



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

**Leaving Certificate 2013**

**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, 2013

## HOME ECONOMICS – SCIENTIFIC AND SOCIAL ORDINARY LEVEL

### Written Examination

**280/320 MARKS**

### Marking Scheme

#### *Instructions to Candidates*

- Section A** There are **twelve** questions in this section. Candidates are required to answer any **ten** questions. Each question carries **6** marks.
- Section B** There are **five** questions in this section. Candidates are required to answer **Question 1 and any other two questions**. **Question 1** is worth **80** marks. **Questions 2, 3, 4 and 5** are worth **50** marks each.
- Section C** There are **three** questions in this section. Candidates are required to answer **one** elective question to include **part (a)** and either **part (b) or part (c)**. Electives **1 and 3** are worth **80** marks each. Elective **2** is worth **40** marks.

#### *In developing the marking schemes the following should be noted:*

- *In many cases only key phrases are given which contain information and ideas that must appear in the candidate's answer in order to merit the assigned marks*
- *The descriptions, methods and definitions in the scheme are not exhaustive and alternative valid answers are acceptable*
- *The detail required in any answer is determined by the context and the manner in which the question is asked, and by the number of marks assigned to the answer in the examination paper. Requirements and mark allocations may, therefore, vary from year to year.*
- *Words, expressions or phrases must be correctly used in context and not contradicted, and where there is evidence of incorrect use or contradiction, the marks may not be awarded.*

## Section A

Answer any ten questions from this section.  
Each question is worth 6 marks.

1. Match each of the foods listed below match each with the correct classification of fat (lipids). (6)

*avocado, sardines, cheese*

Classification of Fat	Food
Animal	<i>cheese</i>
Vegetable(Plant)	<i>avocado</i>
Marine	<i>sardines</i>

2. Use the words listed below to complete the following statements in relation to vitamin A. (6)

**hypervitaminosis, rhodopsin, night blindness**

Vitamin A is necessary for the production of *rhodopsin* a pigment in the retina of the eye.

A deficiency of Vitamin A causes *night blindness*.

*hypervitaminosis* can occur through over-use of dietary supplements containing Vitamin A.

3. In relation to Coronary Heart Disease (CHD) indicate with a tick (✓) whether **each** of the following statements is true **or** false. (6)

Coronary Heart Disease	True	False
A high intake of saturated fats leads to low levels of cholesterol		✓
Overweight people are at risk of coronary heart disease	✓	
High salt intake is linked to high blood pressure	✓	

4. Listed below are three different cooking methods. Name **two** examples of each. (6)

Moist cooking methods	Dry cooking methods	Frying
1. <i>boiling, stewing, steaming,</i>	1. <i>baking, grilling,</i>	1. <i>dry frying, shallow frying,</i>
2. <i>poaching, braising, pressure cooking etc.</i>	2. <i>roasting, barbecuing etc.</i>	2. <i>deep fat frying, stir frying etc.</i>

5. Name **two** of the main nutrients found in skimmed milk. (6)

- (i) *protein*                      (ii) *carbohydrate*

Name **two** heat treatments applied to milk to extend its shelf life.

- (i) *e.g. pasteurisation, sterilisation, ultra-heat treated, dried,*  
(ii) *evaporated, condensed, etc.*

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

	True	False
Clear soups and broths are types of thick soups		✓
Soup may be thickened using a liaison	✓	
Croutons are a suitable garnish for soup	✓	

7. Identify **two** conditions required for the growth of micro-organisms. (6)

- (i) *e.g. food, warmth, oxygen,*    (ii) *time, ph, moisture, etc.*

State **one** use of micro-organisms in food production.

*cheese, yoghurt, bread, mycoprotein, vinegar, alcohol, etc.*

8. Explain **each** of the following textile care symbols. (6)



*Hand wash only*

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*Do not tumble dry*

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

Gross Income: *e.g. income earned before any deductions are made, etc.*

Net Income: *e.g. income after deductions have been made i.e. take home pay, etc.*

10. Name **one** provider of private health insurance. (6)

*e.g. VHI, AVIVA, VIVAS, Liberty, Laya, etc.*

State **two** advantages of private health insurance.

- (i) *e.g. choice of private/semi private accommodation in hospitals, helps pay consultant fees.*
- (ii) *allows for convalescence in homes, tax relief at source is available, peace of mind, medical treatment abroad, treatment in out-patient clinic, shorter waiting time, etc.*

11. Name **two** safety features used in electrical appliances **and** give an example of the use of **each**. (6)

Safety Feature	Example of use
<i>e.g. cordless appliances, thermostats, heat resistant plastic, fuses, safety locks on doors, earth wire in plug,</i>	<i>e.g. kettle, iron, mixers, all electrical appliances, microwaves,</i>
<i>radial circuit and a residual current device (R.C.D.), etc.</i>	<i>electric shower, etc.</i>

12. Name **two** merchandising (marketing) techniques. (6)

- (i) *e.g. loyalty schemes, own brand products, special offers, 24 hour opening, easy pay systems, mail order and shopping online, etc.*
- (ii) *packaging, labelling, advertising, store layout, essentials at back of shop, special offers placed at end of aisle, items that go together placed together (e.g. biscuits beside tea) sweets and magazines near check out, music entices consumer to stroll around shop, warmth, good lighting and ventilation – creates comfortable atmosphere, smell, (e.g. bakery), luxury items at eye level, tasting demonstrations, rotate shelving arrangements, etc.*

How does merchandising encourage consumer spending?

*e.g. items displayed will encourage consumers to buy as do items that are packaged attractively, the more time a consumer spends looking at items the more likely they are to buy, customers that can try or taste products are more likely to buy, 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. Following the guidelines of the new food pyramid and being active gives people the best chance of being healthy and well. *(Food Safety Authority, 2012)*



- (a) Discuss the role of the food pyramid as a source of information on healthy eating. (16)

**4 points @ 4 marks each**

*The food pyramid is a guide on how to balance our daily intake of food. Foods with similar nutrients are grouped together into 'shelves' on the pyramid. Selecting foods from the four main shelves provides a balanced diet of all the nutrients required each day. It ensures variety and helps to maintain a healthy weight, etc.*

**Bread, cereals and potatoes** – 6 servings recommended, source of carbohydrates, fibre aids peristalsis, creates bulk, choose wholemeal varieties of pasta, rice and bread, etc.

**Fruit & Vegetables** – 5 servings, eat with skins on where possible, good source of fibre, vitamins and minerals, suitable as snack foods, suitable for low calorie diets, etc.

**Milk & Milk Products** – 4 servings, important for children, pregnant and breast-feeding women who require five servings, rich source of calcium, protein, low fat varieties available, etc.

**Meat, Fish & Alternatives** – 2 servings depending on stage of growth and activity, 3 servings required during pregnancy, source of iron, fish contains Omega-3 oils, etc.

**Fats and Oils** – includes butter, margarine, cooking oil, saturated fats should be avoided, choose oils rather than fats, choose low-fat spreads where possible, etc.

**Others** – includes sweets, chocolates, crisps etc., eat very small amounts in order to reduce sugar and salt intake, etc.

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

- composition

**4 elements @ 1 mark each**

*e.g. carbon, hydrogen, oxygen, nitrogen, protein only nutrient which contains nitrogen, an element essential for growth, some proteins contain small amounts of sulphur, phosphorus, and iron, the elements are arranged into basic units called amino acids, etc.*

- classification (8)

**2 classes @ 4 marks each**

e.g. **simple protein:** animal and plant proteins e.g. collagen and albumin, etc.

**conjugated protein:** protein part combined with non protein part e.g. haemoglobin, etc.

**derived proteins:** these are formed due to chemical or enzymatic action on the protein itself e.g. when caseinogen is digested the enzyme rennin works on the protein to produce a derived protein, etc.

**High Biological Value:** animal sources

**Low Biological Value:** plant sources

- dietary sources (12)

**4 sources @ 3 marks each**

e.g. **animal:** meat, fish, chicken, eggs, milk, cheese, etc.

**plant :** soya bean, TVP, nuts, lentils, beans, peas, cereals, small amounts in potatoes, etc.

- functions in the body. (8)

**2 functions @ 4 marks each**

e.g. growth and repair, helps form muscle, skin and cell membranes, source of essential amino acids, production of hormones, enzymes and antibodies, immune response, deamination, a source of energy, forms blood proteins, etc.

- (c) Explain the following properties of protein **and** give an example of **each:** (12)
- denaturation

**explanation 3 marks, example 3 marks**

e.g. change in the nature of the protein, unfolding of the protein chain resulting in an irreversible change in shape can be brought about by heat, chemicals and agitation, etc.

**Example:** lemon juice added to milk sours it, whipping egg whites, etc.

- coagulation.

**explanation 3 marks, example 3 marks**

e.g. protein sets, caused by heat, etc.

**Example:** albumin in eggs solidifies, boiling changes collagen to gelatine in meat, etc.

- (d) Discuss **four** ways that consumers may reduce their food bill when purchasing *protein* foods. (20)

**4 points @ 5 marks each**

e.g. buy cheaper cuts of meat, avoid buying meat with lots of bone, buy cheaper fish such as mackerel, choose eggs and cheese as an alternative to meat, plan meals in advance, avail of special offers, e.g. two for one, purchase own brand foods as opposed to branded foods, bulk buy and freeze, shop in larger discount stores as opposed to local shop, etc.

2. 'Every function and process in the body requires energy'

(a) Discuss **three** factors which effect a person's daily energy requirement. (12)

**3 factors @ 4 marks each**

*e.g. age, level of activity, gender, pregnant/lactating, climate, occupation, bodyweight/size, illness, lifestyle, metabolism, etc.*

(b) In relation to persons with high energy requirements, set out:

- **four** important meal planning guidelines that should be followed (12)

**4 guidelines @ 3 marks each**

*e.g. balanced meals, energy foods i.e. pasta, rice, potatoes, calcium and vitamin D, iron and vitamin C, protein for growth, regular meals, cut down on salt, sugar and saturated fat, increase fibre, etc.*

- a menu for **one** day (to include three meals **and** snacks). (18)

**3 meals @ 6 marks each to include snacks**

<p><b>Breakfast</b> Hot oat cereal with milk and honey Wholemeal toast Grilled bacon, sausage, pudding &amp; tomato Tea/Coffee/Milk/Juice, etc.</p>
<p><b>Snack</b> Mixed berries smoothie, etc.</p>
<p><b>Lunch</b> Minestrone soup &amp; roll Apple/Yoghurt Water</p>
<p><b>Snack</b> Cereal bar &amp; tea, etc.</p>
<p><b>Dinner</b> Avocado with strawberry coulis Chicken curry &amp; rice Pineapple Soufflé Tea / Coffee</p>

(c) Comment on the growing popularity of the use of food supplements. (8)

**2 points @ 4 marks each**

*e.g. supplements are concentrates of important nutrients such as vitamins, minerals, polyunsaturated fatty acids and amino acids present in tablet/capsular form, provides nutrients that may be missing or may not be consumed in sufficient quantities in a person's diet, folic acid prevents neural tube defects in babies, good source of Omega-3 necessary for a healthy heart and easing symptoms of arthritis, older people may have difficulty absorbing nutrients and so need to take them every day, supplements replace food nutrients lost through food allergies/intolerances, provide extra nutrients for those with special requirements, e.g. anaemia sufferers, etc., ensures an adequate intake of the micronutrients, etc.*

### 3. Buying large household appliances is a big financial commitment.

- (a) Outline **four** factors that should be considered when selecting large household appliances. (16)

**4 points @ 4 marks each**

*e.g. compare prices, initial and maintenance costs, availability of credit, reputable dealer and brand name, family size, energy rating, guarantee, after sales service, modern features, safety, space available, colour, design and construction, ease of cleaning, consider where plumbing, vents and power points are located, easy to operate, etc.*

- (b) Set out the results of a study you have carried out on a refrigeration appliance. Refer to:

- description of appliance (2)

**description = 2 marks**

*e.g. standard under the counter, larder fridge, fridge freezer, American fridge, etc.*

- modern features (9)

**3 modern features @ 3 marks each**

*e.g. frost free, automatic defrosting, water/ice dispenser, digital clock/thermometer, zoned refrigeration, integrated/semi integrated door, boost button, tall bottle, gated shelves, variety of moulded door accessories, split shelf versatility, internal and external ice making facilities, different exterior finishes and colours, temperature sensors + or -1 °C, anti-bacterial coating inside, etc.*

- guidelines for use (9)

**3 guidelines @ 3 marks each**

*e.g. follow manufacturer's instructions, never place hot food in fridge, allow for air circulation around foods, avoid opening the fridge door unnecessarily, thaw frozen food in fridge, use food in rotation, cover foods to prevent drying out, store raw and cooked foods separately to prevent cross contamination, check and clean door seal regularly, place raw meat or fish at bottom of fridge, use a fridge thermostat for accurate temperature and adjust thermostat as necessary, use left over's within two days, etc.*

- energy efficiency rating. (4)

**1 point @ 4 marks**

*e.g. all fridges must carry the energy efficiency label which rates its energy usage on scale of A-G, A being most efficient, G being least efficient, also gives information of noise output, allows comparison between appliances, A rated appliance costs less to run and causes less damage to the environment, etc.*

- (c) State **one** advantage **and one** disadvantage of buying goods on credit. (10)

**2 points @ 5 marks each (1 advantage, 1 disadvantage)**

**Advantages** – *e.g. buy now pay later, have use of goods without having paid for them, Useful for expensive items, don't have to carry large sums of cash, not at risk of losing cash, useful in emergencies, can take advantage when sales are on, helps economy, etc.*

**Disadvantages** – *e.g. expensive, high rates of interest, encourages impulse buying, don't own goods until final instalment is paid, may take on several credit agreements - tends to lead to overspending, may be unable to keep up repayments, fraud common - people get your credit card details, repossession of goods, people may not keep to a planned budget, etc.*

4. Jane bought Peter a jacket for his birthday. The jacket was a perfect fit for Peter but he did not like the style of it. Jane went back to the shop to return the jacket and get a refund but the retailer would only give her a credit note.

(a) Was Jane entitled to her money back? Explain. (10)

**2 points @ 5 marks each**

*e.g. under the Sale of Goods and Supply of Services Act, 1980 Jane is **not** entitled to her money back, jacket was not faulty or unfit for use so retailer was not obliged to give money back, only returning jacket because Peter did not like style so retailer is under no obligation to give money back. You are **not** entitled to a refund if you simply change your mind, etc.*

(b) Outline the procedure to be followed when making a complaint when a problem occurs with a product or service. (12)

**3 points @ 4 marks each**

*e.g. once fault is identified stop using the product, return to retailer with receipt, speak with manager, outline complaint, retailer should offer redress, if retailer uncooperative put complaint in writing to supplier outlining events i.e. description of goods, where and when purchased, compensation sought, copies of receipt, guarantee etc., avail of assistance from National Consumer Agency (N.C.A.) if required, also Consumers Association of Ireland (C.A.I.), failing this it may be necessary to take legal action through the small claims court, same procedure for products or services. If a service is advertised as nationwide then it must be available all over the country, etc.*

(c) Name **and** explain **four** rights of the consumer. (16)

**4 rights @ 4 marks each**

*e.g. value for money, right to redress, honest and truthful information, right to choice of goods, right to safety, e.g. products must be guaranteed safe to use so as not to endanger health, etc.*

(d) Discuss **three** ways by which the consumer can help protect the environment. (12)

**3 ways @ 4 marks each**

*e.g. avoid excessive packaging, re-use goods where possible, repair goods if necessary, recycle materials, use waste products such as compost as fertiliser, use CFL bulbs, check energy ratings on appliances, purchase phosphate free detergents, use smokeless fuel, use rechargeable batteries, reduce the use of gas, e.g. cook in a tiered steamer, unplug electrical appliances and turn off lights when not in use, replace bath with shower, repair faulty taps, use full loads in washing machine and dishwasher, gases produced by landfill sites can be used to produce heat energy, energy produced by combustion of waste in an incinerator can also be recovered, etc.*

5. While the family is the basic unit of nearly every society, it differs in form.

(a) Explain **each** of the following family structures:

- Nuclear family
- Extended family
- Blended family

(15)

**3 points @ 5 marks each**

**nuclear family:** e.g. consists of parents and children, etc.

**extended family:** e.g. consists of parents, children, grandparents, aunts, uncles and cousins etc., living with or in close proximity to each other, etc.

**blended family:** e.g. where one or both parents are in a second relationship or marriage and where there are step-children from one or both sides, etc.

(b) Comment on:

- (i) the importance of independence for elderly people in the family.

(10)

**2 points @ 5 marks each**

e.g. after retirement more time for voluntary work, leisure activities, etc. join active retirement associations, people can live on their own, respect from younger generation gives feeling of being wanted, improved self worth if involved in childcare, provide financial help, greater self esteem, etc.

**and**

- (ii) how the state supports the independence of elderly people.

(10)

**2 points @ 5 marks each**

e.g. free travel, pension, medical card, community care facilities, sheltered housing options, home help, modification of family home to assist with physical disability/problems, etc.

(c) Explain what you understand by *generation conflict* **and** state **two** ways of dealing with conflict.

(15)

**explanation = 5 marks**

**explanation:** e.g. interests or ideals of one generation collide with those of another generation, conflict may also occur between parents and children in relation to future aspirations, etc.

**2 ways @ 5 marks each**

**dealing with conflict:** e.g. good communication avoids confrontation, set limits, appreciate both sides, compromise, trust and honesty, listening, create an atmosphere where teenagers can talk, do not ignore conflict, younger people should appreciate the wisdom and experience of older generations, etc.

## Section C

### Elective 1 – Home Design and Management (80 marks) Candidates selecting this elective must answer 1(a) and either 1(b) or 1(c).

1.(a) The diagram below shows the heat loss from a family home.



- (i) State, giving a reason, the **two** areas of this house that should be prioritised for insulation. (12)

**2 areas @ 4 marks each**

**1 reasons @ 4 marks**

**areas:** walls and roof.

**reasons:** e.g. highest % - 35% heat loss through walls, second highest heat loss - 25% through attic, hot air rises, insulation will not eliminate all heat loss but will reduce it by as much as two thirds, it reduces heating bills, grants are available, etc.

- (ii) Name **and** describe the method of insulation you would recommend for **each** of the following: (16)

**Name = 2 @ 4 marks**

**Description 2 points @ 4 marks**

- attic / roof

**e.g. fire blanket insulation:** strips of insulating blanket, made from glass fibre or mineral fibre, laid between joists in attic, etc., **loose fill insulation:** pellets of polystyrene, vermiculite, poured between joists in attic, etc.

**foam insulation:** foam sprayed between roof rafters, solidifies, etc.

**blown-fibre insulation:** glass, mineral and cellulose fibres are used, they are blown into the attic by specially trained contractors, etc.

- walls.

**e.g. cavity walls:** two layers of blocks, 5 -10 cm apart, air in space acts as insulator, polystyrene sheets can be inserted, polystyrene foam pumped in, polystyrene beads can be blown into cavity, in older houses polystyrene foam can be pumped into the cavity which then solidifies, etc.

**solid walls:** this insulation can be internal or external e.g. **blanket insulation / dry lining:** for internal walls: fibreglass or rock wool inserted into wooden frame on wall, layer of plasterboard covers insulation, etc. **insulation sheets:** for external walls e.g. sheets attached to solid wall, covered with plasterboard layer, etc.

- (iii) State **three** advantages of having a well insulated home. (12)

**3 advantages @ 4 marks each**

*e.g. reduces heat loss in all areas of the home, saves energy, reduces heating bills, less damage to environment, also acts as noise insulator, creates more comfortable living space and temperature in the home, etc.*

- (iv) Describe **two** ways that thermostats are used to maximise the efficient use of energy in the home. (10)

**2 ways @ 5 marks each**

**room thermostat:** *e.g. mounted on wall, set to required temperature, detects the surrounding temperature and responds by turning heat on when temperature falls below desired level, and off when required temperature is reached, etc.*

**boiler thermostat:** *e.g. connected to central heating boiler, controls the temperature of water in boiler, when desired temperature is reached the thermostat switches off boiler, when water temperature falls the boiler restarts, etc.*

**thermostatic radiator valve:** (TRV) *fitted to individual radiator, opens and closes a valve allowing or preventing the flow of water into the radiator, different temperature settings, can be adjusted to suit the room in which it is used, etc.*

**electrical appliances thermostat:** *e.g. fitted to appliance e.g. kettles, ovens etc. to control temperature and turn off appliance when required temperature is reached, etc.*

**and**

- 1.(b) (i) Identify **and** discuss **three** factors to be considered when selecting wall finishes for a kitchen in a new house. (18)

**3 points @ 6 marks each**

**(identify = 3 points @ 2 marks, 3 factors @ 4 marks)**

*e.g. cost – affordable – cash/credit, function of the kitchen, durable finish, size and shape, easy to clean and maintain, emulsion/soft sheen paint withstands high levels of moisture also resists grease and is easy to apply, colour, fashion trends, should complement the design of the kitchen, etc.*

- (ii) State the advantages **and** the disadvantages of ceramic floor tiles. (12)

**3 points @ 4 marks each**

**(1 advantage, 1 disadvantage + 1 other)**

**Advantages** *e.g. durable, easy to clean and maintain, available in a wide variety of colours, designs and finishes, non-absorbent and stain resistant, etc.*

**Disadvantages** *e.g. initial cost expensive, cold and hard underfoot, need to be laid by a specialist, can chip and crack if something heavy drops on them, difficult to repair/replace, etc.*

**or**

- 1.(c) **Huge rise in home rentals, a total of 29% were renting accommodation in 2011 up 47% from 2006.** *(The Irish Times, November 2012)*

- (i) Discuss why renting a home is currently a popular housing option. (12)

**3 points @ 4 marks each**

*e.g. buying very expensive, renting less expensive, rent allowance is available, large deposit not required, no repair costs, wide choice of houses, offers mobility, wide choice of location, beware of no long-term return on money / rent, etc.*

- (ii) Identify **and** elaborate on **three** key considerations that should be taken into account when selecting accommodation to rent. (18)

**3 points @ 6 marks each**

*e.g. how much of deposit has to be paid, is rent paid weekly / monthly, is rent inclusive of bills, who is responsible for repairs, location, tenure agreement – is there a lease?, notice to leave, is there an agency fee?, the type of neighbours, amenities, traffic, 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) Finding the best clothes to wear when taking exercise is complicated due to the wide range of fashion wear available and the use of technologically advanced fabrics that hold moisture away from the body.**

(i) Sketch **and** describe an outfit suitable for an leisure/outdoor activity of your choice (9)

**Sketch = 3 marks, description = 6 marks**

*e.g. functional, durable, easy care, fashionable, decorative, etc.*

(ii) Evaluate the outfit with regard to:

**4 points @ 4 marks each**  
**(one reference to each heading)**

- function (use)

*e.g. suitable for purpose, breathable fabric, durable, versatile, stretch fabric, resistant to abrasion, how well design performs i.e. zips, buttons, buttonholes should open and close, pockets should hold items etc.*

- fashion appeal

*e.g. modern features, colour, design, logo, etc.*

- cost

*e.g. initial and maintenance cost, cost of fabric, thread, zip, etc.*

- care.

*e.g. easy care, washable fabrics, notions e.g. crests, etc.*

(16)

**and**

**2.(b) Natural fibres such as wool and linen are frequently used by Irish fashion designers.**

(i) Give an account of **one** natural fabric under the following headings: (15)

**3 points @ 5 marks each**

- fibre production

*e.g. **linen:** made from the stem of the flax plant, fibres are extracted, the seeds are removed, process called retting where the flax is soaked in water for several days/weeks, fibres are separated from the woody parts, fibres are combed and spun into yarn, longer fibres are called 'line' and shorter ones are called 'tow' etc. **Cotton:** fibres come from cotton plant, called boll or seed head, white & fluffy, bolls picked by hand, fibres separated from seeds(ginning), pressed into bales, graded according to length, fibres combed and spun into yarn, etc. **Wool:** fleece removed from sheep, graded according to colour, fineness and length of fibres, cleaned and combed, spun into yarn, etc. **Silk:** produced from silk worm, silk moth lays eggs, worms feed on leaves of mulberry tree, worms spin cocoons of silk, cocoons are heated, soaked and threads are removed, threads wound onto reels, spun into thicker yarn, etc.*

- properties

*e.g. **Linen:** absorbent, strong, conducts heat well, resists mildew, piling, has a good lustre, may shrink, poor resistance to fire, little elasticity, soils easily, dyes well, creases easily, etc. **Cotton:** absorbent, cool, strong, easy to wash and dry, dyes well, creases easily, shrinks, etc. **Wool:** warm, soft, absorbent, resilient, can irritate sensitive skin, pills, shrinks, etc. **Silk:** absorbent, crease resistant, drapes well, flammable, damaged by careless handling, etc.*

- how fabric is constructed

*e.g. **Weaving:** the parallel warp threads run along the length of the fabric, the vertical weft threads run across the width, threads in a diagonal direction are called the bias, ends of long warped threads are held around a roller, they are raised or lowered mechanically in a pre-set pattern, the weft is carried by a shuttle across the warp yarns, batten pushes each line of weft thread close to the previous line, the shuttle changes direction and passes back through the warp threads which are now set in a different pattern, here the shuttle turns at each side of the cloth is called the selvedge edge, etc. **Knitting:** can be done by hand or machine, etc. **Macramé:** knots are tied in yarn to make fabric, etc. **Crochet:** a special hook is used to loop the yarn on itself, etc. **Lacemaking:** bobbins are used to twist and knot yarns together, etc.*

or

**2.(c) Whether you want to design your own clothes or start a fashion label, designing clothes requires creativity and dedication.**

- (i) Discuss **three** key factors that should be considered when designing an outfit. (9)

**3 factors @ 3 marks each**

*e.g. rhythm (colour, line, shape), fabric, proportion in relation to parts of the garment, balance, emphasis, harmony, principles and elements of design, suitability for purpose, durability, ease of care, cost, comfort, etc.*

- (ii) List **three** functions of clothing. (6)

**3 functions @ 2 marks each**

*e.g. protection, modesty, safety, personal identification (professions), warmth, hygiene, self-expression e.g. punk, etc.*

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

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

#### 3.(a) Education assists the individual in achieving his / her true potential.

- (i) Discuss the role of education in contributing to the development of the individual. Refer to **each** of the following: (24)

##### **4 points @ 6 marks each**

- physical development  
*e.g. manual dexterity e.g. playing with building blocks, jigsaws etc., body development through PE classes, in Home Economics, Science, Engineering, Construction Studies, Art, etc., development of hand / eye co-ordination, etc.*
- emotional development  
*e.g. young children gradually gain emotional independence from parents, encourages maturity, feelings for themselves and others, sensitivity, learn to be sensitive to needs of others, supportive of others, expressing emotions through poetry, co-educational allows for development of healthy, friendly relationships between sexes, etc.*
- moral development  
*e.g. ethos of school sets out values and school expectations, defines what is expected of students, curriculum covers topics dealing with morality in R.S.E. and R.E. Classes, S.P.H.E. and Home Economics, etc.*
- intellectual development  
*e.g. formal education promotes intellectual development through the wide range of subjects it provides. The home provides stimulation and nurtures a learning environment, extracurricular activities, class mates and examinations provide challenges and encourages competition, resources e.g. computer not always available at home, size of family, poor housing, overcrowding can hinder study, books and after school study available, etc.*

- (ii) Summarise **four** factors that a parent should consider when choosing a pre-school. (16)

##### **4 factors @ 4 marks each**

*e.g. location, qualifications of staff, number of staff - ratio of carers to children, hygiene and safety, eating, sleeping, changing, washing and playing facilities available, ages of other children, cost, extra-curricular facilities / activities e.g. swimming, etc.*

- (iii) Give details of **one** government scheme that supports the provision of pre-school education. (10)

##### **2 points @ 5 marks each**

*e.g. **Early Childhood Care and Education (ECCE) Scheme** – provides a year of free early care and education for children of pre-school age, provision amount to 3 hours per day, 5 days a week over a 38 week year, etc.*  
**Early Start Project / Pre-School Programme** – one year preventative intervention scheme offered to preschool children in some schools in disadvantaged areas, etc.

and

**3.(b) The rate of unemployment among the under 25s rose to almost 40% in 2011.  
The census found that more than 82,000 of those under 25 were out of work.**

*(Irish Independent July 2012)*

- (i) Discuss the negative effects of unemployment on **each** of the following: (18)

**3 points @ 6 marks each**

- young adults

*e.g. loss of income, fear of poverty, insecurity, reduced self-esteem, isolation, feelings of failure, altered lifestyle, boredom, stress leading to ill-health and depression, etc.*

- families with young children.

*e.g. reduced standard of living, reduced financial security, may not be able to provide education, relationship difficulties may lead to family breakup, may lead to role changes and tensions, ill-health due to anxiety, children may suffer academically at school due to worry, etc.*

- (ii) Unemployment often results in people living in poverty. (12)  
Explain the difference between relative poverty **and** absolute poverty.

**2 points @ 6 marks each**

**Relative Poverty:** *e.g. standard of living is substantially less than the general standard of living in society, people endure income poverty and deprivation (lack of provisions e.g. new shoes), etc.*

**Absolute Poverty:** *e.g. people who are starving, living without proper housing, clothing or medical care, including homeless people, having too small an income to stay alive, lacking basic needs of food, clothing, shelter, etc.*

**or**

**3.(c) In the midst of an economic downturn, more and more people are asking what can be done to better our own communities.**

- (i) Discuss, giving examples, how voluntary work can contribute to a community. (15)

**3 points @ 5 marks each**

*e.g. builds a sense of achievement & self worth in people in the knowledge that a positive contribution has been made to their community, provides social interaction, services that might not otherwise be funded can be provided e.g. Samaritans, Vincent De Paul, promotes awareness of issues i.e. environmental issues, provides essential new skills to a community, saves the State money, providing an interest (new skills) for those who have retired, etc.*

- (ii) Assess the impact (positive and negative) on family life where there is one parent in paid employment. (15)

**3 points @ 5 marks each**

**Positive:** *e.g. builds self esteem and confidence in members of family, gives independence, provides status, provides material needs, gives the example of good work ethic, always one parent at home, less stress in the home, etc.*

**Negative:** *e.g. less money for luxuries, working parent feels left out of family life, long working hours / shift work may cause person missing out on important family events, roles may be reversed causing resentment e.g. house-husband, etc.*

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Coimisiún na Scrúduithe Stáit  
State Examinations Commission

# LEAVING CERTIFICATE 2013

## MARKING SCHEME

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

*In developing the marking schemes the following should be noted:*

- *In many cases only key phrases are given which contain information and ideas that must appear in the candidate's answer in order to merit the assigned marks*
- *The descriptions, methods and definitions in the scheme are not exhaustive and alternative valid answers are acceptable*
- *The detail required in any answer is determined by the context and the manner in which the question is asked, and by the number of marks assigned to the answer in the examination paper. Requirements and mark allocations may, therefore, vary from year to year.*
- *Words, expressions or phrases must be correctly used in context and not contradicted, and where there is evidence of incorrect use or contradiction, the marks may not be awarded. Information must be presented under the appropriate headings.*

*Grading Table*

<b>Grade</b>	<b>Mark bands</b>
A1	360
A 2	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 / 1/2 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)**

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

**= 4**

#### **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) **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

*‘More should be done to spread the message that eating a healthy school meal is a great foundation for a kid’s education and future health.’* *Jamie Oliver*

Research and elaborate on the nutritional needs and meal planning guidelines that should be considered when planning and preparing meals for 6 – 12 year olds.

Bearing in mind these considerations, investigate a range of menus (two courses) suitable for the main meal of the day for this group of school going children.

Prepare, cook and serve **one** of the main courses that you have investigated.

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

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

- *dietary/nutritional needs that should be consider when planning meals for 6 – 12 year olds*
- *relevant meal planning guidelines with specific reference to 6 – 12 year olds*
- *range of menus (two courses) for the main meal*
- *main course dish and reasons for choice.*

#### **Investigation**

**Dietary / nutritional requirements** – *nutritional balance, daily requirements of macro / micro nutrients including protein / cho / fat / iron / calcium requirements as appropriate to the needs of 6 – 12 year olds with reasons for possible variations, high fibre, Vitamin C / iron absorption, Vitamin D / calcium absorption, need to increase Vitamin B group for release of energy and metabolism, possible variations in energy requirements, energy balance vis a vis activity levels, current nutritional guidelines re nutrient and food intake etc.*

**Meal planning guidelines** – *use of food pyramid to ensure balance – reduce likelihood of becoming obese, variety of foods, personal likes and dislikes – can be finicky and picky during slow growth and have large appetites during growth spurts, ‘food fads’ common – children refuse to eat foods they once liked or will eat one or two foods over and over again, 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, let child’s appetite and growth pattern decide if snacks are needed or not, easily digested foods, use of foods in season – resource issues, variety in foods with many colours, flavours and textures, offer favourite food and introduce new foods with them one at a time, smaller portions – ‘kid-friendly’ portion size, medical conditions may influence foods eaten, sensory aspects, children who have better nutrition do better, focus on child’s good eating patterns, hot foods for warmth, include children in menu planning, shopping and food preparation, do not force children to eat, be a role model in eating habits, keep offering new foods – do not give up, prepare homemade versions of fast foods, cut and present food in a fun way e.g. dips with vegetables, use colourful sauces, avoid fizzy drinks – offer water, milk or juices, eat with the family – talk at the table, use mealtimes to teach children how to make healthy food choices and model good eating behaviour, do not use foods as rewards for negative or positive behaviour as negative feelings can be attached to foods, serve food when children are hungry not ‘starving’ and when they are alert and calm etc.*

#### **Dishes selected - range of menus for main meal (two courses)**

- **must be suitable for 6 – 12 year olds**
- **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 6 – 12 year old school going children.*

*Meal planning guidelines – range of main course dishes suitable for 6 – 12 year old school going children, how the selected dish meets the requirements as identified in the investigation.*

## Assignment 2

**Well planned vegetarian diets have been found to offer benefits in the prevention and treatment of many degenerative conditions.**

With reference to this statement, investigate **(i)** the different types and **(ii)** the possible benefits of vegetarian diets.

Research and elaborate on the nutritional needs and meal planning guidelines that should be considered when planning meals for a person who is a vegetarian.

Having regard to the factors identified in your research select a specific vegetarian diet and suggest 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

- different types of vegetarian diets -
- possible benefits of vegetarian diets
- dietary/nutritional requirements when planning meals for **a person who is a vegetarian**
- relevant meal planning guidelines
- identify specific vegetarian diet - if not mentioned – 2 marks
- range of main course dishes
- chosen main course dish and reasons for choice.

### Investigation

**Types of vegetarian diets:** **lacto-** excludes meat, fish, poultry, includes dairy products, etc. **vegan/strict** - excludes all foods of animal origin, etc. **lacto-ovo** – excludes meat, poultry and fish but includes animal products e.g. dairy products and eggs, **pesco-**exclude meat and includes fish, etc. **pollo-**exclude red meat and fish but include chicken, etc. **semi-vegetarians** - eat fish and/or chicken but no red meat, etc. **fruitarians** – eat only ripe fruit of plants and trees, etc.

### Benefits of vegetarian diets:

e.g. lacks saturated fat so reduces risk of CHD and high cholesterol, reduces incidences of intestinal disorders e.g. gall stones and bowel disease (high fibre), obesity and some forms of cancer are less likely, lower risk of diabetes, vegans consume less salt and more potassium which leads to lower blood pressure, vegetarian diets can be recommended for successful weight management without compromising diet quality as they are nutrient dense, consistent with dietary guidelines, high in fibre and a large variety of vitamins and minerals, more fresh produce eaten therefore fewer additives etc.

**Dietary practices / nutritional requirements** - nutritional balance, daily requirements of macro / micro-nutrients including protein / cho / fat / iron / calcium requirements as appropriate, high fibre, vitamin C / iron absorption, vitamin D / calcium absorption, vitamin B12, increase phosphorus and zinc intake, follow current nutritional guidelines re nutrient and food intake etc.

**Meal planning guidelines** – use of vegetarian food pyramid to ensure balanced meals, choose alternate sources of protein in diet e.g. Quorn, tofu, TVP – good alternatives as quality of protein provided is equal to that supplied by animal protein, consider type of vegetarian, include wholemeal cereals for roughage, fortified products e.g. cereals for B vitamin group, vitamin D as not found in vegetable group, fortified soya milk for calcium, use alternate dairy foods e.g. soya milk, avoid processed foods, replace salt with herbs and spices to reduce the risk of bland foods, use vegetable stock cubes instead of animal, avoid products with gelatine in vegan diets, replace animal fats with vegetable fats, eat foods that provide complete proteins to include all amino acids in correct proportions, etc.

### Dishes selected – identify specific vegetarian diet

- 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 vegetarian diets, factors that should be considered when planning meals for vegetarians who wish to maintain a healthy weight, 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**

**Rough puff and choux are two types of pastry frequently used in home baking.**

Compare and contrast rough puff **and** choux pastry having regard to

- uses in sweet and savoury dishes
- key points to follow to ensure success when making each pastry and the underlying principles involved
- cost.

Prepare, cook and serve one dish (either sweet or savoury) that you have researched.

Evaluate the assignment in terms of (a) implementation and (b) the advantages and / or the disadvantages of making this type of pastry at home.

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

- *uses in sweet and savoury dishes*
- *key points to follow to ensure success when making each pastry*
- *the underlying principles involved*
- *cost*
- *range of dishes*
- *chosen dish either sweet or savoury and reasons for choice.*

#### **Investigation**

##### **Compare & contrast rough puff and choux pastry:**

**Uses: Rough puff pastry – sweet dishes:** *jam and cream puffs, open french apple tart, fresh fruit galettes, Eccles cakes, pear & almond slices etc. savoury dishes: mushroom & bacon galettes, vol-au-vents, steak and kidney pie,*

**Choux pastry – sweet dishes:** *éclairs, profiteroles, choux swans / rings, bouches, choux puffs, gateaux St Hanore, savoury dishes: vegetable gougere, savoury choux puffs, salmon choux tart, etc.*

##### **Key points to follow to ensure success when making each pastry.**

**Rough puff pastry:** *lightness depends on air introduced, coldness is essential in making so fat will not melt, use butter as margarine melts quicker and does not give a good texture, avoid overworking the butter in to get a layered effect, refrigerate between each rolling, handle as little as possible, do not make mixture too wet, use little flour to roll out pastry, chill between rolling, roll lightly and evenly, high cooking temperature, dampen instead of greasing baking tin to prevent base overcooking, etc.*

**Choux pastry:** *measure ingredients accurately, for lightness and crispness beat vigorously between each addition of eggs, beat until a sheen appears, wooden spoon should stand up in mixture, pre heat oven to hot, do not open oven door, pastry should be crisp but will quickly become soggy and tough on exposure to moisture – fill and eat soon after cooking, use strong flour as extra gluten strengthens the dough, do not boil water before butter is melted since boiling water will evaporate while waiting for the butter to melt and proportion of water will be reduced, beat in eggs gradually for correct consistency, allow mixture to cool before adding eggs so the egg protein does not coagulate when added, too much egg leads to a stiff outer layer, too little egg leads to a thin and easily broken layer, if flour is added slowly to hot water the first amount of flour would take up more moisture and result will be a non uniform dough that would cook unevenly, do not overbeat as the fat and water are both absorbed into the starch and some of the fat may be released and replaced with water so the mixture will be fatty on the outside, pastry will not rise if no air incorporated or egg protein coagulated and 'cooked' before pastry put into oven, pastry will not crisp if mixture is too moist or oven not hot enough or cooking time too short, when cooked split open the pastries that are to be filled to dry and crisp the inside, etc.*

##### **The underlying principles.**

**Rough puff pastry:** *pre heat oven 200 – 220°C and reduce after 10 minutes to cook filling, high temperature in order to burst the starch grains in flour so they absorb fat, air is trapped during rolling and folding, air introduced expands when heated and causes pastry to rise, water in butter turns to steam and pushes the pastry layers apart, gluten in flour allows pastry to stretch, thin layers give airy well risen appearance, lemon juice helps to soften the gluten making the pastry more elastic, starch changes to dextrin forming a crust on pastry, etc*

**Choux pastry:** *pre heat oven 220°C, flour is added quickly so hot water is quickly absorbed by the flour, air is incorporate by beating to form small air bubbles which will in turn form large steam bubbles in cooking, protein in eggs coagulates to bind the outsides together, moisture is introduced and when heated steam is produced which causes mixture to rise, the outside is cooked to form an elastic and deformable film, gluten will allow dough to rise, starch in flour changes to dextrans and browns, etc.*

**Cost:** *cost of rough puff and choux pastry – comparative statement.*

##### **Dishes selected – must be a sweet or savoury dish that you have researched**

**Evaluation** (as specified in assignment) - *advantages and / or the disadvantages of making this type of pastry at home. (can be one advantage and one disadvantage / two advantages / two disadvantages)*

## Area of Practice C: Food Technology

### Assignment 4

**Home made jams, jellies and marmalades have become increasingly popular with the growth in farmers markets and artisan food shops.**

Carry out research on making preserves (jams, jellies and marmalades) in relation to each of the following:

- the different fruits and combinations of fruits that can be used
- how the method of preservation is carried out and the underlying principles involved
- suitable containers and labelling
- the possible problems which may arise

Prepare, make and pot **one** type of fruit preserve that you have investigated.

Evaluate the assignment in terms of **(a)** implementation and **(b)** the practicability of making home made preserves.

#### Key requirements of the assignment

##### Investigate:

- the different fruits and combinations of fruits that can be used when making jams, jellies and marmalades
- how the method of preservation is carried out
- the underlying principles involved
- suitable containers and labelling
- the possible problems that may arise
- range of products
- chosen product and reasons for choice

##### Investigation

**Research on different fruit and combinations of fruits that can be used.**

**Jams:** apples, pears, apricots, plums, strawberries, blackberries, raspberries, gooseberries, cherries, cranberries, black currants, rhubarb, sultanas, damson, pineapple. **Marmalades:** nectarines, oranges, lemons, grapefruit. **Jellies:** apples, gooseberries, loganberries, elderberries, grapes and combinations of any of the above, etc.

**How the method of preservation is carried out –**

**Jam:** fruit washed, peeled, chopped, acid added, cooked with / without water, test for pectin, sugar is added and dissolved over a gentle heat, boiled rapidly until setting point reached, test for setting, skim off froth, pour into sterilised jars (sterilise in oven 140°C Fan), covered, labelled, stored, etc.

**Jellies:** chop fruit and stew with lemon juice, strain fruit through muslin about 1 hour, add water to juice, add sugar, test for setting, reduce boiling rate as setting point is approaching to avoid entrapping air bubbles, skim, pot, cover, label, store etc.

**Marmalade:** scrub fruit, cut peel off fruit, remove pith, cut into shreds, put peel, acid and half water into saucepan, simmer until tender, cut up rest of fruit and pith and simmer with remaining water for hours, strain through colander, add peel to strained pulp, boil off excess water **or** remove pips and chop fruit – can use a processor, stew fruit until peel is soft, add sugar, boil until setting point is reached, test for setting, skim, allow to cool slightly, pot, cover, label, store, etc.

**The underlying principle involved –** fruit is **boiled to 100°C** +, heat destroys enzymes and micro-organisms and softens the fruit, pectin is released, sugar is added which inhibits the growth of microbes by surrounding the microbial cells with a concentrated solution that draws water out of the microbial cell by **osmosis**, 65% concentration of sugar required, acid in the fruit releases pectin from the the fruit which acts as a setting agent, fruits low in pectin are combined with fruits high in pectin to achieve a satisfactory set, sterilisation of jars, etc.

**Possible problems that may arise**

Product will **not set** - insufficient acid/pectin, fruit over ripe or is insufficiently boiled, too little sugar, etc. **fruit / rind on top** – product not cooled before potting, etc. **crystallisation** - product is boiled before sugar is dissolved, insufficient acid, over cooked or too much sugar, etc. **fermentation** -concentration of sugar is insufficient, insufficient boiling time or overripe fruit, etc. **mould growth** – insufficient sugar, product not filled and covered correctly, over ripe fruit, etc. **shrinkage** – inadequate covering, incorrect storage, etc. **fruit sticks** to bottom of saucepan – pan not greased, etc.

**Suitable containers and labelling** e.g. glass jars, waxed discs, cellophane discs, freezer grade polythene, clean screw on lids, labels, etc.

**If no packaging investigated – 3 marks**

**Dishes selected – jams, jellies and marmalades.**

**Evaluation** (as specified in assignment) **Practicability of making homemade preserves (jams, jellies and marmalades) – resource issues – time, skills, equipment, packaging, storage, availability of ingredients, cost factors, etc.**

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

### **Assignment 5**

*Many popular recipes specify the use of a marinade.*

Carry out research on each of the following:

- the reasons for using marinades in food preparation
- a range of dishes that illustrate the use of different marinades
- the principles underlying the use of marinades.

Prepare, cook and serve **one** dish where a marinade is used.

Evaluate the assignment in terms of **(a)** implementation and **(b)** the success of the marinade in achieving its intended purpose.

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

- *the reasons for using marinades in food preparation*
- *range of dishes that illustrate the use of different marinades*
- *the principles underlying the use of marinades*
- *range of dishes*
- *chosen dish and reasons for choice.*

#### **Reasons for using marinades in food preparation**

*e.g. adds to/improves the flavour of foods, tenderises foods, makes foods easier to digest, reduces moisture loss so makes food juicier, makes food healthier, to extend shelf life, to enable use of lesser quality cuts of meat, etc.*

#### **Range of dishes that illustrate the use of different marinades**

**Dry marinade/rubs:** *e.g. mixture of herbs/crushed spices/salt/mustard/sugar with little oil, vinegar/citrus juice applied by friction on the surface of meat or fish etc. **Dishes:** e.g. gourmet pork chops, fish, chicken, etc.*

**Wet marinade/rubs:** *e.g. salt, oil and acid mixed to form a dense paste which sticks to and coats the food etc.*

**Dishes:** *e.g. chicken / pork satay, marinated seafood, meats and vegetables, etc.*

**Acid marinades:** *e.g. liquid base of acid, oil, herbs/spices, soy sauce, onions, sugar, etc.*

**Dishes:** *e.g. Moroccan chicken couscous, marinated root vegetables, fish, meats, etc*

**Enzymatic marinades:** *e.g. based on fruits e.g. pineapple, papaya, figs, melon, kiwis, honey, ginger rubbed on foods etc. **Dishes:** e.g. balsamic marinated meat, fish, etc.*

**Dairy marinades:** *e.g. milk with yoghurt/buttermilk etc. **Dishes:** e.g. Tandoori chicken, paprika pork/ goat, lamb, etc.*

**Brine marinades:** *salt/brine solutions trap moisture in food, used in chicken, turkey etc.*

#### **The principles underlying the use of marinades**

*e.g. oils e.g. olive, sesame, sunflower etc. **hold moisture** in meat, give a juicier end product as moisture loss is reduced during cooking, oil carries the flavours of seasonings into food, acids e.g. citrus juices, wine, vinegar, yoghurt etc. break down the protein chains in meats (denaturation), and connective tissue making meat fibres tender, yoghurt **tenderises** meat and forms a soft crust on food as it cooks, acidic environment slows the growth of bacteria as does oil which prevents oxygen coming into contact with the food, spices, herbs, garlic, onion etc give **flavour**, food must be covered completely in marinade so it can work on the entire exposed surface, foods marinated for too long can change in colour, texture and flavour, etc.*

#### **Dishes selected – must use a marinade.**

#### **Evaluation** (as specified in assignment)

*How successful the property / properties selected was applied when making the dish i.e. success of the marinade in achieving its intended purpose e.g. tenderising, adding flavour, moistening food etc.*

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

### Assignment 6

*Many food companies offer a healthy option alternative to their products in order to improve their marketability e.g. low fat, low sugar, low salt.*

Carry out research on **three** different commercially available products that offer a healthy option alternative.

In the case of **one** product of your choice, purchase the original and the healthy option alternative.

Carry out a triangle test to determine if tasters can differentiate between the original product and the healthy option alternative. 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

- research on **three different commercially available products** that offer a healthy option alternative
- **selected product** of your choice and reasons for choice
- **triangle test**
- conditions to be controlled during testing.

#### Investigation

- Research / Investigation of products appropriate to the testing  
*i.e. investigate three different commercially available products that offer a healthy option alternative (i.e. types, brands, healthy option, etc.).* = 20

- **Triangle test**

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

**Aim of test:** to find out if there is a detectable difference between the original product and the healthy option alternative etc.

**Possible outcomes:** to see if there is a detectable difference between products.

#### Identification of the conditions to be controlled during the testing

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

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

**Selected products** – original and healthy option

(2 products @ 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 = 3
- Main equipment needed to carry out assignment

**Triangle test** – 6 tray, 6 glasses of water, 18 coded containers, 9 samples of original product, 9 samples of healthy option alternative, 6 score-cards, record sheets, pen etc.

#### Work sequence

= 3

**Triangle Test:** code containers, set up trays, put product samples in containers, label score cards and record sheet, follow instructions on score cards, carry out triangle test, collect scorecards, transfer results onto record sheet, reveal codes, present and evaluate results, tidy and wash up, etc.

**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 (two products)**

*Code 18 containers, 6 containers with symbol □, 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 ◇, one container with symbol ○, **must be balanced presentation order i.e. every possible combination of samples must be presented**, each product 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, product in the container changes each time, testers follow instructions on score card, circle on the score card 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 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 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, having 6 testers to ensure that every possible combination of samples has been offered, 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, 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., products with additives / e numbers etc.*

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

**Evaluation**

- **Implementation (2 points x 4 marks each)** = 8

*Testing procedures used*

*Key factors when conducting the test*

*Safety and hygiene issues considered*

*Problems encountered and suggested solutions*

*Evaluate efficiency of work sequence*

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

*Students should evaluate the results obtained for the triangle test and draw some conclusions. Reasons should be given as to why 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 suitable for a vegetarian diet** - Assignment 2
  - **Marinade not used** – Assignment 5
  - Dish selected shows **few process skills**
  - Dish selected includes **over use of convenience foods e.g. commercially prepared pastry, marinades etc.**Deduct – 8 marks from total mark awarded for assignment and insert explanation as highlighted above.
8. A **dish that does not meet the requirements of the assignment** e.g. a dessert dish prepared instead of a main course; no marks to be awarded.
9. Where a teacher disallows a practical application, no marks are allowed for **Implementation and Evaluation of Implementation**. All other areas may be credited.

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

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

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