



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

**Leaving Certificate 2016**

**Marking Scheme**

**Home Economics – Scientific and 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.

# MARKING SCHEME

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

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

## Instructions to Candidates

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

## Section A

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

Each question is worth 6 marks.

Write your answers in the spaces provided.

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

	True	False
Protein is the only nutrient that contains nitrogen.	✓	
Excess protein is stored as adipose tissue.	✓	
Protein is necessary for the growth of body cells.	✓	

2. Give **one** dietary source of **each** of the following carbohydrates. (6)

Carbohydrate	Dietary source
Sugar	<i>fruit; table sugar; fizzy drinks; cakes; biscuits; sweets; jam; honey; etc.</i>
Starch	<i>rice; pasta; potatoes; bread; breakfast cereals; flour; etc.</i>
Fibre	<i>wholegrain bread; wholegrain cereals; fruit; vegetables; seeds; nuts; wholemeal pasta; wheat bran; etc.</i>

3. State **two** functions of Vitamin A. (6)

- (i) *production of rhodopsin; healthy lining membranes; healthy skin and hair;*
- (ii) *growth and repair of body cells; prevents night blindness; aids growth and development of children; beta carotene acts as a powerful antioxidant that can counteract the damaging effects of free radicals; etc.*

Name **two** good dietary sources of Vitamin A.

- (i) **retinol:** *fish; fish liver oils; margarine; dairy products - butter; milk; cheese; eggs; meat; offal; margarine;*
- (ii) **beta carotene:** *green leafy vegetables; carrots; tomatoes; yellow/red peppers; sweet potatoes; apricots; etc.*

4. List **three** factors that influence the energy requirements of teenagers. (6)
- (i) *gender; age; body size; activity level;*
  - (ii) *sedentary lifestyle; climate; health status; growth spurts;*
  - (iii) *amount of exercise; BMR; etc.*

5. Name **two** nutrients necessary in the diet to prevent osteoporosis. (6)
- (i) *vitamin D; vitamin C; protein;*
  - (ii) *calcium; phosphorus; etc.*

State **one** lifestyle change that would improve bone health.

*increase exercise; weight bearing exercise; reduce alcohol; cut out smoking; sunshine; etc.*

6. Using the words listed below, complete the following statements in relation to cheese. (6)

***curds, lactic acid, rennin***

In the production of cheese a culture is added to milk to convert the lactose to

***lactic acid***. The enzyme ***rennin*** changes caseinogen to casein. The mixture is allowed to rest for 30 minutes and separates into ***curds*** and whey.

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

	True	False
Quick freezing at -25°C forms small ice crystals within the food cells.	✓	
Bananas and lettuce are suitable foods for freezing.		✓
Vegetables are blanched before freezing to destroy enzymes.	✓	

8. Give **two** examples of vegetables in **each** of the following classes. (6)

Classes	Example 1	Example 2
Pulse vegetables	<i>peas; beans; broad beans; chickpeas;</i>	<i>lentils; French beans; kidney beans; etc.</i>
Root vegetables	<i>potatoes; sweet potato; carrots; parsnips;</i>	<i>turnips; beetroot; radishes; onions; garlic; etc.</i>
Green vegetables	<i>spinach; cabbage; broccoli;</i>	<i>kale; brussel sprouts; lettuce; etc.</i>

9. Explain the term *gross pay*. (6)

*the income earned before any deductions are made; etc.*

Name **two** compulsory deductions taken from gross pay.

(i) *PAYE; PRSI;* (ii) *USC; etc.*

10. What information does **each** of the following fabric care symbols convey to the consumer? (6)



*hand wash only*



*do not bleach*

11. Indicate with a tick (✓) which of the following household appliances has a motor **or** an element. (6)

Household appliance	Element	Motor
Kettle	✓	
Food processor		✓
Toaster	✓	

12. Name **two** sources of renewable energy. (6)

(i) *hydro (water); geothermal; biomass; wood burners; plant material;*

(ii) *solar; wind; tidal – wave power; etc.*

Explain the benefit of renewable energy to the environment.

*sustainable - will not run out; clean; efficient; produce very little pollution; some have no waste products; 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 'Saturated fat has a bad reputation in recent years, but it might not be entirely deserved. Foods such as milk that are high in SFA (saturated fatty acids) and high in calcium don't seem to raise harmful cholesterol levels.' (Paula Mee, *The Irish Times*, July 2015)

The table below shows the nutritional content of two pre-prepared meals.

Pre-prepared meal	Ingredients	Nutritional Information (per serving)	
<b>Fisherman's pie</b>	Potato, cod, cream, milk, butter, cheese, onion, peas, salt.	Energy	392 kcal
		Fat	18.4 g
		Carbohydrates	37.9 g
		Fibre	3.1 g
		Protein	17.2 g
		Salt	1.9 g
<b>Chicken curry with rice</b>	White rice, chicken, apple, onion, curry powder, garlic, tomato puree, flour, salt.	Energy	524 kcal
		Fat	8.0 g
		Carbohydrates	88.0 g
		Fibre	4.8 g
		Protein	22.0 g
		Salt	1.7 g

- (a) Using the information presented in the table above, state which of the pre-prepared meals you would recommend for a young person involved in sport. Explain **three** reasons for your choice. (20)

**Name: 2 marks, Reasons: 3 @ 6 marks each**

**Fisherman's pie:** fat for heat & energy; low in saturated fat preventing build-up of cholesterol; carbohydrates from potato; contains starch; low GI provides heat and a long lasting source of energy; contains fibre needed to prevent constipation; (HBV) protein for growth and repair; salt 30% of adult RDA; salt for hydration; white fish low in fat; etc.

**Chicken curry with rice:** higher kcals; low in fat; carbohydrates in rice; low GI needed for heat and energy; fibre to aid peristalsis; protein (HBV) growth & repair; lower salt content - needed for hydration; will not increase the risk of blood pressure; etc.

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

- Classification (8)

**2 classes @ 4 marks each**

*animal; plant; marine;*

*saturated; unsaturated; monounsaturated; polyunsaturated; etc.*



- functions in the body (8)

**2 functions @ 4 marks each**

*heat; energy; excess lipids are stored as adipose tissue insulating the body and acting as an energy reserve; lipids protect delicate organs; supply fat soluble vitamins A, D, E & K; source of essential fatty acids; delays the feeling of hunger; needed to build cell walls; omega fatty acids improve concentration and brain activity; some unsaturated lipids help lower cholesterol; speeds up the transmission of nerve impulses; etc.*

- dietary sources (12)

**4 sources @ 3 marks each**

*meat; eggs; dripping; soya beans; avocados; olives; dairy products; nuts and nut oils; vegetable oils; oily fish; fish liver oils; margarine; seeds and seed oils; etc.*

- (c) Outline **three** ways an individual can reduce his / her intake of fat. (12)

**3 ways @ 4 marks each**

*reduce intake of butter; cheese; red meat; reduce consumption of take away foods; use low fat products; change cooking methods to steaming, grilling, poaching, microwaving; trim meat in preparation for cooking; meat may be fried off in its own fat on non-stick cookware; reduce intake of cakes and pastries; etc.*

- (d) Discuss **four** ways consumers can be environmentally aware when shopping and buying food for family meals. (20)

**4 ways @ 5 marks each**

*buy products without packaging; buy in bulk; buy fruit and vegetables loose; buy economy size to reduce packaging; buy products in reusable containers; use reusable bags for shopping; use biodegradable packaging; choose eco-refill products e.g. coffee; buy products in recycled packaging, e.g. cereals; select products with ECO label; minimise shopping trips; etc.*

2. 'Going vegetarian is one of the best things you could do for your health. All the nutrients you need are easily provided in a vegetarian diet.' (Vegetarian Society of Ireland, July 2015)

(a) Discuss **four** reasons why some teenagers become vegetarian. (20)

**4 reasons @ 5 marks each**

**Cultural:** traditional diet of a particular area or country; etc.

**Religion:** some Jews or Muslims do not eat pork; some Hindus are vegetarian; etc.

**Moral/Ethics:** may believe it is wrong to kill animals for the human food chain; may disagree with intensive animal rearing; etc.

**Health:** vegetarian diets are healthier; lower in saturated fat; higher in fibre thus preventing bowel disorders; reducing the risk of heart disease, obesity, and Type 2 diabetes; etc.

**Choice:** may not like the taste, smell, appearance of meat/fish; many vegetarian options available e.g. quorn; TVP; wide selection of grains, nuts and seeds; sections in supermarkets dedicated to vegetarian options; available on restaurant menus; etc.

**Economic:** vegetarian diet can be cheaper; etc.

**Family:** parents or older sibling often influence a teenager to adopt a vegetarian diet; etc.

**Influence:** family; celebrities; peers; media; etc.

(b) Having regard to current healthy eating guidelines, set out a menu (3 meals) for one day for a lacto-vegetarian to ensure their nutritional needs are met. (18)

**3 menus (meals) @ 6 marks each**

<p><b>Breakfast</b> Fresh Orange Juice Porridge with milk Wholemeal Toast Tea/Coffee/Water/ Milk</p>
<p><b>Lunch</b> Vegetable Soup with Brown Bread Strawberry Yoghurt Apple Tea/Coffee/Water/ Milk</p>
<p><b>Dinner</b> Egg Mayonnaise Vegetarian Stir Fry with Noodles Lemon Cheesecake Tea/Coffee/Water/ Milk</p>

(c) Explain **three** guidelines that should be followed when preparing **and** cooking vegetables to retain maximum nutrients. (12)

**3 guidelines @ 4 marks each**

**(1 reference to preparation, 1 reference to cooking, plus 1 other)**

eat raw where possible; prepare just before cooking; use a sharp knife; leave skins on if possible; avoid steeping; cook in a small amount of water for short time until 'al dente'; use saucepan with tightly fitted lid; use cooking liquid for soups and sauces; do not use bread soda as it destroys vitamin C; avoid overcooking; use suitable cooking methods e.g. steaming, stir frying and microwaving; etc.

3. 'Eggs are great value, easy to cook and a very versatile ingredient for both savoury and sweet dishes.' (www.bordbia.ie)

- (a) Describe (i) the nutritional and (ii) the dietetic value of eggs. (20)

**4 points @ 5 marks each**

**(1 reference to nutritional value, 1 reference to dietetic value, plus 2 others)**

**Nutritional:** HBV protein; 100% biological value; white contains albumin, ovalbumin and globulin; yolk contains vitelin and livetin; saturated fat; lecithin - natural emulsifier; yolk contains cholesterol; white is fat-free; no carbohydrate; 75% water; fat soluble vitamins A, D,E, K; water soluble B group vitamins; calcium; phosphorus; iron; zinc; etc.

**Dietetic:** very versatile; can be used for lots of dishes both sweet and savoury; HBV protein assists growth and repair, ideal for children and adolescents; easy to digest; quick and easy to cook; can be eaten on their own; a meal in themselves when carbohydrate is added e.g. toast; contains saturated fat and cholesterol; have no vitamin C; important in the diet of a vegetarian; low in kilocalories - suitable for people following a calorie controlled diet; inexpensive and quick to cook saving energy costs; etc.

- (b) Outline:

- (i) the factors to be considered when storing eggs  
(ii) the effects of heat on eggs. (20)

**4 factors @ 5 marks each**

**(1 reference to storing, 1 reference to effects of heat, plus 2 others)**

**Storing:** store in fridge @ 4°C in egg compartment; remove from carton; store pointed end down; do not store near strongly flavoured foods; store leftover egg white in a sealed container for up to 2-4 days; store left over egg yolk in water for up to 4 days; use within best before date; do not wash the shell to avoid more rapid staling of egg; etc.

**Effects of heat:** protein coagulates; white changes colour; loss of vitamin B; high temperature causes curdling; overcooking makes eggs rubbery/tough; kills bacteria; egg white becomes insoluble when heated; a reaction between iron and sulphur causes a green ring to form around yolk if overcooked; etc.

- (c) Describe **two** items of consumer information found on an egg carton (box). (10)

**2 items @ 5 marks each**

country of origin; name and address; registration number of producer/packer; quantity; class; week number (1-52); size – small, medium, large; weight; use by/best before date; storage instructions; quality assurance mark; organic or free range; nutritional information; etc.

4. Saoirse is a 1<sup>st</sup> year college student living away from home and sharing a house with two other students. She has a weekly allowance of €220, for all her college expenses including rent, and she cycles to college.

- (a) Discuss **four** reasons why Saoirse should set out a budget. (20)

**4 reasons @ 5 marks each**

**Prevents overspending:** as there is only a certain amount of money available; etc.

**Reduce stress:** a budget provides financial security; alleviates worry and stress as bills will be paid; she will know where all monies are going; etc.

**Provide for emergencies:** visit to doctor or dentist; etc.

**Savings:** develops savings habit; encourages students to wait until they have the money to buy something; ensures money available to cover unplanned eventualities e.g. job loss; etc.

**Develop money management skills:** if student can manage on small budget when they earn money these skills will transfer; etc.

**Avoid debt:** start working life with a positive credit rating; avoid impulse buying; budgeting reduces reliance on credit; etc.

- (b) Set out a weekly budget plan showing how Saoirse should allocate her money to ensure her needs and wants are met. (20)

**5 points @ 4 marks each**

**rent** 25%; **food** 25%; household bills 15% - lighting/heating/bin collection/phone/internet; education 10% e.g. photocopying, exam fees, books etc.; clothes 5%; leisure/entertainment 5%; savings 5%; health 5%; discretionary spending 5%; evaluate/review budget on a regular basis; etc.

- (c) Suggest **one** suitable savings account that you would recommend for Saoirse. Give **one** reason for your choice. (10)

**Name: 5 marks, Reason: 1 reason @ 5 marks**

**An Post - deposit account:** ease of access; post office open on Saturday; has many local branches; deposit book provided; withdrawals can be made from any post office on the production of valid ID; savings are secure; dirt tax deducted; interest calculated on a daily basis; etc.

**Credit union - share account:** local; open on Saturdays/late in the evening; easier to get a loan if you have a savings record; interest rate low; dirt tax deducted; savings are secure; an annual dividend is paid on savings; etc.

**Bank - deposit account:** set up saving record; easy access to money 24/7 through ATM machine; interest rate very low; dirt tax deducted; savings are secure; etc.

**Building society:** etc.

5. 'According to the Annual Report of the Registrar General for 2014, some 22,033 marriages were recorded for the year, a 6.6% increase over the figure in 2013.'

(Irish Independent, July 2015)

- (a) Discuss why marriage is a popular option for couples in Ireland today. (15)

**3 points @ 5 marks each**

*marriage is popular today because there are more options than the traditional model e.g. civil marriages, same sex marriages; gives couples security; to have children in a caring relationship; they love each other; religious reasons; legal protection of the relationship; companionship; family tradition; etc.*

- (b) Discuss (i) the rights and (ii) the responsibilities of a couple within the marriage relationship. (20)

**4 points @ 5 marks each**

- (i) **rights:** to each other's company; live together as partners; monogamous relationship; to be faithful/loyal to each other; consummate the marriage; non-consummated marriages can be annulled; a sexual relationship with their partner; can inherit from each other (Succession Act 1965); etc.
- (ii) **responsibilities:** provide financial support for partner and children; joint guardianship of children; legal duty to provide for the physical, emotional, social, moral and educational needs of the children; work on the relationship to ensure it is functioning; show commitment to the marriage; etc.

- (c) Name and give an account of one option available to couples who are experiencing difficulties in their marriage. (15)

**Name: 5 marks, Account: 2 points @ 5 marks each**

**Marriage counselling:** assists couples to resolve marriage problems before they become grounds for separation or divorce; partners can attend separately/together/with children; confidential service; offered by ACCORD, the Family Support Agency; and independent groups; if there are specific problems e.g. alcohol addiction they can be referred to a more specialised counsellor; etc.

**Family mediation:** a confidential service for couples who have agreed to separate or divorce; may be an alternative to court proceedings; helps couples negotiate an agreement on issues such as parenting arrangements; custody of children; division of finance; property issues; maintenance; funded by the Family Support Agency; etc.

**Legal separation:** can be arranged through mediation if all parties agree on the separation; mediation can avoid court proceedings which are expensive; the terms of the separation are documented in the Deed of Separation; etc.

**Judicial separation:** necessary when the couple cannot agree on the terms of separation; The Judicial Separation Act 1989 sets out the grounds for the separation - adultery, desertion, unreasonable behaviour; normal marital relationships have not existed for at least one year prior to the application; the couple haven't lived together for one year (agreed separation) or three years (lack of consent); application for judicial separation has to be heard by a judge, if successful he/she will grant a decree of judicial separation; he/she may also make additional orders e.g. extinguishment of succession rights; etc.

**Legal nullity:** obtained by couples who married in civil or church ceremonies; it is required in order for either spouse to remarry and avoid bigamy; etc.

**Church nullity:** church annulment is granted by the Church after a marriage tribunal has studied and declared the marriage annulled; it has no legal standing so couples are still married; etc.

**Divorce:** the couple have lived apart for four out of the previous five years; there is no realistic possibility of reconciliation; sufficient provision has been made for the spouse and children; under a decree of divorce the court may also make orders in relation to custody and access of children, allocation of property, payment of maintenance, extinguishment of succession rights; when the decree is granted it cannot be reversed; divorce hearing held in Family Circuit Court; etc.

## Section C

Answer one question from this section.

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

### Elective 1 – Home Design and Management (80 marks)

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

- 1.(a) Kitchen design requires careful consideration and planning.  
The diagram shows the layout of a kitchen.



([www.buzhomedesign.com](http://www.buzhomedesign.com))

- (i) Evaluate the suitability of the kitchen for a couple with two young children under **each** of the following headings:

- suitability for family use
- ventilation
- ergonomics (work triangle).

(20)

**4 points @ 5 marks each**

**(1 reference to each plus 1 other)**

**Suitability for family use:** large to meet family needs; stain resistant non slip flooring; easy to keep clean; sufficient room for storage; modern in design; adequate lighting; work surfaces are at a suitable level for work comfort; large fridge/freezer; as it is a family kitchen there should be table and chairs, and a play area; etc.

**Ventilation:** the extractor unit over the hob; large kitchen windows; etc.

**Ergonomics:** small work triangle; design allows for ease of movement in the kitchen; accommodates the natural traffic flow; spaces are easy to clean; free access to all areas e.g. windows; good food preparation sequence; adequate storage space; appliances at a comfortable height; etc.

- (ii) Discuss **three** factors which should be considered when choosing heating for the kitchen. (15)

**3 factors @ 5 marks each**

**cost:** installation; running and maintenance; etc. **energy efficiency:** is the source renewable; etc. **convenience:** automatic timer that is easy to use; thermostat to control heating; etc. **size of kitchen:** larger kitchen will need a more flexible system; etc. **comfort:** temperature fairly constant; etc. **safety:** priority for family with young children; etc. **water heating:** immersion with a timer to save electricity; instantaneous heaters (geysers); etc. **aesthetic appeal:** underfloor heating; types of radiators; etc. **impact on the environment:** gas and smokeless fuel produce less pollution; etc.

- (iii) Suggest **three** ways to improve the energy efficiency of a kitchen. (15)

**3 ways @ 5 marks each**

**timers:** time heating to come on just when needed; etc. **room thermostats:** allows you to reduce the heat by 1 or 2 degrees; etc. **energy efficient appliances:** induction hobs; unplug appliances when not in use; never leave appliances on standby; use full loads; buy appliances with energy efficient labels A or B; etc. **energy sources:** solar panels, expensive to install but cheap to run; install night saver electricity; etc. **windows:** triple/double glazed with low emissivity glass; well fitted; draught excluders around windows and doors; etc. **bulbs:** use low energy CFL light bulbs; turn off lights when not in use; use correct wattage; etc.

and

- 1.(b) **The floor makes up a large part of the surface area of any room and thus has a definite effect on the overall appearance of the room.**

- (i) Give an account of **four** factors that should be considered when choosing floor coverings for a family home. (20)

**4 factors @ 5 marks each**

*room function; quality; durability; easy to clean and hygienic; insulating properties in relation to warmth and sound; safety, non-slip; type of sub floor; décor; adds atmosphere to the room; cost; size of the room; traffic flow; condition of the floor beneath; aesthetics; occupants; etc.*

- (ii) Suggest **one** type of floor covering suitable for a family bathroom. State **two** properties of the selected floor covering. (10)

**Name: 4 marks, Properties: 2 @ 3 marks each**

**Tiles:** ceramic, slate, terracotta, glazed stone - durable; cold and hard under foot; resistant to water; easy to maintain; variety of colours; non-slip; easy to fit – can be cut to size/shape; etc.

**Vinyl:** durable; easy to clean; hygienic; resilient to water and acid; warm underfoot; relatively non-slip; melts when subjected to heat; marked by furniture/heels; can be purchased in a variety of thicknesses and designs; etc.

**Wooden flooring:** laminated; hard wearing; noisy; low maintenance; hard underfoot; may scratch easily; etc.

**Safety flooring:** e.g. Tarasafe Ultra – slip resistant vinyl floor covering, hardwearing; hygienic and easily maintained; etc.

or



1. (c) Today less people can afford to buy their own home.

- (i) Explain why the cost of rental accommodation has increased in urban areas. (12)

**3 points @ 4 marks each**

*high demand; low supply; high cost of mortgages; large demand due from college students; housing shortage; difficult to save for a large deposit so people rent for longer; etc.*

- (ii) Name a suitable type of accommodation for **each** of the following people:  
**(a)** a college student **(b)** a person with reduced mobility **and (c)** an elderly couple.  
Give **one** reason for your choice in **each** case. (18)

**Name: 3 @ 3marks each, Reasons: 3 @ 3marks each**

**(a) college student:** *rented apartment, shared house, digs; campus accommodation; etc.*

**reasons:** *near college; close to amenities, e.g. shops, public transport; cost; has Wi-Fi; security; shared/own bedroom; study space; storage; etc.*

**(b) person with reduced mobility:** *single storey house; two storey with a stairs lift; sheltered housing; ramps to main door; etc.*

**reasons:** *dwelling with no steps; good lighting to avoid falls; non slip flooring; specially adapted bathroom with a shower (seat for safety) and handrails; easy maintenance; close to church, shops, post office, library; have independence with 24 hour assistance available; have monitored alarm system to provide safety and security; panic button; key fob for monitored alarm system; handrails throughout the home; etc.*

**(c) elderly couple:** *compact single storey dwelling; sheltered accommodation; with family members; flat adjacent to family; etc.*

**reasons:** *live in town or village close to public transport and amenities if not driving; security; independent living; close to family; easy to maintain; have a small low maintenance garden or patio; 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) Nothing can quite prepare you for the experience of your first office job.



(www.pinterest.com)

(i) Comment on the suitability of the office suits as shown above.  
Refer to:

- function
- comfort
- aesthetic appeal

(18)

### 3 points @ 6 marks each

**function:** easy to wear; suitable for the purpose; durable; versatile; will maintain shape; will not crease easily; fabric suited to warm and cool weather; stain resistant; buttons and zips should work; etc.

**comfort:** should be considered in the design of the suits; allows for ease of movement in bending, stretching while maintaining shape; etc.

**aesthetic appeal:** cropped jacket above the hip are popular for workwear; modern features; formal tailored suits are very popular; tie matches the suit; buttons on jacket give balance; attractive looking; tie expresses confidence; etc.

(ii) Suggest **one** fabric suitable for the suit jacket **and** give a reason for your choice.

(7)

### Name: 3 marks, Reason: 1 point @ 4 marks

**wool:** warm; will not crease; hardwearing; resilient; light weight; absorbent; etc. **linen:** strong; resists mildew; has a good lustre; absorbent; light weight; etc. **cotton:** strong; washes and dries easily; dyes well; cool; draws heat from wearer; absorbent; easy to launder; etc. **silk:** strong; smooth; crease resistant; absorbent; drapes well; etc. **polyester:** strong; resistant to stretching; quick drying; washes easily; holds body heat of wearer; resists wrinkling; etc. **viscose/rayon:** absorbent; soft; drapes well; holds in body heat of wearer; dyes easily; etc. **acrylic:** light weight; soft; warm; stretchy; quick drying; etc. **polyester cotton:** washes easily; light weight; easy to press; strong; drip dries quickly; resists staining; comfortable; low static level; etc.

and

**2. (b) Natural fabrics have many advantages over synthetic fabrics.**

(i) Write a profile of a natural fabric under **each** of the following headings: (9)

- fibre production

**3 points @ 2 marks each**

**linen:** made from the stem of the flax plant; fibres extracted; the seeds are removed; process called retting where flax is soaked in water for several days/weeks; fibres are separated from the woody part; 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 and 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 the 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 into reels; spun into thicker yarns; etc.

- how fabric is constructed.

**1 point @ 3 marks**

**weaving:** warp threads stretched on a loom; weft threads passed over and under the warp from one side of loom to the other; selvedge edge is formed to prevent fraying; etc. **knitting:** made up of a series of interlocking loops that result in a flexible construction; etc. **bonding:** two or more fabrics are joined by adhesive; combination of a knit or loosely woven fabric backed by a light weight lining; etc.

(ii) Give **two** advantages of using natural fibres / fabric in clothing. (6)

**2 advantages @ 3 marks each**

washable; durable; will take a fabric finish; cheaper; absorbent; can be dyed; etc.

or

**2. (c) 'I love fashion. I think it's so important because it's how you show yourself to the world.'**

(Emma Watson, April 2015)

(i) Explain how the media influences the choice of clothing worn by teenagers. (9)

**3 points @ 3 marks each**

television; movies; magazines; surfing the internet; social media; stylists/writers predict trends for seasons; young people want to wear what celebrities are wearing; celebrities/sports celebrities set up their own clothing range; celebrities are photographed wearing clothes by specific designers at media events; many T.V programmes feature makeovers; most Sunday newspapers have fashion features; etc.

(ii) Discuss the contribution of modern footwear to current fashion trends. (6)

**2 contributions @ 3 marks each**

contribute to the overall look; compliment the outfit; create a focal point; update an outfit; help to finish off a look; contrast in colour; balance an outfit; etc.

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

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

3. (a) Work has a direct impact on resources such as time and money, and affects the amount of each available for family life.

(i) Explain **each** of the following:

- paid work
- unpaid work
- voluntary work.

(18)

#### **3 points @ 6 marks each**

**Paid work:** employment/occupation which is a means of earning an income; for financial gain from working; provides security in the form of pensions, PRSI contributions, holiday and sick pay; a person can be self-employed or employed by another person; it can be full, part-time or temporary; etc.

**Unpaid work:** no financial reward for the work done; mainly done in the home; tasks may include: child care, housework, caring for an elderly parent; person with a disability; can be monotonous; lacks advantages of paid work e.g. sick pay; etc.

**Voluntary work:** working by choice in the community; not for financial gain; working with charity groups; has a higher status than unpaid work; people participate in this work as it is personally rewarding; builds friendships, teamwork, new skills, empathy; etc.

(ii) Discuss the advantages **and** the disadvantages of students working in part-time employment.

(20)

#### **4 points @ 5 marks each**

##### **(1 advantage, 1 disadvantage, plus 2 others)**

**Advantages:** earn money to fund social life, buy clothes, pay back student loans; have better time management skills; will gain experience in the work place; understand responsibility; not reliant on parent for pocket money; good work ethic leads to attaining a job; etc.

**Disadvantages:** less time for studies; increase absenteeism from class/lectures; obtain lower grades in exams; increase in stress levels; tiredness attending class; little job security; less leisure time; can impact on health; family relationships can suffer; etc.

(iii) How does the Protection of Young Persons (Employment) Act, 1996 protect young people in the labour force?

(12)

#### **3 points @ 4 marks each**

limits the number of hours a young person can work; it is an offence to employ children under 16 years full-time; under 14 years cannot work during school term; during holidays cannot work more than 7 hours per day, 35 hours per week; must have a break of 30 minutes every 4 hours; must have 2 rest days a week; must have 21 free days; 15 year olds must not work more than 8 hours a week during school term; 16/17 year olds must not work more than 40 hours per week; must not work before 6.00am or after 10.00pm; employer must get evidence of a young persons' age; permission from parent or guardian; keep a register of hours worked; must be paid the National Minimum Wage of €6.06 per hour (under 18 years of age); etc.

and

**3. (b) Recently, third level colleges have seen a big increase in the number of mature students applying for places on courses.**

- (i) Discuss **three** reasons why adults are returning to education. (18)

**3 reasons @ 6 marks each**

*help apply for a new job; promotion in their chosen field; learn a new skill; people lost jobs in the recession and returned to college to enhance employment prospects; help children with homework; set a good example for their family around their attitude to education; learn a new language to facilitate travel; hobbies and interests; meet new people; expand social circle; to fulfil a life-long ambition; they enjoy studying; to keep up with technological advances; to develop literacy and numeracy skills; etc.*

- (ii) Name **and** give details of **one** initiative available to adults to improve their educational qualifications. (12)

**Name: 4 marks, Details: 2 points @ 4 marks each**

*adult literacy services; BTEI - Back to Education Initiative; NALA - National Adult Literacy Association; VTOS - Vocational, Training Opportunities Scheme; ETB offering a wide range of night classes; Teagasc/Coillte; Solas (FÁS) skill based training; Open University/distance learning; Universities and Institutes of Technology; etc.*

or

**3.(c) Many people are stressed by life, this is why leisure activities are crucial to the development of a good work / life balance.**

- (i) Define *leisure*. (6)

**1 point @ 6 marks**

*the residual time left over after essential activities have been completed; the time that an individual can choose to spend as he/she wishes; time available for ease and relaxation; etc.*

- (ii) Describe how family leisure activities are influenced by **each** of the following:

- age
- occupation
- culture
- cost.

(24)

**4 points @ 6 marks each**

**Age:** *young people have fewer commitments and more time for leisure; couples with young children have the least amount of time and disposable income; retired couples have more time and money to spend on leisure; older people have less money, may have physical constraints and do more sedentary pursuits; leisure activities change with age; some leisure activities are regarded as too dangerous for children e.g. under 10's may not scuba dive; etc.*

**Occupation:** *amount of disposable income available; number of working hours; type of work; leisure can contrast with a person's occupation; can be an extension of work; work is a means of providing*

*income for leisure; part-time workers, job sharing and career breaks all allow for more time for leisure activities; sedentary worker could opt for an energy consuming type of activity and vice-versa; etc.*

**Culture:** *surfing, hurling etc. in a particular area of a county; traditional to a country e.g. Irish music, Flamenco in Spain; etc. children's choice of leisure activities often influenced by parent's activities; etc.*

**Cost:** *membership fee; annual fee; joining fee; pay as you go; need for special clothes and equipment; people with little disposable income may choose inexpensive/free activities e.g. walking; etc.*



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

# **LEAVING CERTIFICATE 2016**

## **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 / dessert = 1 mark, main course = 1 mark)*

*suitable meals / dishes / products having regard to factors identified and analysed in the investigation*

#### **Menus / main course / dishes must be balanced – accept 3 out of 4 food groups**

#### **Reasons / selection criteria – (2 @ 2 marks each)**

**= 4**

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

#### **Sources including source of recipe – (2 @ 1 mark each)**

**= 2**



## **Preparation and Planning - 6 marks**

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

## **Implementation - 28 marks**

Outline of the procedure followed to include food preparation processes, cooking time / temperature, serving / presentation, tasting / evaluation = 16  
(Information / account should be in candidate's own words)

### **Band A 13 - 16 marks (very good – excellent)**

All essential stages in preparation of dish identified, summarised and presented in candidate's own words, in correct sequence with due reference to relevant food preparation process/es used

### **Band B 9 -12 marks (very competent – good)**

Most essential stages in preparation of dish identified, summarised and presented in correct sequence with due reference to relevant food preparation process/es used

### **Band C 5 - 8 marks (basic to competent)**

Some essential stages in preparation of dish identified, summarised and presented in correct sequence with due reference to relevant food preparation process/es used

### **Band D 1-4 marks (very basic – limited)**

Few or any essential stages in preparation of dish identified, summarised and presented in sequence with due reference to relevant food preparation process/es used

- **Key factors considered** (must relate to specific dish / test) (2 @ 4 marks each) = 8  
*Identification (2) and clear explanation of importance (2) of two factors considered which were critical to success of dish*
- **Safety / hygiene** (2 @ 2 marks each) = 4  
(must relate to specific ingredients being used / dish being cooked)  
*Identification (1) and explanation (1) of one key safety issue and one key hygiene issue considered when preparing and cooking dish / conducting test*

## **Evaluation - 16 marks**

Evaluate the assignment in terms of:

- **Implementation** (2 @ 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 @ 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

*Nutritional awareness and a positive approach to healthy eating are important factors for young people who participate in active sport.*

Research and elaborate on the nutritional needs and the meal planning guidelines that should be considered when planning meals for young people who participate in active sport.

Having regard to the factors identified in your research, suggest a range of two course menus suitable for the main meal of the day for this group of young people.

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.

2016

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

- *dietary / nutritional needs that should be considered when planning meals for young people who participate in active sport*
- *relevant meal planning guidelines when planning and preparing meals for young people who participate in active sport*
- *range of two course menus suitable for the main meal of the day*
- *main course dish and reasons for choice.*

#### **Investigation**

**Dietary / nutritional requirements:** *nutritional balance helps training and a quick recovery; physical growth increases the need for intake of all nutrients; daily requirements of macro/micro nutrients including protein/cho/fat/iron/calcium requirements as appropriate to the needs of young people who participate in active sport with reasons for possible variations; high fibre; Vitamin C/iron absorption; Vitamin D/calcium absorption; need to increase Vitamin B group for release of energy and metabolism; possible variations in energy requirements; supply of glucose to help concentration levels, fuel stores used up during training and matches needs to be replaced; low GI carbohydrate foods that release energy slowly; energy balance vis a vis activity levels; current nutritional guidelines re nutrient and food intake; etc.*

**Meal planning guidelines:** *use of food pyramid to ensure balance, eat at least five balanced meals each day – can be achieved by balanced snacking every 2 - 3 hours; small meals better than 3 - 4 large ones; avoid skipping meals; variety of foods; personal likes and dislikes; choose healthy snacks ( i.e. high protein, high carbohydrate, high GI foods, low fat, low refined sugar foods); if choosing convenience foods choose fortified foods; increase calcium; avoid foods high in salt, saturated fat and sugar i.e. convenience foods; 60% of total calories consumed should come from carbohydrate; avoid the use of food supplements unless prescribed by doctor; select low GI foods to provide a sustained source of energy and high GI foods to restore energy after exercise; replace water lost during exercise to avoid dehydration – recommended daily fluid intake 35 – 45ml per kilogram of body weight/8 glasses of fluids per day; drinking water v sports drinks; ensure glycogen stores are full before training/games; resource issues; medical needs/diets e.g. coeliac, vegetarian; advance planning of meals; time available for preparation; avoid highly spiced and unfamiliar foods before training/matches; portions will depend on weight, sport and training schedule; etc.*

**Dishes selected**     **range of two course menus**  
**must be suitable for young people who participate in active sport**  
**must be a main course.**

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

*Analysis of findings regarding the nutritional requirements of a range of two course menus for young people who participate in active sport.*

*Meal planning guidelines – range of main course dishes suitable for people who participate in active sport, how the selected dish meets the requirements as identified in the investigation.*

## Assignment 2

***As people age muscle mass and muscle strength decrease naturally. However, inadequate protein in the diet of older people leads to a more rapid, unintentional loss of body weight and muscle mass.***

With reference to the above statement, research and elaborate on the nutritional needs and the meal planning guidelines that should be considered when planning and preparing meals in order to prevent/slow down loss of muscle mass and maintain a healthy body weight.

Having regard to these considerations, plan and set out a menu for **one** day (three meals and snacks) 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.

2016

### Key requirements of the assignment

- **dietary / nutritional requirements** when planning meals in order to prevent/slow down loss of muscle mass and maintain a healthy body weight
- relevant **meal planning guidelines** in order to prevent/slow down loss of muscle mass and maintain a healthy body weight
- **menu for one day (three meals and snacks)**
- chosen main course dish and reasons for choice.

### Investigation

**Dietary / nutritional requirements when planning meals in order to prevent / slow down loss of muscle mass and maintain a healthy body weight:** *nutritional balance, daily requirements of macro/micro nutrients including protein to maintain and build muscle mass and to ensure adequate intake of the essential amino acid leucine - protein foods rich in leucine stimulate muscle protein synthesis more than other comparable protein food; people over 60 should aim for 25 to 30 grams of protein per meal; cho/fat/iron/calcium requirements as appropriate to the needs of older people with reasons for possible variations; high fibre; Vitamin C/iron absorption; Vitamin D/calcium absorption; need to increase Vitamins B6, B12, and folate due to low intakes and malabsorption; possible variations in energy requirements – older people tend to be less active so need fewer calories as they have a lower BMR rate; current nutritional guidelines re nutrient and food intake; use of meal supplements e.g. drinks – Ovaltine, Milo, Ensure; etc.*

**Meal planning guidelines in order to prevent / slow down loss of muscle mass and maintain a healthy body weight:** *use of food pyramid to ensure balance; variety of foods; personal likes and dislikes; correct fluid intake to prevent dehydration - 8 glasses of fluids per day; high fibre foods; increase calcium and protein in the diet; avoid foods high in salt, saturated fat and sugar i.e. convenience foods, if choosing convenience foods choose fortified foods, healthy snacks, easily digested foods; use of foods in season – resource issues; smaller portions; consider easy to eat/chew foods for older people with dental problems; physical limitations e.g. arthritis, use of pre-prepared/easy to prepare foods; medical conditions may influence foods eaten; sensory changes – taste for food may change; medicines do not mix with all types of foods as they can affect the absorption and metabolism of nutrients; use of milk powder to boost calcium, protein and calorie content; avoid gaining extra fat, lean protein sources should be used, chicken breasts, fish, egg whites, and turkey are all excellent protein sources for older adults, as well as nut butters and protein shakes made with sugar free sweeteners; aim for a minimum of 7g of protein per 20lbs / 3kg of body weight every day to meet protein requirements; avoid the use of heavy sauces, fried foods, and excess sugar while adding protein to the diet; avoid the use of professional weight-gaining formulas when rebuilding muscle, they often contain chemicals that may be harmful in large amounts; etc.*

**Dishes selected - must be suitable to prevent / slow down loss of muscle mass and maintain a healthy body weight.**  
- **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 in order to prevent/slow down loss of muscle mass and maintain a healthy body weight; factors that should be considered when planning meals to prevent/slow down loss of muscle mass and maintain a healthy body weight to ensure nutritional adequacy; what foods are suitable/unsuitable; what special aspects of meal planning have to be considered; how the selected dish meets the requirements as identified in the investigation; etc.*

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

### Assignment 3

***Food processors are versatile machines that make many food preparation tasks less of a chore.***

Carry out research on electric food processors in relation to the following:

- the different types available (types, features, brands, cost)
- uses i.e. different functions
- dishes/foods where preparation time is significantly reduced by using a food processor
- the key points in relation to use.

Using a food processor to maximum advantage, prepare, cook and serve a savoury dish of your choice.

Evaluate the assignment in terms of **(a)** implementation and **(b)** the relative benefits of using a food processor.

2016

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

- *research on electric food processors - the different types available (types, features, brands, cost)*
- *uses i.e. different functions*
- *dishes/foods where preparation time is significantly reduced by using a food processor*
- *the key points in relation to use.*
- *chosen dish - savoury and reasons for choice.*

#### **Investigation**

##### **Research on electric food processors; different types available (types, features, brands, cost)**

**Types:** food processors with blenders/smoothie makers/liquidiser/citrus fruit juicer; hand-operated food choppers/blenders; compact or mini choppers/processors; large food processors; etc. **Capacity:** processor - 0.8-3.7 litres; blender – 1.0–1.5 litres; etc. **wattage:** 300W- 800W; etc. **Features:** variable speed control, turbo speed/boost button; soft touch handle/easy grip; easy to clean stainless steel bowl; bowls up to 5 litres; coarse/fine grating and slicing discs, shredding/julienne disc; citrus press; beaters, hooks and whisks; flexible beater tool; K-lene coated(non-stick); removable mixer head can be used as hand mixer; splash/pour guard; load sensing technology; timer; automatic bowl scraper; over load cut out; cord storage; dishwasher safe; cordless; swivel cord to use with each hand; safety lock; dishwasher safe attachments; different colours, chrome finish, white crystal/brushed stainless steel finish; hard clear or smoked plastic outer casing with chute for adding extra items; stainless steel blades; central spindle; motor; on/off switch; etc. **Brands:** Kenwood; Moulinex; Philips; Gordon Ramsey; Russell Hobbs; James Martin; etc. **Cost:** cost of different electric food processors investigated.

**Uses i.e. different functions:** chopping/mincing; mixing; creaming and whisking; kneading dough/pastry; slicing/shredding/chipping; pureeing; blending; frothing; etc.

##### **Dishes / foods where preparation time is significantly reduced:**

**Savoury:** salad dressings; mayonnaise; pâté; hummus; soup; coleslaw; vegetable stir fry; mashing vegetables; mincing meat; stuffing's; pizza; quiche; etc. **Sweet:** biscuits; bread, scones, yeast dough; cakes - sponge cakes, fruit cakes, all-in-one cakes; eve's pudding; pineapple-upside-down cake; fruit crumble; cheesecake; pastry - apple tart; crumbing; icings; batters; fruit/milk shakes/smoothies; meringues; pancakes; marmalade; etc.

**Key points in relation to use:** follow manufactures instructions; use the correct attachment for the mixture; do not exceed the maximum capacity or you will overload the motor; lock bowl in place before starting mixer; use a slower speed to start and when adding dry ingredients; have fat at room temperature; use the splashguard to keep foods like icing sugar and flour contained during mixing but make sure it is removed before whisking so the air can circulate freely; stop and scrape mixture from sides of bowl when mixing; allow boiling liquids to cool before adding; ensure food covers the blades; use funnel/chute for adding foods and use plastic pusher to press the food down; make sure beaters are in mixture before turning on; mixers with smaller motors cannot be left running for too long; clean after use; do not use attachments e.g. liquidiser at the same time as beating; etc.

##### **Dishes selected – must be savoury dish using a food processor**

**Evaluation** (as specified in assignment) – *the relative benefits of using a food processor - how the selected dish meets the requirements as identified in the investigation; etc.*

## **Area of Practice C: Food Technology**

### **Assignment 4**

***The popularity of 'Afternoon Tea' has led to an increasing interest in home baking.***

Identify a range of different products (foods/dishes) currently popular that can be served as part of afternoon tea.

Investigate **two** different techniques/methods used in home baking and explain the underlying principles involved in each.

Using **one** of the techniques/methods investigated, prepare and bake **one** product suitable for serving at afternoon tea. Describe how you would serve your dish/product.

Evaluate the assignment in terms of **(a)** implementation, **(b)** practicability of home baking and **(c)** cost of home baking versus a similar commercial product.

2016

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

##### **Investigate:**

- identify a range of **different products (foods/dishes)** currently popular that can be served as part of afternoon tea.
- investigate **two different techniques/methods** used in home baking and explain the **underlying principles** involved in **each**.
- describe how dish/product is served.
- chosen product and reasons for choice.

##### **Investigation**

###### **Range of different products (foods/dishes) currently popular that can be served as part of afternoon tea:**

**Sandwiches:** pinwheel sandwiches; fillings - cucumber; cooked meats; tuna; salmon; cheese and pickle; egg mayonnaise; etc. **Scones:** plain, fruit served with butter/jam/cream; cheese scones; crumpets; etc. **Cakes:** cupcakes/small iced buns (Fancies); muffins; petits fours; chocolate cake; rich fruit cake; battenberg cake; etc. **Tarts:** bakewell tart; custard tart; lemon tart; etc. chocolate puffs; lemon meringue pie; caramel slices; etc.

###### **Techniques/methods used in home baking/underlying principles involved in each:**

**Rubbing in Method:** fat cut into small pieces and rubbed lightly into flour with fingertips; mixture lifted above the bowl to help incorporate air; mixture should resemble fine breadcrumbs; texture is fairly open; heat of oven causes gas to expand and set mixture; etc. **Creaming Method:** fat and sugar are beaten/creamed together by hand/electric mixer until mixture is light in colour, fluffy in texture, increased in volume and the sugar has dissolved; small air cells are produced which are stabilised by the sugar; more air cells are introduced by beating the eggs into the fat and sugar mixture; eggs are added at low speed to avoid curdling; flour must be folded in gently so that no air is lost; during baking the heat of oven causes gas to expand and set mixture and cake rises; etc. **All-in-one Method:** all the ingredients are beaten together; air is incorporated into the mixture to form air cells which are stabilised by the sugar; the soft blend of fat enables air to be incorporated easily, mixes readily with the other ingredients; additional raising agent is required; during baking, the fat melts, releasing the air cells in the flour and liquid mixture; the raising agent in the flour reacts with the liquid from the egg to produce carbon dioxide and steam; as pressure builds up inside the cake these gases move to the air cells formed during mixing and cause the cake to rise; proteins in the flour and eggs set; the cooked cake consists of a large number of air cells surrounded by a network of proteins in which the starch granules are held; etc. **Whisking Method:** eggs and sugar are whisked together for 10-15 minutes over hot water to dissolve the sugar completely and then for a further 5 minutes off the heat to cool the mixture; air is incorporated into the mixture to give the cake its light, spongy texture; flour is folded in carefully so the incorporated air is not lost; the texture of a fatless sponge is even, light and very soft; a Genoese Sponge contains a small proportion of fat, the fat is melted and trickled into the side of the mixture a little at a time and folded in with the flour; this improves the flavour and keeping time; during baking the heat of the oven causes gas to expand and set, mixture rises; etc. **Melting Method:** fat, sugar, liquid and fruit (if used) are heated gently until the fat has melted; this mixture is cooled and added to the dry ingredients (flour, raising agent) and then beaten together with the egg until well mixed, produces a dense consistency; baking powder/bread soda added, when moistened produce CO<sub>2</sub> which causes the mixture to rise when heated, heat of oven sets the mixture; etc.

**Accept:** pastry making, scone making, bread making, yeast, etc.

**How dish/product is served** - china cake plates/two or three tier cake stands; serve each item in bite-sized portions; small bowl or ramekin for jam/cream, place a teaspoon in each to serve; etc.

**If dish/product is not served – 3 marks**

**Dishes selected – one of the techniques/methods investigated must be used to make dish/product.**

**Evaluation (a)** (as specified in assignment) **(b)** *Practicability of home baking – resource issues – time, skills, equipment, storage, availability of ingredients, etc.* **(c)** *cost of home baking versus a similar commercial product.*

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

### Assignment 5

*Due to its many properties, sugar is a commonly used ingredient in both sweet and savoury dishes.*

Carry out research on the properties and the related culinary uses of sugar. Explain the associated underlying scientific principles.

List dishes that illustrate the use of each property.

Prepare, cook and serve **one** of the dishes that you have investigated which has sugar as a key ingredient.

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

2016

#### Key requirements of the assignment

- research on **the properties and the related culinary uses of sugar**
- the associated **underlying scientific principles**
- **list of dishes** that illustrate the use of each property
- chosen dish and reasons for choice.

#### Properties and related culinary uses of sugar:

**caramelisation:** used in crème brûlée, toffee; etc. **crystallisation:** used in fondant making, fudge; etc. **sweetener and flavour enhancer:** drinks, cakes, puddings; etc. **syrup:** on fruit to prevent discolouration; etc. **glaze** on pastries and flans; etc. **main ingredient** in sweets and icings; etc. **solubility:** syrup; etc. **hydrolysis:** soft texture in cakes achieved as sugar dissolves in the liquid used for mixing ingredients; etc. **inversion** used in production of jams, boiled sweets & other confectionary; etc. **assist aeration:** in creamed cakes; has a stabilising effect when added to egg whites and helps the mixture to retain air as it strengthens the protein; tenderiser as the uptake of water by flour is reduced when sugar is present which hampers the formation of gluten resulting in lighter cakes and buns; etc. **maillard reaction:** roast potatoes; etc. **preservative action:** preservative in jams/marmalades/chutneys as the high sugar content prevents microbial growth; etc.

#### The associated underlying scientific principles:

**Caramelisation:** form of non-enzymic browning; when sugars are heated on their own they melt, produce a range of brown substances collectively known as caramel; colour changes from a light yellow to a deep brown; caramelisation occurs most readily in the absence of water (crème brûlée); sugar solutions (syrups) will caramelize when heated enough, ten gradual changes in sugar between melting and caramelisation - first stage 104°C, caramelisation occurs up to 177°C; too much heat will produce a bitter and very dark caramel, eventually it carbonises; etc. **Crystallisation:** super saturated sugar solution which produces a mass of coarse grain crystals; etc. **Sweetener & flavour enhancer:** all sugars do not have the same degree of sweetness and it can be measured only by tasting; glucose used in dishes without making them too sweet; chemicals in food stimulate taste buds sensitive to four kinds of taste – sweet, sour, salt, bitter; etc. Demerara/brown sugar used to add flavour; etc. **Hydrolysis:** the chemical breakdown of a molecule by adding water to produce smaller molecules; etc. **Solubility:** soluble in water, solubility increased by heating water, syrup is formed when sugar is heated; etc. **Inversion:** a mixture of glucose and fructose is known as 'invert sugar'; inversion may be brought about either by heating/boiling sucrose with an acid/alkali or by adding enzyme invertase; invert sugars are monosaccharides which result from hydrolysis of disaccharides e.g. when sucrose is hydrolysed it is inverted to glucose and fructose; etc. **Assist aeration:** sugar denatures egg protein allowing aeration to occur; castor sugar when creamed with fat encloses air making mixture light; etc. **Maillard reaction:** browning occurs when a simple sugar and amino acids react when heated to high temperature; affects flavour; etc. **Preservative action:** high sugar concentration 65% in jam inhibits growth of micro-organisms and prevents fermentation; sugar is dissolved in water of food cells forming a concentrated solution; water is drawn by osmosis from cells of micro-organisms already present in an attempt to equalise the concentration, dehydrates cells and they die; etc.

#### List of dishes that illustrate the use of each property:

**Dishes selected – sugar must be the key ingredient in the dish.**

**Evaluation** (as specified in assignment)

*How successful the property / properties selected was applied when making the dish etc.*

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

### Assignment 6

*Design and produce a simple product suitable for selling at a local country / food market. (Examples of suitable products include muesli, sauces, flavoured butters, baked products, preserves, etc.)*

Carry out research on **three** different products that would meet the above brief and give a concise description of each.

Your group should choose **one** product to develop and give reasons for the group choice. Compile a product specification indicating how the product should look and taste. (Use 6 attributes).

Make the product. Carry out a **descriptive rating test** using line scales or star diagrams. (Use the same 6 attributes as above). Compile a sensory profile of the product made.

Evaluate the assignment in terms of (a) implementation and (b) the modifications that could be made to meet the product specification.

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### Key requirements of the assignment

- *research three different products suitable for selling at a local country/food market.(e.g. muesli, sauces, flavoured butters, baked products, preserves, etc.)*
- *concise description of each product*
- *selected product of your choice to develop and reasons for choice*
- *product specification (use 6 attributes)*
- *descriptive rating test*
- *conditions to be controlled during testing.*

### Investigation

= 20

- Research / Investigation of products appropriate to the testing
- *i.e. research three different products suitable for selling at a local country/food market.(e.g. muesli, sauces, flavoured butters, baked products, preserves, etc.)*
- *description of each product.*

- **Descriptive Rating test** using **line scales** or **star diagrams**

*Description: agree on 6 attributes for product to be rated (group suggest and agree on attributes); rate product for chosen attributes using line scales or star diagram; draw up sensory profile for product; etc.*

*Aim of test: to compile a sensory profile on the product made; etc.*

*Possible outcomes: to have a description of the attributes for the product i.e. sensory profile*

### 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; hygiene; timing; where testing takes place; dietary considerations; an understanding of the meaning of each attribute; etc.*

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

*Selected product*

= 4

*State reasons for choice.*

*(2 reasons @ 2 marks each)*

= 4

*Sources (2 @ 1 mark each)*

= 2

### Preparation and Planning

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

= 3

*Descriptive rating test: ingredients, trays, glasses of water, containers, product, score-cards, record sheets, pen, etc.*

### Work sequence

= 3

*Descriptive rating test: compile product specification; prepare and cook (if appropriate) product; agree descriptive words and agree attributes; label score card and record sheet; follow instructions on score cards; set up trays; carry out descriptive rating test using line scales or star diagrams; compile sensory profiles based on group results, tidy and wash up; present evaluate results; 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.*

### Descriptive rating test (one product)

#### Using star diagram

*Prepare and cook (if appropriate) product; compile product specification; agree descriptive words and agree attributes; label score cards and record sheets with agreed attributes; follow instructions on score card, arrange sample of food, set up trays; tasters taste food, rate attributes from 0-5 using star diagram for the food sample; complete individual star diagram; collect cards and transfer results of each tester in group onto record sheet; calculate average scores for each attribute; transfer results to group star diagram (can draw own or cut one from scorecard used and stick on); **compile a sensory profile** for product, present results, tidy and wash up; etc.*

#### Using line scales:

*Agree descriptive words and agree attributes; label score cards and record sheets with agreed attributes; arrange sample of food, set up trays; using 6 line scales, one for each attribute; rate attributes from 0 – 5 using a horizontal line with low rating at left hand end of line and high rating at right hand end of line; transfer results of each tester in group onto record sheet; calculate average scores for each attribute; **compile a sensory profile** for product; 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 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; degree of doneness; samples used are from the same batch; use of appropriate words(attributes) familiar to all students; etc.*

*(key factors – one 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, celiac; etc., care in cutting samples; etc.*

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

## Evaluation

- **Implementation (2 points @ 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; etc.*

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

= 8

*Modifications that could be made to meet the product specification; etc.*

**Band A = 4 marks**

**Band B = 3 marks**

**Band C = 2 marks**



## Appendix 1

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

1. Examination requirements:  
Candidates are required to complete and present a record of **five** assignments for examination.  
In respect of **Areas of Practice**, candidates must complete  
Area A - **One** assignment  
Area B - **One** assignment  
Area C - **One** assignment  
Area D - **One** assignment  
**One** other assignment from either Area A or Area E  
Where a **candidate completes five assignments and does not meet the examination requirements** as set out above, the examiner will mark the five assignments as presented and disallow the marks awarded for the assignment with the lowest mark from AOP A or E
  2. Each Food Studies assignment must include different practical activities.  
Where a **candidate repeats a practical activity for a second assignment**, the examiner will mark the repeated practical as presented and disallow the marks awarded for the repeated practical activity with the lowest mark.
  3. Where a **candidate completes the investigation and/or the preparation and planning and/or the evaluation aspects of an assignment and does not complete the implementation**, the examiner will mark the completed aspects of the assignment as presented. However, marks for **evaluation of implementation**, where attempted, will be disallowed.  
In relation to Assignments 3, 4, 5 and 6 **evaluation of specific requirements** will also be disallowed
  4. Where a **candidate completes the preparation and planning and/or the implementation and/or the evaluation aspects of an assignment, and does not complete the investigation**, the examiner will mark the completed aspects of the assignment as presented. However, marks for **evaluation of specific requirements of assignment**, where attempted, will be disallowed.
  5. Where the **dish/product prepared has not been identified in the investigation**, but fulfils the requirements of the assignment, deduct the relevant marks awarded (-1/-2) under meals / dishes / products in investigation.
  6. Dish selected shows *few process skills* - mark pro-rata
  7. **Dish** selected **not fully compliant** with requirements e.g.
    - An *uncooked dish* selected where a cooked dish specified
    - Dish *not suitable for assignment requirements – Assignment 2*
    - The *investigated method not used in making the chosen dish – Assignments 4 and 5*
    - Dish selected includes *over use of convenience foods*Deduct – 8 marks from total mark awarded for assignment and insert explanation as highlighted above.
  8. A **dish that does not meet the requirements of the assignment** e.g. a dessert dish prepared instead of a main course; no marks to be awarded.
- NB** All scenarios must be checked with advising examiner before being applied.  
When applying a scenario indicate by putting S. 7 - 8 marks with the relevant comment at the beginning of the assignment.

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