow for discretionary spending – Christmas, account for some possible changes in circumstances, incorporate long term and short term savings, allocate some money for personal expenses, keep copies of bills and receipts, evaluate and review budgets regularly etc.

- (b) Explain why **each** of the following are important considerations when selecting a savings scheme:
- (i) security of savings
 - (ii) interest payable
 - (iii) access to funds
 - (iv) tax payable.
- (20)**

4 points @ 5 marks each

Security of savings – some saving schemes are very safe e.g. An Post and banks (government guarantee up to €100,000). Others offer greater potential returns on savings but there may also be a loss as they are dependent on the stock market (equity based schemes).

Interest payable – varies between financial institutions and also different schemes offer different rates with the same institution. Rate of interest payable important if dependent on interest as income.

Access to funds – if money may be needed in the short term, one should avoid investing in medium or long term schemes because penalties are imposed for early withdrawal or encashment. Some schemes allow 1/2 withdrawals annually without penalty etc.

Tax payable – DIRT may have to be paid on savings but some are tax free e.g. An Post schemes etc.

- (c) Explain how MABS (Money Advice and Budgeting Service) assist families who are experiencing financial difficulties. **(10)**

2 points @ 5 marks each

Advises on coping with immediate debt problems; helps families develop money management skills – planning realistic budgets and repayment schedule; advises re availability of special schemes e.g. fuel; advises on cheaper sources of finance e.g. credit unions etc.

5. 'The State recognises that family life gives to society a support without which the common good cannot be achieved. The State endeavours to support caring for others within the home'.

The Women's Health Council

- (a) Describe **four** main functions of the family in modern society **and** outline how the state supports the family with these functions. (24)

4 points @ 6 marks each

Nurturing, rearing, emotional function - family cares for emotional and psychological development of child, provides reassurance, encouragement, love and security, helping child to develop well balanced personality in a safe, secure loving environment etc.

Economic function – adults in the family work to earn money to provide for dependents etc.

Education/Intellectual function – family is the first educator, later supports state education of children by supervising homework, encouraging child and providing a stimulating home environment etc.

Socialisation - family is the primary centre of socialisation, introduces the child to beliefs, culture, language, norms, traditions, values of society in which they live. Family acts as agent of social control by showing child what is acceptable and unacceptable behaviour etc.

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

How the State supports the family: **Emotional** - State supported parenting courses, psychological services

Economic - Child benefit, Job seekers Allowance FIS, medical card, allowances for the elderly;

Educational- formal schooling; supports for students with special needs accommodations for state exams; NEWB to track early school leavers

Social function - supported in formal schooling

Protective / Physical function - the state can intervene in cases of child neglect, cruelty or abuse etc.

- (b) Discuss the merits of good child-parent communication. (12)

3 points @ 4 marks each

Enables quality relationships, children feel valued as they can express their ideas, feelings and thoughts in a safe environment; develops good listening skills - a good life skill; can prevent stress, easier to solve disagreements and agree compromises if necessary; essential to develop positive self esteem; creates a positive and relaxed home environment etc.

- (c) State why it is important for parents to make a will and outline the procedure involved. (14)

2 points @ 2 marks each

Why it is important

Parent / parents' wishes will be carried out avoiding problems which could arise particularly for spouse; property passes to whom the deceased wishes; administration of the estate is done by a person of parents' choice (executor); inheritance tax can be reduced for dependents; guardianship arrangements for children if both parents are deceased etc.

5 points @ 2 marks each

Procedure

Employ a solicitor; make a list of assets; **choose executor**; compile list of beneficiaries; outline wishes regarding funeral arrangements and burial place or arrangements for children if both parents are deceased; **draw up will in writing**; sign it in the **presence of 2 witnesses**; keep it safe (bank or solicitors office) etc.

Section C

Answer one elective question from this section.

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) An awareness of the elements and principles of design is essential when creating successful visual compositions.

- (i) Explain **three** principles of design and give an example of the application of each in interior design. (18)

3 points @ 6 marks each

Proportion – this is the relationship between different objects and their size. All objects in a room must be of a size / height that is relative to all other items intended for the room. This must be applied to colours, patterns and textures in the room.

Emphasis – this is where the eye is drawn to an object or a particular area or feature within the room.

This is referred to as the room's focal point e.g. a fireplace in a living room.

Balance – this means that there is harmony between each part of the design of a room. No one room feature or element should dominate the other. There should be an equal amount of colour, pattern and texture that work well together. A well balanced room is aesthetically pleasing.

Rhythm – this is where colours or patterns repeated on different objects draw the room together. It is achieved by linking various objects in a room. This can be done by repeating a different colour in different places or using items of similar style, shape or pattern throughout the room.

- (ii) Explain how **each** of the factors listed below can influence the interior design of the home:

- aesthetic and comfort factors
- ergonomics
- family size and circumstances.

(20)

5 points @ 4 marks each

Aesthetic and comfort factors - visual appeal, personal taste, colour trends, trends in pattern and texture, purpose of a room, heating, lighting and ventilation must be a comfortable level; all heights e.g. work surfaces must be at a suitable level to avoid discomfort

Ergonomics – design of a room should allow for ease of movement, accommodate the natural traffic flow, spaces should be easy to clean with free access to all areas e.g. windows, sockets; room design should facilitate maximum efficiency e.g. work triangle

Family size and circumstances – number and age of family members, areas for play and study, choices and preferences of each family member e.g. colours, family income, number of people working, practical, durable, flexible to include all occupants needs, easy to clean surfaces, current and future needs etc.

- (iii) Recommend **one** type of fabric suitable for household soft furnishings. Give reasons for your choice. (12)

3 marks for type of fabric, reasons 3 @ 3marks each

Fabrics – cotton, linen, wool polyester, velvet, silk, etc.

Reasons – relate to purpose of soft furnish e.g. curtain fabric – good draping, pre-shrunk, fade resistant, flame resistant, durable. Cushions – strong, washable / can be dry cleaned, stain resistant.

Bed linen – smooth, closely woven, absorbent, easy to launder, shrink resistant etc.

and

- 1.(b) (i) Describe the processes carried out at water treatment plants to ensure household water supply is fit for human consumption. (15)

5 points @ 3 marks each

Screening – impurities in water such as floating debris are removed

Sedimentation – chemicals added to the water which attach to the dirt which sinks to the base of the tank, water is allowed settle so that leaves, soil and other solid matter can be removed

Filtration – water is filtered to remove any remaining impurities

Chlorination – chlorine is added to kill bacteria

Fluoridation – fluoride is added to strengthen teeth and reduce tooth decay

Softening – Chloride of lime is added to soften hard water

Testing – water is tested for quality and pureness.

- (ii) In relation to the cold water storage system in the home, explain the function of **each** of the following:
- stop cock
 - ball valve / ball cock
 - overflow pipe.
- (15)

3 points @ 5 marks each

Stop cock – controls the supply of water to an individual house (on/off)

Ball valve – controls water levels or rate of fill used in toilet cisterns or in water tanks

Overflow pipe – in case the ball valve fails this then takes away excess water from the storage tank.

or

- 1.(c) For most young people, especially single individuals, buying a house is still a far-off prospect given reduced income levels and increasing unemployment.

- (i) Discuss the adequacy of housing provision in Ireland today. (18)

3 points @ 6 marks each

Private housing – very high level of home ownership 80% home owners, higher than EU average, government policy has encouraged home ownership e.g. mortgage interest relief, tenant purchase schemes etc. In the recent past (celtic tiger boom) increased economic prosperity, low interest rates, a growing young population created conditions of high demand for home ownership. At its height demand exceeded supply. Huge numbers of houses built. This has now changed. Building industry slowed down considerably. Many houses built and are not selling. Value of property has reduced but market still very slow. Supply currently exceeds demand in some areas.

Social housing – provided for people on lower incomes or those who are unable to afford a private house, provided by the local authority mainly or by voluntary or co-operative housing groups. Substantial increase in the number of people on waiting lists; can be waiting for a number of years. Supply does not meet demand. Families, disabled and elderly get priority, single people are disadvantaged. ‘Improvements works’ schemes in lieu of local authority housing scheme etc.

Private rental sector - High demand for rented accommodation among young single workers or students; demand mainly in urban areas, availability is limited and sometimes of poor quality. Purpose built housing for students provides rental accommodation but availability is limited. Supply of rental properties has increased significantly in recent years and in some areas supply exceeds demands etc.

(ii) Name and give details of **one** type of social housing.

(12)

Name – 4 marks

Details – 2 points @ 4 marks each

Local authority housing – providers of housing for those who do not have the resources to do so; to receive a loan there are conditions to be complied with i.e. be in need and unable to purchase from own resources, unable to secure a mortgage from bank or building society, satisfy income eligibility test. 95% of the house price may be borrowed and repaid over 25 years. Loan repayments are linked to income not to exceed 35% of net household income.

Tenant purchase scheme – For tenants who need housing but cannot pay the full market price. tenants of one year or over have the option to buy house outright or through shared ownership. House is priced at market value minus discounts for each year of tenancy up to a max of 10 years.

Shared ownership scheme – shared between the shared owner and L.A. Applicant must purchase 40% of the value of the house and rent the remaining 60% from the L.A. Tenant can purchase remaining 60% when initial share is paid for.

Mortgage allowance scheme – this is available for those who wish to build or buy a private home. An allowance is paid directly to the mortgage lender.

Affordable housing scheme – L.A. offers houses at discounted prices to those who are eligible (in need and satisfy income eligibility test). House has to be purchased outright.

Voluntary housing – voluntary housing associations offer rented accommodation – houses, flats, sheltered housing, group homes, hostels - for those in need. They are non profit organisations e.g. Respond; must be approved by Dept of Environment and Local Government to get financial aid.

Co-operative housing – group of people come together to form a co-operative and build houses by sharing costs of site, builder etc. may benefit from low cost sites provided by the L.A. if 75% of members are L.A. tenants or on housing list. Non profit. Supply houses for rent or ownership.

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) Wearing the right festival gear can often make a big difference to your enjoyment of an event.

- (i) Give an account of the factors that would influence your selection of clothing when attending an outdoor music festival. (8)

4 points @ 2 marks each

Comfort, style, fashion, weather appropriate, festival theme, etc.

- (ii) Sketch **and** describe an outfit suitable to wear to such a festival. (9)

Sketch = 5 marks, Description = 4 marks

- (iii) In relation to the outfit, give details of
- **one** type of suitable fabric and reasons for choice
 - **one** functional finish that could be applied to the fabric. (8)

*type of fabric = 2 marks
2 reasons @ 2 marks each
functional finish = 2 marks*

Fabric – cotton – comfortable, soft, absorbent, cool

Polyester cotton – strong, resists wrinkling, light

Lycra – comfortable, stretchy, retains shape

Functional finish – crease resistant, anti-static, stain resistant, waterproof, water repellent etc.

and

2.(b) Write a profile of **one** blended fabric you have studied.

Refer to:

- production (*3 points @ 2 marks each*)
- properties (*2 points @ 2 marks each*)
- identification test (*3 marks*)
- uses. (*2 uses @ 1 mark each*) (15)

Production: Wool and nylon, Polyester cotton, cotton and Lycra, cotton and linen

Cotton – boll is harvested, cotton fibres removed, spun into yarn

Polyester – viscous liquid created and extruded through fine holes in a nozzle or spinneret. The filaments solidify when they reach cold air.

Wool fleece is graded, cleaned and teased

Nylon – two chemicals mixed together and heated, molecules link to produce a long filament, hot nylon is squirted from slit in base of steel vessels etc.

Blending can be done in two ways –

- *Combinations/mixing* - the threads are woven together e.g warp is cotton and the weft is linen
- *Blends* - fibres are blended before or as fibre is being spun.

Properties - the properties of both fabrics blended.

Identification test - burning test or microscopic evaluation

Uses- clothing, soft furnishings, bed linen etc.

or

- 2.(c) (i) Discuss how the Irish clothing industry has maintained international recognition. (9)

3 points @ 3 marks each

Producing products that meet the needs of its customers e.g. Magee suits, Phillip Treacy hats; updating and investing in new technologies – Magee weaving invested heavily in modern machinery to produce quality fabrics; competitiveness – offering quality designs at reasonable prices; marketing campaigns abroad highlighting the quality of the Irish brand; high profile personalities wearing clothes from Irish designers e.g. Mary Robinson wearing Louise Kennedy; Costumes for Riverdance designed by Irish couturier Jen Kelly raised the profile of traditional Irish fabric and crafts; Fás through training programmes and integrating technology; An Bord Trachtála ‘Look to Our Own’ campaign; Fobairt / Enterprise initiatives e.g. increase in use of CAD, etc.

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

*Name = 2 marks
2 points @ 2 marks each*

Fashion designers, tailors, fashion journalists and editors, photographers, models, stylists, clothing manufactures, advertising, sales people, etc.

Elective 3 – Social Studies (80 marks)

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

3.(a) The Irish economy has come to the end of a prolonged period of growth, this will increase the number of households vulnerable to poverty.

- (i) Discuss the influence of **each** of the following as a contributory factor to poverty in Ireland today:
- the economic recession
 - social policy
 - the cycle of deprivation in families and geographical areas. (30)

5 points @ 6 marks each

Economic recession – when economy is weak / in recession unemployment levels rise; world economy / globalisation many jobs lost in manufacturing industry etc.; levels of demand for products and services has fallen so many indigenous companies closed and in debt, little hope for the future.

Social Policy – if wages are low there is little incentive for long term unemployed to return to the workforce as they may lose some of their benefits and end up financially less better off. Social policy may perpetrate poverty if the benefits gained leave little incentive to gain employment.

Cycle of deprivation and geographical areas – children from lower socio economic groups may not have the same opportunities as those from higher socio economic groups. This may result in unemployment or poorly paid jobs. In turn their children have the same experiences and the cycle continues.

Poverty results from lack of education and lack of education can lead to poverty. Unemployment black spots; Industries closing down in areas with few other employment opportunities etc.

- (ii) Outline how the state has responded to eliminating poverty. (10)

2 points @ 5 marks each

Social welfare assistance / benefits – job seekers allowance, one parent family payment, old age pension, child benefit, supplementary welfare allowance, family income supplement, local authority housing etc.

Initiatives encouraging foreign investment.

Schemes to reduce expenditure for low income families – Medical cards; Back to school clothing and foot wear allowance; school books grant scheme; mortgage allowance scheme; national fuel scheme.

Combat Poverty Agency – advises policy makers on preventing and eliminating poverty and social exclusion.

Community Development Programmes - develop community resource centres in areas of disadvantage.

National Anti Poverty Strategy (NAPS) – ten year programme to reduce poverty looking at income, unemployment, educational disadvantage and urban/rural poverty.

National minimum wage.

Money Advice and Budgeting Service – funded by Dept. of Social, Community and Family Affairs (Social Protection), FÁS, VTOS, etc.

- (iii) Write an informative note on **one** national voluntary organisation which works with individuals / families experiencing poverty. (10)

*Name - 2 marks,
2 facts @ 4 marks each*

e.g. Society of St Vincent de Paul, Focus Ireland, Simon Community etc.

and

3.(b) ‘Having a work environment that is dynamic encourages people to share their views and be innovative.’

(Irish Independent March 2009)

- (i) Assess how intrinsic **and** extrinsic factors affect attitudes to work. **(10)**

2 points @ 5 marks each

Intrinsic – fulfilment that job offers, if work gives a sense of achievement, this gives workers confidence, sense of pride, job satisfaction, scope for creativity, workers are motivated and are more creative
Extrinsic – financial rewards e.g. high salary, bonuses, benefits, status. Can affect performance, job satisfaction and commitment etc.

- (ii) Identify and discuss some of the changes in patterns of work and work availability in Ireland today. **(20)**

4 points @ 5 marks each

Use of technology; reduction in working hours; increased participation of women at work; qualifications needed for jobs; flexibility in working hours; working from home; support structures e.g crèches; improved working conditions; parental leave; term time leave; career breaks; job sharing; more ‘stay-at-home dads. Increase in service industries and decline in primary and secondary industries; cutbacks in tertiary industries has led to job losses in public services – manufacture moving to low labour cost countries; use of IT has changed the type of work that is available etc.

or

3.(c) ‘Secondary education in Ireland aims to build on the foundation of primary education to provide a comprehensive, high quality learning environment to enable all students to live full lives and to realise their potential as individuals and citizens.’

(www.educationireland.ie)

- (i) Describe the purpose of education as a preparation for work. **(10)**

2 points @ 5 marks each

Personal qualities – responsibility, trustworthy, self disciplined
Academic / Skills – numeracy, literacy, artistic, IT etc.
Socialisation – punctuality, respect for authority and rules, code of behaviour
Educational programmes – TY and LCA offer work experience, career guidance etc.

- (ii) Discuss equality of opportunity in education with reference to **each** of the following:
- gender inequity
 - early school leavers.
- (20)**

(2 points @ 5 marks each) x 2

Gender inequity – equal representation of both genders in third level, textbooks less gender stereotypical; subject availability and choice linked with school (single sex or co-ed); differences in levels of attainment – girls higher level of achievement; schools’ emphasis – single sex girls schools Vs single sex boy’s schools etc.

Early school leavers – more likely to be unemployed and to experience social exclusion; programmes in place to help early school leavers return to education e.g. “school completion programme” available in schools with high numbers of early school leavers; DEIS programme; National Educational Welfare Board - tracking attendance; Back to Education Allowance; Youthreach; VTOS, etc.



Coimisiún na Scrúduithe Stáit
State Examinations Commission

LEAVING CERTIFICATE 2010

MARKING SCHEME

HOME ECONOMICS – SCIENTIFIC AND SOCIAL FOOD STUDIES COURSEWORK

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 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 preparation, food preparation processes, cooking time /temperature, serving /presentation, wash-up, 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) = 8
2 x 4 marks
Identification (2) and clear explanation of importance (2) of two factors considered which were critical to success of dish
- **Safety/hygiene** = 4
2 x 2 marks
(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** = 8
2 x 4 marks each
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 = 8
2 x 4 marks each
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

Research has highlighted the close relationship between health, nutrition and socio-economic status. Attention has been drawn to the vulnerability of socially disadvantaged groups to food poverty and related conditions such as malnutrition and obesity.

Identify and elaborate on the nutritional needs and the meal planning guidelines that should be considered when planning meals for a low-income family.

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 with specific reference to a **low-income family***
- *relevant meal planning guidelines with specific reference to a **low-income family***
- *range of main course dishes*
- *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 a low-income family's needs with reasons for possible variations, high fibre, Vitamin C / iron absorption, Vitamin D / calcium absorption, possible variations in energy requirements, 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, resource issues with particular reference to foods that are nutritionally adequate and relatively inexpensive – own brand foods, special offers, cheaper protein food sources e.g. use of meat extenders and substitutes, special offers, foods in season, avoid foods high in salt, saturated fat and sugar i.e. convenience foods, use of energy efficient methods of cooking e.g. microwave, steamer, full use of oven, portion size, cost of meals, time available for preparation, skills, avoid purchasing convenience foods e.g. brown bread - make own instead etc.*

Dishes selected – range of main course dishes

- **must be suitable for low-income family**
- **must be a main course.**

Evaluation (specific requirements of assignment)

Analysis of findings regarding the nutritional requirements of main course dishes for a low-income family.

Meal planning guidelines – range of main course dishes suitable for a low-income family, how the selected dish meets the requirements as identified in the investigation.

Assignment 2

Osteoporosis affects one in three women over the age of fifty in Ireland.

Carry out research on *osteoporosis* in relation to: **(i)** the causes, **(ii)** the effects on the body and **(iii)** the possible preventative measures of this condition.

Investigate and elaborate on the nutritional needs and the factors that should be considered when planning and preparing meals for women (aged 50 years and over).

Having regard to the factors identified in your research, suggest a menu for **one** day (three meals) suitable for this group of people.

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

- *causes of osteoporosis*
- *effects of osteoporosis on the body*
- *possible preventative measures of this condition*
- *dietary/nutritional requirements for women (aged 50 years and over)*
- *relevant meal planning guidelines*
- *menu for **one** day (three meals) and reasons for choice.*

Investigation

Causes of osteoporosis – low body weight or history of an eating disorder such as anorexia or bulimia, low calcium/phosphorus/vitamin D intake, intolerance to dairy products, lack of regular exercise, long term immobility or excessive exercise, heavy drinking, smoking, excess caffeine and fibre, family history, psychological stress, long term use of corticosteroid tablets (asthma medication), early menopause or hysterectomy, over 16 years before first period, missed periods for more than 6 months and were not pregnant, low levels of testosterone in men, advancing age, small bone structure – low body weight, medical conditions e.g. Crohn's and Coeliac disease, endocrine disorders, long term use of some medications etc.

Effects of osteoporosis on the body – fractures, height loss, curving or rounding of the spine caused by loss of thickness in the vertebrae which can cause vertebrae to become compressed, back pain with height loss, restricted movement, brittle bones, bone wasting etc.

Possible preventative measures- increase intake of calcium to between 1,000 mg and 1,200 mg by consuming at least 5 portions of dairy products each day, increase vitamin D intake, participate in 30 minutes a day of physical exercise e.g. weight bearing exercise i.e. brisk walking, jogging, running etc., have a DEXA scan to diagnose bone density, avoid smoking, drink alcohol, tea and caffeine in moderation, avoid fizzy drinks etc.

Dietary / nutritional requirements – nutritional balance, daily requirements of macro / micro- nutrients including protein / cho / fat / iron / calcium requirements as appropriate (5 portions per day), high fibre, Vitamin C / iron absorption, Vitamin D / Calcium absorption, increase phosphorus intake, follow current nutritional guidelines re nutrient and food intake etc.

Meal planning guidelines – use of food pyramid to ensure balanced meals, eat wide variety of fruit and vegetables, avoid legumes and cereals that contain phytates and /or oxalates as they hinder the absorption of calcium, include extra calcium to avoid this problem, avoid caffeine drinks as caffeine can contribute to calcium loss instead choose decaffeinated beverages, avoid foods high in salt and sugar i.e. processed foods, choose low fat/ products with polyunsaturated fats as saturated fats hinder calcium absorption, avoid refined carbohydrate foods and replace with wholemeal products, eat 5 portions of dairy products each day, vegans should use milk substitutes that are fortified with calcium etc.

Dishes selected – menu for one day (three meals)

- **should meet the nutritional requirements as identified to prevent osteoporosis**
- **must be a main course**

Evaluation (specific requirements of assignment)

Analysis of findings regarding what you learned from the investigation regarding the management of a diet for women aged 50 years or over, factors that should be considered when planning meals for women aged 50 years or over in order to prevent osteoporosis, 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

The variety of yeast breads available to consumers has increased in recent years.

Carry out research on (i) the types of yeast available (ii) the underlying principle of yeast as a raising agent and (iii) the culinary uses of yeast.

Investigate and elaborate on the key points that should be observed to ensure success when using yeast in baking.

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

Evaluate the assignment in terms of (a) implementation, (b) the advantages and the disadvantages of making yeast products at home and (c) cost in comparison to a similar commercial product.

Key requirements of the assignment

- *research on the types of yeast available*
- *the underlying principle of yeast as a raising agent*
- *the culinary uses of yeast*
- *the key points that should be observed to ensure success when using yeast in baking*
- *chosen product and reasons for choice.*

Investigation

The types of yeast available:

Fresh yeast / Cake yeast – *creamy/beige colour, compressed and containing a little corn flour to help keep it dry, beery smell, firm yet crumbly, lasts 2-3 weeks in fridge, must be blended with liquid and should become frothy before being added to flour, 15g fresh yeast to 450g flour etc.*

Dried yeast – *available in pre-packed, pre-measured sachets, brownish grains, most of the water has been removed from the yeast cells in the drying process, lasts up to 6 months, more concentrated than fresh yeast 7g dried yeast = 15g fresh yeast, it is dehydrated active yeast that requires food, moisture and warmth before being added to flour, added to warm water with little sugar, appears frothy etc.*

Fast action dried yeast – *most popular form, a blend of dried yeast and improvers such as vitamin C which helps to speed up the fermentation process and reduce the rising time, is added directly to dry ingredients, only requires one rise, 7g to 450g flour etc.*

Sourdough starter – *mixture of yeast, flour and water, yeast fungi kept alive in liquid medium called a starter, allowed to ferment, added to dough as required, stored in refrigerator, gives sour dough bread its distinctive flavour etc.*

The underlying principle of yeast as a raising agent:

Fermentation – *process by which yeast breaks down sugar forming CO₂ and alcohol, enzyme diastase in flour converts starch to maltose, enzyme maltase in yeast converts maltose to glucose, enzyme invertase in yeast converts sucrose to glucose and fructose, enzyme zymase in yeast converts glucose and fructose to CO₂ and alcohol, gluten matures and becomes elastic and springy etc.*

Rising - *CO₂ expands and rises pushing the dough upwards, yeast is killed by high temperature of oven, and rising process stops, alcohol evaporates, gluten sets, temp. reduced 190°C to cook product etc.*

Culinary uses of yeast:

Breads / rolls – sweet & savoury, buns, cakes, desserts, wine and beer making, vinegar, Bovril/marmite, etc.

Key points that should be observed to ensure success when using yeast in baking:

Use strong flour as the gluten content must be high, water most suitable liquid, milk gives softer crust and closer texture, use correct proportion of ingredients - yeast to flour, sugar provides food, salt can slow down growth of yeast and too much can kill yeast, where a lot of fat is used in a recipe e.g. Chelsea buns a little extra yeast should be used, eggs(also contain fat) entrap air in a mixture and help to achieve a lighter end product, the longer the dough can be left to rise the less yeast will be needed initially, vitamin C speeds up fermentation and reduces rising time by one third, kneading is necessary to develop and stretch the gluten in the flour which helps the dough to rise, all yeast breads must be risen at least once before baking for fermentation to occur, yeast works best at a warm temperature around 20 – 27°C so it is best to keep dough and ingredients warm during making and rising (proving), yeast is destroyed at temperatures above 55°C, knocking back to original size breaks down large bubbles of CO₂ into smaller more even sized bubbles, shaping dough, proving in warm place to double in size, cover with greased polythene when rising, oven temp 220°C kills the yeast etc.

Dishes selected – must be a yeast product from research

Evaluation - *advantages and disadvantages of making yeast products at home
- cost in comparison to a similar commercial product etc.*

Area of Practice C: Food Technology

Assignment 4

Mincemeat is the traditional filling used for mince pies which are a popular Christmas food. Mincemeat is made from a combination of ingredients preserved by combining uncooked dried fruits, sugar, alcohol etc.

Carry out research on the range of commercially available mincemeat.

Investigate **(i)** the range of ingredients used in making mincemeat and **(ii)** different methods of making homemade mincemeat. Explain the principles involved in making this product.

Choose **one** recipe for mincemeat and prepare, make and pot this product suitable as a Christmas gift.

Include details of potting, labelling and presentation.

Evaluate the assignment in terms of **(a)** implementation, **(b)** practicability of making mincemeat at home and **(c)** cost in comparison to a similar commercial product.

Key requirements of the assignment

- *research on the range of commercially available mincemeat*
- *investigate the range of ingredients used in making mincemeat*
- *investigate different methods of making homemade mincemeat*
- *explain underlying principle in making mincemeat*
- *storage containers and labelling (for homemade mincemeat)*

Investigation

Research on the range of commercially available mincemeat e.g. Chivers, Robertsons, Tesco, Aldi, Marks & Spencer, Tiptree and products sold at Farmers' Markets etc.

Research may include definition of 'mincemeat,' brands, quantity/weight per jar, ingredients, nutritive value, packaging/containers, labelling, shelf life, cost etc.

Investigate the range of ingredients used in making mincemeat

Dried fruit - raisins, currants, sultanas, candied fruit – mixed peel, cherries etc.

Spices - cloves, nutmeg, mace & cinnamon etc. Nuts – almonds & walnuts; Sugar – brown or white,

Fruit - grated apple, apricots, prunes, citrus fruits - oranges & lemons, cranberries etc.

Fat - animal suet, butter, vegetable fat etc. Alcohol - brandy, rum, sherry etc. Misc. - breadcrumbs etc.

Investigate different methods of making homemade mincemeat

Uncooked / all in one - fruit is prepared, combined with suet, sugar, spices and alcohol etc., covered and left overnight /2-3days for flavours to develop, potted etc.

Melted method - fruit is prepared, combined with melted butter, sugar, spices and alcohol, covered and left overnight for flavours to develop, potted etc.

Cooked – boiling / oven method – ingredients are mixed together, left overnight for flavours to develop, placed in pre-heated oven 120°C for 3 hours or can be put in slow oven overnight at 100°C, allowed to cool before adding alcohol, potted or frozen, can be stored for up to 3 months etc.

Partially cooked – fresh fruit e.g. apples stewed or baked, mashed and added to remainder of ingredients, potted etc.

Underlying principle

Growth of micro organisms inhibited by addition of alcohol and lemon juice which lowers the pH and prevents growth, addition of sugar results in the production of a concentrated solution, this solution which surrounds the micro-organisms, draws water from the cells by osmosis because the sugar solution is more concentrated than the cytoplasm in the microbial cell, causes cell to become dehydrated and inactive, cooking foods at high temperature 100°C kills micro-organisms, enzymes are denatured or inactivated by high temperatures and strong acidic environment, in oven cooking suet is rendered down to a liquid fat which coats the fruit and seals in the juices as it coagulates when cooled, sterilising jars at 180°C for 5–10 mins. kills micro-organisms, mincemeat covered with waxed disc and lid to prevent re-entry of micro-organisms, frozen mincemeat - water converted to ice crystals, no moisture available for microbial growth, low temperature inactivates bacteria, enzyme action slowed down etc.

Method of making mincemeat must include details of the underlying principle.

Suitable packaging and labelling for homemade mincemeat e.g. glass jars, plastic containers, plastic covers, parchment covers, non-metallic lids, cling film covers, stick-on labels etc.

If no packaging investigated – 3 marks

Dishes selected – Mincemeat type.

Evaluation (as specified in assignment) - *practicability of making mincemeat at home e.g. resource issues – cost in comparison to a similar commercial product etc.*

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

Assignment 5

Fats and oils have a wide variety of culinary uses, attributable to their properties, when used in food preparation.

Carry out research on the properties and the related culinary uses of fats and oils, explaining the principle involved in each case. Identify dishes that illustrate the use of each property identified.

Prepare, make and serve **one** of the dishes you have investigated.

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

Key requirements of the assignment

- research the properties and the related culinary uses of fats and oils
- explain the principle involved in each case
- dishes illustrating the use of each property
- chosen dish and reasons for choice.

Properties and culinary uses of fats and oils:

Emulsification: when two liquids that usually do not mix are forced to do so e.g. oil-in-water or water-in-oil, forms

an emulsion, temporary or permanent etc.

Temporary emulsion can be made by vigorously shaking a mixture, e.g. French dressing used in making of potato salad - the two main components will separate if left to stand for a period of time etc.

Permanent emulsion can be formed by adding an emulsifier e.g. lecithin, the hydrophobic tail attaches itself to the lipid molecule, hydrophilic head attaches itself to the water molecule, a layer is formed around the dispersed droplets and prevents them from separating out, used in- mayonnaise which may be used for egg mayonnaise, prawn cocktail etc. salad or desserts- ice cream etc.

Plasticity: this enables fats to change their shape when pressure is applied but remain in that shape when the pressure is removed, the plasticity of fats is due to the mixes of triglycerides with each triglyceride having its own melting point, at a given temperature some of the fat will be liquid and some will be solid, a mixture of triglycerides with a wide range of melting points will form a fat with a wide plastic range e.g. margarine, some fats are formulated so their melting points are low and can be spread straight from fridge, it enables the mixture to become light and creamy e.g., creaming, as in cake making - maderia cake, chocolate chip cookies, butterfly cake or use as a spread etc.

Shortening: pastry e.g. shortcrust, biscuits and shortbread all rely on fats to give a characteristic crumbly and short texture, the fat coats the flour particles, prevents moisture absorption and inhibits gluten formation / formation of long gluten strands giving product 'short' crumbly texture etc.

Effects of heat

Melting Point: as fats are a mixture of triglycerides they melt over a range of temperatures, solid fats will melt between 30 - 40°C, used in cakes e.g. éclairs, gingerbread, etc.

Smoke Point: some oils (corn, sunflower) and fats (lard, dripping) have a high smoke point and are thus suitable for frying and can be used at temperatures up to 250⁰ C. The high temperature seals the surface of the food – prevents food from absorbing oil/fat, seals in juices etc. Fats with a lower smoke point (butter) are not suitable for frying at high temperatures as it decomposes etc.

Flash Point: when fat or oil is heated to a very high temperature (310-325⁰ C) a vapour is given off which when ignited can be used to sear foods e.g. steak

Properties may also include: aeration, preservation and anti staling, absorb flavour, hydrogenation etc.

Principle of each property

Dishes / culinary uses that illustrate the application of each property

Dishes selected – must illustrate a property of fats and oils.

Evaluation (as specified in assignment)

How successful the selected property was applied in the preparation/cooking of the selected dish.

Area of Practice E: Comparative Analysis including Sensory Analysis

Assignment 6

Commercial soft drinks are very popular among young people.

Carry out research on commercially available soft drinks that are popular with teenagers. Include reference to brands, flavours, price, sizes, packaging etc.

Using **two** different brands of soft drink, both with the same flavour, carry out a *difference test* of your choice to determine if testers can differentiate between the brands. Present the results obtained from the test.

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 obtained).

Key requirements of the assignment

- *Investigation of foods appropriate to assignment - different types of commercially available soft drinks - brands, flavours, price, sizes and packaging etc.*
- *Investigation, description and possible outcomes of difference test using two different brands of soft drink*
- *Conditions to be controlled during testing*
- *Selected products and selection criteria*

Investigation

- **Research / Investigation of products appropriate to the assignment**
- Investigate the different types of commercially available soft drinks with reference to brands, flavours, price, sizes and packaging. = 20
- **Difference Tests**

Triangle Test - Description: *tester is presented with 3 coded samples, two samples are the same, one is different, tester is asked to identify the sample that is different etc.*

Simple Difference Paired Comparison Test -Description: *tester is presented with a two coded samples, tester is asked if there is a difference between the samples etc.*

Duo -Trio Test - Description: *tester is presented with three samples, two samples are coded and one is identified as the reference, the tester is asked to identify the sample that is different from the reference etc.*

Aim of tests: to identify the sample that is different

Possible outcomes of tests: testers can/cannot detect the sample that is different

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, similar quantities in each sample, temperature of samples, coding of samples, hygiene, timing, dietary conditions etc.

- **Selected dish and selection criteria**

Select two types of soft drinks, same flavour, but different brands. (2 types @ 2 marks) = 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

(tests are based on 6 testers)

Triangle Test – 6 trays, 6 glasses of water, 18 coded containers for soft drinks, 9 samples of soft drink A, 9 samples of soft drink B, 6 score-cards, record sheets etc.

Simple Difference Paired Comparison Test - 6 trays, 6 glasses of water, 12 coded containers for soft drinks, 6 samples of soft drink A, 6 samples of soft drink B, 6 score-cards, record sheets etc.

Duo -Trio Test - 6 trays, 6 glasses of water, 18 coded containers for soft drinks, 12 samples of soft drink A, 6 samples of soft drink B, 6 score-cards, record sheets etc.

Work sequence

=3

Triangle test: code containers, set up trays, place soft drinks in containers – balanced presentation, carry out test, record results, reveal codes, present and evaluate results, tidy and wash up, etc.

Simple Difference Paired Comparison Test: code containers, set up trays, place soft drink samples in containers in random order, carry out test, collect score-cards, transfer results to prepared record sheet, reveal codes, present and evaluate results, tidy and wash up, etc.

Duo -Trio Test: code containers, set up trays, place soft drink samples in containers in random order, carry out test, collect score-cards, transfers 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.

Triangle Test

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

Simple Difference Paired Comparison Test

Code 12 containers, 6 containers with symbol □, 6 containers with symbols O, put soft drink samples in each container, set up 6 trays numbered 1-6, each tray has one container labelled with symbol □, one container with symbol O, samples presented in random order on each tray, each soft drink is offered an equal number of times i.e. 6 times, and no tester gets samples presented in the same sequence, samples on the tray can be the same or different, codes on each tray remain the same, testers follow instructions on scorecards, circle on the scorecard if they can detect a difference, scorecards are collected by recorder and results transferred onto the 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, etc.

Duo -Trio Test: select different people to code 18 containers, 6 with symbol R (reference food), 6 with symbols O, 6 with symbol □, set up trays numbered 1-6, put soft drinks samples in containers, place containers with different symbols on each tray, present samples in random order on each tray, codes remain same on each tray, the soft drinks in container changes, soft drink container coded R is reference food, only the foods in containers O & □, change, label scorecard which specifies taste order i.e. starting from left, taste R sample followed by two coded samples in the order given, circle sample different to R, tasters may re-taste samples, collect score-card from each tester, reveal codes, transfer results to prepared record sheet, present results, tidy and 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 soft drink used, sample temperature, uniformity of samples for testing, sufficient amounts, glass of water/or dry cracker included to cleanse the palate, having 6 testers to ensure that every possible combination of samples has been offered (triangle test), presentation of samples in random order so no tester gets samples presented in same sequence, balanced presentation – each food offered equal number of times – 9 times, codes on each tray remain the same, soft drink 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, importance of silence during testing, 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 – soft drinks with additives/e-numbers, special diets e.g. diabetic 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

- **Specific requirements of the assignment (1 point x 8 marks) = 8**

The 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 = 8 marks

Band B = 6 marks

Band C = 4 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 rich in calcium** - Assignment 2
 - 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 yeast used in dish for Assignment 3; no fat/oil used in dish for Assignment 5 - 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.

