



Coimisiún na Scrúduithe Stáit
State Examinations Commission

LEAVING CERTIFICATE 2011

MARKING SCHEME

**HOME ECONOMICS
- SCIENTIFIC AND SOCIAL**

ORDINARY LEVEL

In developing the marking schemes the following should be noted:

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

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)**.
Candidates who submitted Textiles, Fashion and Design coursework for examination may attempt only Question 2 from this section.
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. Set out in the table are sources of carbohydrates. Match **each** source with the corresponding classification listed. (6)

3 points @ 2 marks

Classification: *monosaccharides, disaccharides, polysaccharides*

Sources	Classification
Cellulose e.g. vegetables	<i>polysaccharides</i>
Glucose e.g. fruit	<i>monosaccharides</i>
Sucrose e.g. table sugar	<i>disaccharides</i>

2. Outline **three** ways of increasing dietary fibre (non-starch polysaccharide) in the diet of teenagers. (6)

3 points @ 2 marks

- (i) eat more fruit preferably with skins on, eat vegetables, eat brown bread instead of white,
- (ii) eat wholegrain breakfast cereals, eat wholemeal pasta instead of refined pasta,
- (iii) eat brown rice instead of polished rice, increase intake of seeds and nuts etc.

3. Complete the following statement in relation to the B group vitamins using the words listed below. (6)

3 points @ 2 marks

folic acid, thiamine, energy

Vitamin B₁ is also known as thiamine.

Vitamin B₁ is necessary for the release of energy from carbohydrate and fat.

A woman should take folic acid during pregnancy in order to prevent neural tube defects in her unborn baby.

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

3 points @ 2 marks

	True	False
Osteoporosis is a disease of the bones.	✓	
A lacto-vegetarian may eat dairy produce.	✓	
Cholesterol in the blood helps to transport fats around the body.	✓	

5. In relation to the preservation of food match the following with its function. (6)

3 points @ 2 marks

pectin, blanching, sugar and vinegar

Function	
Used as a preservative when making chutney.	<i>sugar and vinegar</i>
Used to set jam.	<i>pectin</i>
Used to inactivate enzymes when freezing food.	<i>blanching</i>

6. Name a suitable raising agent for **each** of the following dishes. (6)

2 @ 2 marks, 1@ 1 mark

Dishes	Raising Agents
Bread	<i>baking powder, bread soda, yeast, etc.</i>
Sponge cake	<i>air, baking powder, etc.</i>
Muffins	<i>baking powder, bread soda, etc.</i>

Explain the underlying principle of **one** of the raising agents named above.

1 point @ 1 mark

Air: air is incorporated by sifting, rubbing in, whisking, rolling and folding to make mixture light etc.

Yeast: during fermentation yeast feeds on sugar in warm conditions to produce CO₂, alcohol and energy, etc.

Bread soda: chemical reaction between an acid, an alkali and a liquid to produce CO₂ etc.

7. How should raw meat and chicken be stored in the home in order to prevent cross contamination? Give **two** points. (6)

2 points @ 3 marks

- (i) Remove shop wrapping, place on plate and cover loosely to allow air circulation with cling film, foil, etc.
- (ii) Store in refrigerator as soon as possible after purchase, place on a shelf below any cooked foods, etc.

8. Name **two** types of pollution and state how **each** may affect the environment. (6)

Types: 2 @ 1 mark

Effect: 2 @ 2 marks

Type Air e.g. gases, CFC's, traffic emissions, etc.

Effect acid rain, global warming, depletion of ozone layer increasing risk of skin cancer, respiratory conditions e.g., asthma, bronchitis, etc.

Type Water e.g. seepage from sewage, detergents, chemical waste, etc.

Effect alga bloom uses up oxygen, destroys aquatic life, kills fish, kills birds and marine animals, impacts on tourist industry, etc.

Type Noise e.g. alarms, lawn mowers, night clubs, etc.


Effect headaches, irritation, insomnia, tension between neighbours, etc.

Type Litter e.g. packaging, cigarette butts etc.

Effect streets littered, clogged drains etc.

9. This label is used on large electrical appliances such as washing machines. Explain its benefit to the consumer. (6)

2 points @ 3 marks

Energy		Washing machine
Manufacturer Model		
More efficient		A
A		
B		
C		
D		
E		
F		
G		
Less efficient		
Energy consumption kWh/cycle (based on standard test results for 60°C cotton cycle) <small>Actual energy consumption will depend on how the appliance is used</small>		0.95
Washing performance <small>A: higher G: lower</small>		A B C D E F G
Spin drying performance <small>A: higher G: lower</small>		A B C D E F G
Spin speed (rpm)		1400
Capacity (cotton) kg		5.0
Water consumption l		55
Noise (dB(A) re 1 pW)	Washing	5.2
	Spinning	7.0
<small>For further information is continued in product brochures</small>		

This enables consumers to choose appliances based on their energy efficiency, appliances are rated on an A – G scale, A and B rated appliances are the most energy efficient.

10. Name **one** shopper loyalty scheme used by supermarkets to encourage shoppers to buy their goods. (6)

Name: 2 marks Advantage: 2 marks Disadvantage: 2 marks

Name: Tesco club card, Superquinn reward card, Dunnes stores value club card, Supervalu card, etc.

State **one** advantage and **one** disadvantage of this loyalty scheme.

Advantage : money spent is converted into points, points accumulated can be exchanged for cash reductions on goods or for goods at the end of a fixed period, method of saving for Christmas, etc.

Disadvantage: consumers do not shop around for best value as they are inclined to only shop where the card is for, can lead to impulse buying, money saved may not be spent wisely, must have card with you, etc.

11. Name **one** fire retardant finish used on textiles. (6)

1 point @ 2 marks

Proban, Pyrovatex, etc.

Give **two** different uses of textiles that have a fire retardant finish applied.

2 points @ 2 marks

(i) children's nightwear, protective work wear (ii) upholstered furniture, military apparel, etc.

12. Explain and give **one** example of **each** of the following consumer terms. (6)

Explanation: 2 points @ 2 marks

Example: 2 points @ 1 mark

Essential expenditure: money spent on necessities in the home, etc.

Example: food, housing, bills, etc.

Discretionary expenditure: money spent on non-essentials, luxuries, etc.

Example: entertainment, holidays, cosmetics, alcohol, etc.

Section B

Answer Question 1 and any other two questions from this section.
Question 1 is worth 80 marks. Questions 2, 3, 4 and 5 are worth 50 marks each.

1. The table below shows nutritional information, per 100 grams for cod and salmon.

	Protein	Fat	Carbohydrate	Minerals	Vitamins	Energy value (per 100g)
Cod	18.3g	0.7g	0g	Iron, Phosphorus, Iodine	B group	80 kcal
Salmon	20.2g	11.0g	0g	Phosphorus, Calcium, Iodine	A, D, B group	180 kcal

- (a) Using the information provided in the table and having regard to current healthy eating guidelines evaluate the dietetic value of cod **and** salmon. (18)

6 points @ 3 marks

e.g. protein for growth and repair, both types of fish low in fat, particularly cod so very suitable for low fat diets, polyunsaturated fat in salmon helps prevent heart disease, no CHO so must be served with a CHO food, iron to prevent anaemia, calcium and phosphorus for bones and teeth, vitamin D helps absorption of calcium and phosphorus, vitamin B for release of energy, iodine regulates metabolism and produces thyroxine, fish is easy to digest for elderly people, etc.

- (b) Give an account of lipids (fats) under **each** of the following headings: (8)
- classification

2 classes @ 4 marks

e.g. saturated / animal, unsaturated / vegetable and polyunsaturated / marine, etc.

- sources (12)

4 sources @ 3 marks

e.g. saturated / animal: meat, lard, butter, milk, cream, cheese, egg yolk, etc.

unsaturated / vegetable: nuts, vegetable oils, margarine, cereals, soya bean, avocado, etc.

polyunsaturated / marine: oily fish e.g. mackerel, salmon, trout, tuna, fish liver oil, etc.

- functions in the body. (8)

2 functions @ 4 marks

e.g. 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, delay feeling of hunger, omega fatty acids improve brain activity, some unsaturated lipids help lower cholesterol, etc.

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

(14)

- essential fatty acids

7 marks

e.g. essential fatty acids cannot be manufactured in the body so therefore must be obtained from food, they are polyunsaturated fatty acids examples are oleic acid found in olive oil, linolenic acid found in veg. oils, margarine, cereals, etc., linoleic acid found in corn oil, etc., and arachidonic acid found in offal, beef, etc.

- the benefit of including omega-3 fatty acids in the diet.

7 marks

e.g. omega-3 fatty acids help to prevent platelets from sticking together and help prevent blood clots, reduce the risk of heart attack, stroke, circulatory diseases, associated with healthy brain activity, etc.

(d) Discuss **two** advantages and **two** disadvantages of online shopping when purchasing food and household products.

(20)

2 advantages, 2 disadvantages @ 5 marks each

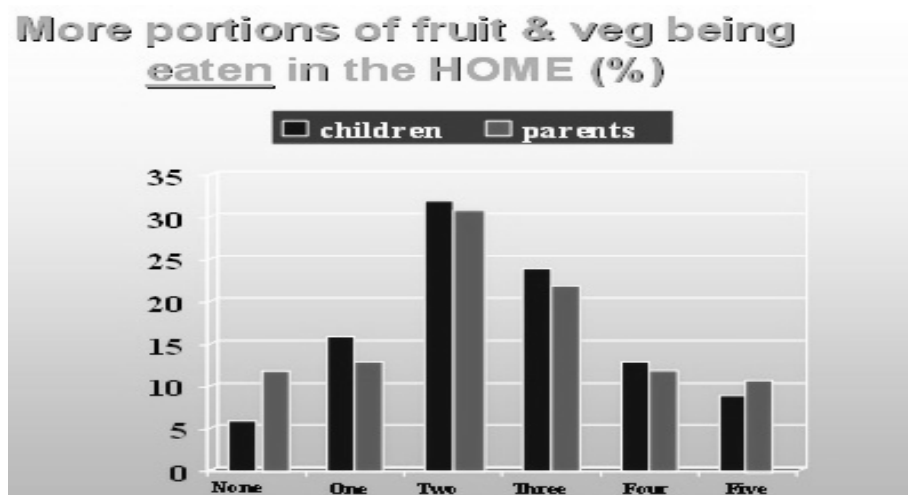
Advantages: *can be done from the comfort of home, cuts down on time and cost of travelling to shops, consumers avoid the hassle of busy shops, very convenient when children are young, very good selection available, items can be returned if not suitable, do not have to shop while stressed/tired from work, can avail of bargains in food stuffs, can take time selecting items, prevents impulse spending etc.*

Disadvantages: *consumers can impulse buy, items can look better on internet than they do in reality, may not work when item arrives, extra cost of posting, items can take up to a week to arrive, can get lost in the post, a charge for the transaction may apply, food bargains may contain over-ripe fruit, must be at home to receive goods, etc.*

2. 'Goodbye junk food, hello fruit and vegetables'

(New Scientist 2007)

The chart shows the number of portions of fruit and vegetables that are being eaten by parents and children in the home.



(foodhudes.ie)

- (a) Current healthy eating guidelines recommend that we eat 5 portions plus of fruit and vegetables each day.

Comment and elaborate on the consumption of fruit and vegetables as shown above. (20)

4 points @ 5 marks

e.g. 5% of children and over 10% of parents eat no fruit and vegetables; at the top end 10% of parents and less than 10% of children eat the recommended 5 portions a day; approximately 30% of children and parents eat 2 portions a day and almost 25% of children and slightly over 20% of parents eat 3 portions. Parents should encourage children to change from eating snack/convenience foods to selecting alternatives such as fruit, juices, etc., vegetables can be introduced through soups, salads, etc., portions should be small and attractively served, eating patterns are established in childhood, therefore healthy options are important.

- (b) Plan a menu (3 meals to include a packed lunch) for one day for a school going child.

Include fruit/vegetables in each meal. (18)

3 menus @ 6 marks

Breakfast	Packed Lunch	Dinner
Fruit Juice Cereal with fruit Brown bread with spread/marmalade Beverage, e.g. milk, etc.	Chicken Roll / Ham Sandwich Apple / Pear Beverage, e.g. YOP, etc.	Mixed vegetable soup Spaghetti Bolognese Fresh fruit salad & ice cream Beverage, e.g. water, etc.

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

3 guidelines @ 4 marks

e.g. 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 over-cooking, steaming, pressure and microwave cooking keep vitamin and mineral loss to a minimum, etc.

(3) 'Eggs are a basic food with their taste, nutritional value and availability matched by their versatility'

- (a) Describe the nutritive value of eggs. (20)

4 points @ 5 marks

e.g. HBV protein – albumin, ovalbumin, globulin are present in the egg white, vitellin and livetin are present in the yolk, saturated fat, cholesterol in egg yolk, no carbohydrate so usually served with a CHO food, fat soluble vitamins A, D, E, K in yolk, B group in white, deficient in Vitamin C, calcium, iron, phosphorus and sulphur, etc.

- (b) Name **three** different uses of eggs in food preparation and give **one** example of each use. (18)

Uses: 3 @ 3 marks

Examples: 3 @ 3 marks

e.g. as a dish – e.g. scrambled egg, to enrich – e.g. rice pudding, to bind – e.g. burgers, fish cakes, to coat – e.g. fish, to thicken – e.g. custard, quiche, as emulsifier – e.g. mayonnaise, to aerate – e.g. sponge, meringue, to glaze – e.g. scones, pastry, to clarify – e.g. consommé etc.

- (c) Explain how food labelling on eggs and egg cartons is beneficial as a source of consumer information. (12)

3 points @ 4 marks each

e.g. ensures all eggs are fully traceable from source to plate e.g. country of origin, farm and county I.D., farming method e.g. organic, corn-fed, free range, caged hens, etc., Bord Bia Quality Assurance Mark shows that specific requirements are met by the producer e.g. hens are tested and certified salmonella free, each egg carries the Q.A. logo, the code and best before date, gives information of class, size, etc.

(4) **Tony is the father of two school going children and has recently lost his job. His wife Julie works part-time in an office and earns €100 per week. Tony is now receiving social welfare benefit for his family. Tony and Julie manage the home together.**

- (a) List **three** resources, other than money, available to Tony and his family. Explain how **each** resource contributes to a good management system. (24)

3 resources @ 4 marks
3 explanations @ 4 marks

people: e.g. decision making and implementing the decisions, carrying out tasks, etc.

time: e.g. plan ahead, avoid time wasting, etc.

skills / knowledge: e.g. problem solving to avoid stress, organising meals to keep family healthy, budgeting to avoid getting into debt, etc.

equipment: e.g. use of electrical household appliances to save time and energy, use of computers to update on jobs front, etc.

energy: e.g. necessary for members of household to carry out tasks to an acceptable standard in a harmonious manner, etc.

- (b) Name **two** social welfare payments this family may be entitled to other than job seeker's benefit and children's allowance. (8)

2 payments @ 4 marks

e.g. family income supplement, back to school clothing and footwear allowance, rent allowance, etc.

- (c) Discuss how **each** of the following may affect a family when managing the home: (18)

- stage in life cycle

2 points @ 3 marks

e.g. younger children have different priorities than older children, small children require lots of resources e.g. money, time, space, emotional etc., as children get older they can contribute to home management and become involved in decision making, older people have limited finance, reduced mobility, different pastimes which affect management, newlyweds have more disposable time, income and other resources, later only one partner may be working so income is smaller, etc.

- employment patterns

2 points @ 3 marks

e.g. the job a person has affects how much money is available as a resource, where a person is employed will affect decisions depending on the distance people travel to work, and the time and money used in getting there if one or both partners works outside the home, dual earning families often have a larger income therefore have more access to resources, e.g. money and equipment, employment hours – flexitime, job sharing, shift work can affect sleeping patterns and meal times etc.,

- sex / gender roles.

2 points @ 3 marks

e.g. egalitarian (equal) attitudes have developed, less defined gender roles, men more involved in child rearing, sharing cooking, cleaning etc., women work outside the home, gender typing of certain household tasks e.g. lawn mowing is male task and meal preparation is a female task is rapidly decreasing, management involves all family members and tasks are rotated with more emphasis on equality and fairness and not on gender, etc.

5. Today, couples who experience relationship difficulties have a range of options to choose from in terms of how they move forward with their lives, together or separately.

- (a) (i) Explain **each** of the following options that couples, who are experiencing relationship difficulties may consider: (15)

3 options @ 5 marks each

- marriage counselling

e.g. assists couples to resolve marriage problems, confidential service, trained counsellors work with the couple and may refer them to experts on issues such as sex, law or alcohol, Accord offers a free service, both spouses must attend the sessions, etc.

- legal separation

e.g. no chance of reconciliation, it is a legally binding contract between spouses, a solicitor will generally draw up the terms of the separation, sets out future rights and responsibilities, partners agree to live apart, arrangements are made regarding the responsibility for the care of dependent children, agree on maintenance for the support of dependent spouse and children, arrangements regarding ownership and occupation of the family home such as mortgage repayments, rights of spouse to inherit from each other, etc.

- divorce.

e.g. couple agree to terminate their marriage legally, application to court for a decree of divorce, solicitor must inform the applicant about counselling, the solicitor must also make the couple aware of legal separation as an alternative, spouses must have lived apart for four of the previous five years, no prospect of reconciliation, adequate provision must be made for spouses and dependent children, court may make additional orders on issues such as child custody and access, property, maintenance, etc.

- (ii) State **one** advantage and **one** disadvantage of each option. (18)

3 advantages, 3 disadvantages @ 3 marks each

- Marriage counselling

Advantages: *e.g. helps couples discuss problems they might otherwise have difficulty discussing, free and confidential service, helps to reduce conflict between partners, etc.*

Disadvantages: *e.g. one member of the couple may not want to discuss their problems with a third party, one partner may not want to admit to a problem, only one partner is willing to seek counselling, etc.*

- Legal separation

Advantages: *e.g. it is a legally binding contract, outlines who is responsible for the care and maintenance of the children, inheritance rights, court may make barring and safety orders, etc.*

Disadvantages: *e.g. children might not like being separated from one parent, can become withdrawn as they may feel responsible for the break-up, a drop in living standards or change of home can be emotionally stressful for spouse and children, cannot get married again, etc.*

- Divorce

Advantages: *e.g. adequate provision is made for spouses and children, can be done on-line to save costs, a decree of divorce gives spouses a right to re-marry, etc.*

Disadvantages: *e.g. neither partner can marry until divorce is finalised, it is expensive so spouses may suffer financial loss, spouses may experience a sense of failure, rejection or guilt, they may become lonely, isolated and depressed, they may resort to drink, etc.*

- (b) (i) Explain why it is particularly important for divorced parents to make a will. (5)

1 point @ 5 marks

e.g. property and personal items pass to the people you want to have them, peace of mind knowing that your wishes will be carried out and major problems which could arise will be avoided, inheritance tax can be reduced, you appoint your own executor making the administration of your estate much easier, changes can be made to a will depending on an individual's life situation, e.g. getting re-married, having children, etc.

- (ii) Outline **three** important features of a valid will. (12)

3 features @ 4 marks each

e.g. individual making the will must be over 18 years, person must be of sound mind, the will must be written, it must be signed and dated in the presence of two witnesses, etc.

Section C

Answer one question from this section.

Candidates who submitted Textiles, Fashion and Design coursework for examination may only attempt 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) Three popular housing styles in Ireland today are shown below.



(i) Comment on the factors that may influence a person's choice of housing style. (20)

4 factors @ 5 marks each

Refer to:

- social factors

e.g. availability, location of house, personal choice, size, ages of children, lifestyle of family, family members with special needs, distance from work, etc.

- economic factors

e.g. income, cost of site, legal fees, stamp duty, costs for engineers/surveyors etc., planned developments in area, resale value, repairs etc.

- environmental factors.

e.g. building regulations, energy efficiency, radon barrier, local materials, surrounding area, trees/hedging could benefit the environment but could also provide shelter from the prevailing winds, etc.

(ii) Identify **two** specific housing requirements (needs) for an elderly person with limited mobility (movement). (10)

2 @ 5 marks

e.g. ramp access, wider doorways, lower kitchen work tops, light switches, sockets and door handles positioned appropriately, raised toilet level, rails beside bath, toilet and shower, bedroom at ground level, single level, etc.

(iii) Discuss **two** advantages and **two** disadvantages for a family of living in rented accommodation. (20)

2 advantages @ 5 marks, 2 disadvantages @ 5 marks

Advantages *e.g. no initial capital outlay/ cheaper than buying, relatively small deposit required, freedom to move, landlord must give notice to quit, no maintenance costs as landlord is responsible, wide choice of houses available, Residential Tenancies Act provides protection for tenants and landlords, etc.*

Disadvantages *e.g. renting is considered dead money, agency fee may apply, deposit of one month in advance usually required with first month's rent, insurance of contents required, quality of accommodation may be poor, facilities may have to be shared i.e. garden etc., tax relief is small compared to mortgaged property, etc.*

and

1.(b) ‘Average energy use per household in Ireland decreased by 4% between 1995 and 2007
(Sustainable Energy Ireland)

(i) Describe **one** type of home heating system under the following headings: (14)

- type of heating system - **6 marks**

e.g. wet central heating system and dry heating system

wet central heating system incorporates a boiler, small bore pipes and radiators, it uses water as the heat transfer medium and is fitted with an electric pump to assist the circulation of the water, this is an enclosed system with the same water travelling from the boiler to the radiators and back to the boiler, water is stored in tanks in the attic, etc.

- fuel / energy source - **4 marks**

e.g. oil, gas, electricity, solid fuel, solar power, etc.

- method of heat transfer – **4 marks**

e.g. convection: is the method of heat transfer used in the boiler and the hot water system, when heated a liquid/gas expands and rises, cooler air/liquid replaces it, movement is brought about by convection currents until all the matter reaches the same temp.etc.

(ii) Name **two** types of controls used on heating systems and explain how **each** helps to ensure efficient use of energy. (16)

2 controls @ 4 marks

Explanation: 2 @ 4 marks

e.g. timer/clock: electrically operated device used to switch the heating system on and off at pre-determined times set by the user, etc.

e.g. boiler thermostat: a thermostat connected to the central heating boiler, when the desired temperature is reached the thermostat switches off the boiler, when the water temperature falls the boiler re-starts, etc.

e.g. room thermostat: is mounted on the wall of a room and set to the desired temperature, the thermostat detects the surrounding temperature, it turns heating on when temperature falls below the desired level and off when the required temperature is reached, etc.

e.g. radiator thermostat

or

1.(c) (i) Explain why artificial methods of ventilation may be required in the modern home. (12)

3 points @ 4 marks

e.g. due to increased insulation e.g. double glazing, better fitting doors/windows etc. may be inadequate natural ventilation, controls high humidity levels in the air, introduce fresh air and remove stale air, prevent and/or reduce condensation, reduce smells, prevents mould etc.

(ii) Name and describe **one** method of artificial ventilation.

Explain the underlying principle of the method of ventilation named. (18)

Name = 4 marks Description – 2 points @ 4 marks each

Underlying principle - 2 points @ 3 marks each

e.g. extractor fan: it is fixed high up on an outside wall, in the ceiling or in the window of a bathroom, it is powered by electricity and is turned on by pressing a switch or pulling a cord. It is available in a wide variety of colours and sizes, etc.

underlying principle: when fan is turned on the shutters open, the electric motor rotates the blades at high speed, this causes suction drawing out stale air from the room, this is naturally replaced by fresh air.

e.g. cooker hood: ducted/ductless

e.g. air conditioning 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) End of school graduation and debutante (debs) balls and dances have become very popular with school leaving students in recent years.

- (i) Design and sketch an outfit suitable for an end of year graduation ball. (10)

Sketch = 10 marks

e.g. sketch should show detail of design features i.e., line, shape, proportion, harmony, etc. be clearly labelled, may include fabric colour, show accessories, etc.

- (ii) Suggest suitable fabric/s for your design. Give **two** reasons for your choice. (9)

Fabric - 3 marks

Fabric: e.g. silk, polyester, poly-cotton, nylon, lace, net, etc.

2 reasons @ 3 marks

Reasons: e.g. drapes well, resilient, light weight, available in many colours, strong, lustre, etc.

- (iii) Name and explain **one** principle of design as shown on your sketch. (6)

Name – 3 marks Explain – 3 marks

Proportion: relationship between parts of the garment e.g. pockets should be in proportion with rest of the garment etc.

Balance: can be vertical, symmetrical or asymmetrical etc.

Emphasis: creates a centre of interest in a garment on which all the attention is focused etc.

Repetition: achieved through colour, line and shape used in different ways etc.

and

2.(b) Fabric finishes can be permanent, temporary or renewable.

- (i) Explain why fabric finishes are used on fabrics. (6)

2 reasons @ 3 marks

e.g. to improve the look and feel of a fabric, to make fabric more durable, to prevent shrinkage and creasing, to improve the wearing qualities, add safety, give extra characteristics, etc.

- (ii) Name and describe a fabric finish suitable for use on sportswear and give an example of its use. (9)

name - 3 marks description - 3 marks example of use - 3 marks

e.g. crease resistant – prevents fabric creasing, used in tennis/golf wear

mercerising – makes fabric stronger and more absorbent, used in rugby wear

waterproof – makes fabrics water repellent, used in anoraks, hiking gear etc.

anti-static – prevents fabric from clinging, used in sports tops etc.

stain resistant – makes fabrics easier to launder, used in all sportswear

or

2.(c) Fashion can be expressed not only in what people wear but also in every aspect of their lives.

- (i) Explain how **each** of the following factors may influence a person's clothing requirements: (9)

3 factors @ 3 marks each

- available money

e.g. value for money in long term, designer brands more expensive, choice of retail outlet

- climate

e.g. season/temperature determines the type required, time of day, function / event and leisure activities require different types of clothing i.e. swimming / skiing, etc.

- cultural influences.

e.g. cultures have different levels of modesty reflected in their clothing, clothes from one country inspire designers in other countries e.g. the House of Dior popularised coats with fur trim in the 1960's (inspired by Russian film 'Dr. Zhivago'), the 1970's looked to ethnic fashions to inspire the 'haute' peasant look, the late 1990's witnessed the emergence of many features of eastern/Indian dress i.e. saris, pashminas, fringing, beading, embroidery, foreign nationals wear own traditional dress, etc.

- (ii) State how the media influences current fashion trends. Give **two** points. (6)

2 points @ 3 marks

e.g. magazines, newspapers, TV, films and advertising influence people as they want to be fashionable, young people and in particular young women are very influenced by what they see in magazines, TV etc., all magazines and newspapers carry articles on fashion as well as supplements, TV programmes, films popularise fashion through advertising and by actors, actresses & presenters wearing designer clothes, etc.

Elective 3 – Social Studies (80 marks)

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

3. (a) Two measurements, *consistent poverty* and *at risk of poverty*, are used by the Central Statistics Office to measure poverty in Ireland. Recent data on poverty in Ireland is shown below.

Poverty in Ireland 2008	
Consistent Poverty	4.2 % (178,074 people)
At Risk of Poverty*	14.4% (610,538 people)

* also known as relative poverty

- (i) Explain the term *at risk of poverty* (*relative poverty*). (6)

e.g. when a person's standard of living is substantially less than the general standard of living in society, when people are being deprived of the opportunities, comforts and self respect that most people in any one society enjoy, etc.

- (ii) Discuss **four** reasons why 14.4% of people in Ireland in 2008 were reported as being at risk of poverty. (24)

4 reasons @ 6 marks

e.g. economic recession; high unemployment rates; poor education / unskilled workers / leave school early depend on minimum wage if employed; one parent families cannot always avail of employment and depend on social welfare; large families – because of the high cost of living and high expenses in child rearing; homeless are more likely to suffer poverty; alcohol and drug abuse; gambling; poverty cycle, etc.

- (iii) Identify **two** social groups most at risk of consistent poverty **and** state the effects of poverty on the groups named. (20)

2 groups @ 4 marks

3 effects @ 4 marks

Social groups: *travellers and other minority groups, homeless people, refugees, people with alcohol, drug and gambling problems, children, lone-parent families, disabled, long term unemployed, elderly, etc.*

Effects of poverty: *loss of identity, status and self esteem, boredom and frustration, loneliness and isolation due to no social interaction, stress, depression, strain on marital relationships, lower standard of living, getting into debt turn to moneylenders, poverty cycle, people turn to alcohol, drugs, gambling and crime, poor housing conditions, overcrowding, poor health, unemployment, etc.*

and

3.(b) ‘Switch off for the kid’s sake’ (*The Irish Times, July 2010*)

- (i) The above newspaper headline suggests that parents should spend more leisure time with their children.

Comment on this statement with reference to:

4 points @ 5 marks

(20)

- the function of leisure

e.g. allows people to relax and unwind, improves physical wellbeing, allows for development of new skills, introduces physical and intellectual challenges, enables family bonding, encourages social interaction, sets good example for children on how to make use of their free time, relieves boredom, improves self-esteem, gives a feeling of self-confidence, satisfies the senses i.e. going to an opera, etc.

- the role of leisure in children’s physical development.

e.g. promotes physical fitness – muscle toning, weight control, muscle strength, high energy skills, learning new skills i.e. swimming etc.

- (ii) Describe **two** factors that may influence the choice of leisure activities engaged in by a family.

2 factors @ 5 marks

(10)

e.g. socio-economic group family belongs to, area people live in, what leisure activities are available and fashionable, culture, money in family, ages of family members, gender, occupation of family members, hours worked, etc.

or

3.(c) ‘Girls have performed better than boys in almost all subjects in this year’s Junior Cert exams’. (*The Irish Times September 2010*)

- (i) Discuss **three** factors that may have contributed to girls outperforming boys in state examinations.

3 points @ 5 marks

(15)

e.g. girls spend more time on homework, present their work more carefully, listen and concentrate more in class, are better organised, girls can be more mature by up to two years and so are inclined to recognise the importance and seriousness of exams more than their male counterparts, positive peer pressure, single sex schools, motivation, etc.

- (ii) Outline **three** benefits to students of undertaking work experience while in second level school.

3 benefits @ 5 marks

(15)

e.g. prepares students for work environment, introduces students to the world of business and employment, allows for personal development through work experience, gives students the opportunity to experience different careers in operation, learn how to work as part of a team, learn the importance of punctuality, etc.

Leaving Certificate 2011
Home Economics – Scientific and Social
Food Studies Practical Coursework Marking Scheme

Investigation: Analysis/Research - 30 marks

Research and analysis

= 20

Band A 16-20 marks (very good – excellent)

Investigation

- shows evidence of a **thorough exploration** and **comprehensive analysis** of **all** the issues and factors directly relevant to the key requirements of the assignment
- is accurate, derived from a range of sources and presented coherently
- uses evidence from research as basis for making relevant choices in relation to selection of menus/dishes/products

Band B 11-15 marks (very competent – good)

Investigation

- shows evidence of **exploration** and some **analysis** of the issues and factors which are generally relevant to the key requirements of the assignment
- is accurate, derived from a range of sources and presented coherently
- uses evidence from research as basis for making relevant choices in relation to selection of menus/dishes/products

Band C 6-10 marks (basic to competent)

Investigation

- shows evidence of **exploration** of the issues and factors which are generally relevant to the key requirements of the assignment
- is reasonably accurate, derived from a range of sources and presented coherently
- uses evidence from research as basis for making choices in relation to selection of menus/dishes/products

Band D 0-5 marks (very basic – limited)

Investigation

- shows evidence of a **very basic and limited understanding** of the key requirements of the assignment
- some or all of the information is vague and accurate only in parts, presentation lacks coherence
- uses evidence from research as basis for making choices in relation to selection of menus/dishes/products

All Assignments. - 2 two course meals / 2 dishes / 2 products / menu for day

= 4

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

(menu – starter/desert = 1 mark, main course = 1 mark)

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

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

Reasons / selection criteria - (2 x 2 marks)

= 4

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

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

= 2

Preparation and Planning - 6 marks

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

Implementation - 28 marks

- Outline of the procedure followed to include preparation, food preparation processes, cooking time /temperature, serving /presentation, wash-up, tasting/evaluation. = 16
(Information / account should be in candidate's own words)
 - Band A 13 - 16 marks (very good – excellent)**
All essential stages in preparation of dish identified, summarised and presented in candidate's own words, in correct sequence with due reference to relevant food preparation process/es used
 - Band B 9 -12 marks (very competent – good)**
Most essential stages in preparation of dish identified, summarised and presented in correct sequence with due reference to relevant food preparation process/es used
 - Band C 5 - 8 marks (basic to competent)**
Some essential stages in preparation of dish identified, summarised and presented in correct sequence with due reference to relevant food preparation process/es used
 - Band D 1-4 marks (very basic – limited)**
Few or any essential stages in preparation of dish identified, summarised and presented in sequence with due reference to relevant food preparation process/es used
- **Key factors considered** (must relate to specific dish / test) = 8
2 x 4 marks
Identification (2) and clear explanation of importance (2) of two factors considered which were critical to success of dish
- **Safety/hygiene** = 4
2 x 2 marks
(must relate to specific ingredients being used / dish being cooked)
*Identification (1) and explanation (1) of **one** key safety issue **and one** key hygiene issue considered when preparing and cooking dish/conducting test*

Evaluation - 16 marks

Evaluate the assignment in terms of:

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

Area of Practice A – Application of Nutritional Principles

Assignment 1

Young children require a diet tailored to their needs.

Research and elaborate on the nutritional needs and the meal planning guidelines that should be considered when planning meals for children aged 12 to 24 months.

Having regard to these considerations, investigate a range of main course dishes for a family with children of this age. Suggest modifications that may be made to the dishes to ensure that they are suitable for young children.

Prepare, cook and serve **one** of the main courses suitable for the family's main meal of the day.

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

Key requirements of the assignment

- *dietary / nutritional needs with specific reference to **children aged 12 to 24 months***
- *relevant meal planning guidelines with specific reference to **children aged 12 to 24 months***
- *range of main course dishes*
- *modifications that may be made to the dishes to ensure they are suitable for young children*
- *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 children aged 12 to 24 months with reasons for possible variations, high fibre, Vitamin C / iron absorption, Vitamin D / calcium absorption, possible variations in energy requirements, current nutritional guidelines re nutrient and food intake, etc.*

Meal planning guidelines – *use of food pyramid to ensure balance, variety of foods, personal likes and dislikes – do not force children to eat foods they do not like, small frequent meals as children have small stomachs and fill up quickly, correct fluid intake to prevent dehydration – dilute fruit juices, use foods in season, avoid foods high in salt, saturated fat and sugar i.e. convenience foods, introduce healthy snacks between meals e.g. mashed banana, high fibre foods, use brightly coloured / attractive looking foods, foods must be soft – easy to eat with a spoon – mash/puree/cut food into small pieces, foods should be easy to swallow, avoid spicy foods as children's taste buds are not properly developed, introduce new foods gradually, avoid nuts as children could choke or be allergic to them, avoid soft boiled eggs, unpasteurised cheeses, etc.*

Dishes selected - range of main course dishes

- **must be suitable for children 12 to 24 months**
- **must be a main course.**

Modifications that can be made to the dishes to ensure they are suitable for young children

Evaluation (specific requirements of assignment)

Analysis of findings regarding the nutritional requirements of main course dishes for children 12 to 24 months. Meal planning guidelines – range of main course dishes suitable for children 12 to 24 months, how the selected dish meets the requirements as identified in the investigation.

Assignment 2

Choosing a low Glycaemic Index (GI) diet can be a key factor in reducing a person's risk of illness (such as diabetes and coronary heart disease) and in sustaining an appropriate body weight.

With reference to the above statement, research and elaborate on **(i)** the glycaemic index and **(ii)** the possible benefits of a low glycaemic index diet.

Investigate and elaborate on the nutritional needs and the factors that should be considered when planning and preparing meals for adults who wish to maintain a healthy weight.

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

Prepare, cook and serve the main course of the main meal of the day.

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

Key requirements of the assignment

- *research on the glycaemic index*
- *the possible benefits of a low glycaemic index diet*
- *dietary / nutritional requirements for adults who wish to maintain a healthy weight*
- *relevant meal planning guidelines*
- *menu for **one** day (three meals), chosen main course dish and reasons for choice.*

Investigation

Glycaemic Index – the glycaemic response is the rate at which our blood sugars rise and fall after consuming carbohydrates, the glycaemic index (GI) is a ranking system for carbohydrates and an indicator of the rate at which the glycaemic response occurs. Foods can be classified as low, medium or high GI and /or can be given a numerical ranking, this ranking system ranges from zero to one hundred - low GI is 55 or less, medium GI between 56 and 69 and high GI 70 or over. Low value GI indicates that the carbohydrate is converted into glucose slowly and raises blood sugars at a slower rate; a high value GI indicates a quicker conversion of a carbohydrate into glucose. The quantity of sugars we consume affects our body's glycaemic response i.e. when we eat a moderate amount of sugar, our body has a greater ability to cope, as there is less pressure on the pancreas to produce insulin to regulate blood sugars. The GI load is another measure that is based on our body's response to carbohydrates, which is a quantity and quality measure e.g. carrots have a high GI value (their sugars are released quickly) but a low GI load (low overall sugar content) etc.

Benefits of a low glycaemic index diet – helps the management of diabetes mellitus, obesity / weight problems, heart disease, behavioural disorders, can enhance athletic performance – low GI foods can provide a sustained source of energy and high GI foods can help to restore energy levels quickly after exercise, helps to avoid energy highs and lows, a person feels full for longer, helps to avoid food cravings, prevents the development of Type 2 diabetes, a low GI diet helps to lower LDL cholesterol etc.

Dietary / 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, increase phosphorus intake, B vitamins for energy, follow current nutritional guidelines re nutrient and food intake etc.

Meal planning guidelines – use of food pyramid to ensure balanced meals, 1/3 of plate should be of fruit and vegetables – 1/3 low GI carbohydrates, 1/3 divided between lean proteins, dairy, and sources of fat and sugar, breakfast is the most important meal, eat often and little, snack healthily to keep blood sugars and energy levels stable, avoid refined carbohydrate and processed foods (more refined/processed a food the higher the GI), protein and fat lower the GI of a carbohydrate rich food, combine high and low GI foods to lower the overall GI of a meal, avoid foods high in salt and sugar, choose low fat/ products with polyunsaturated fats, use healthy cooking methods i.e. steaming, stir frying, beverage choices are as important as food choices etc.

Dishes selected

- **menu for one day (three meals)**
- **should meet the nutritional requirements as identified for adults who wish to maintain a healthy 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 for adults who wish to maintain a healthy weight, factors that should be considered when planning meals for adults 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

Microwave ovens are very useful as they are energy efficient and save time.

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

- the different types available
- uses i.e. to include foods / dishes that can be prepared or cooked using this type of equipment
- the application of the working principle
- the key points essential for successful use of the microwave.

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

Evaluate the assignment in terms of **(a)** implementation, **(b)** the advantages and / or the disadvantages of using a microwave oven.

Key requirements of the assignment

- research on **different types** of microwave ovens available
- **uses** i.e. foods / dishes that can be prepared or cooked in microwave
- the application of the **working principle**
- the **key points essential for successful use of the microwave**
- chosen dish and reasons for choice.

Investigation

Types of microwaves available: **Standard / Grill / Combination / Built in / Free standing** – combination – a traditional oven / grill with a microwave oven, can be operated independently of each other or in combination, food browns and crisps from the standard oven element or grill and then cooks by electromagnetic waves etc. **Capacity:** 20 – 30 litres, **Wattage:** 800 – 1,000 watts, **Special Features** – touch controls, child safety locks, weight and express defrost, double grills, warming drawers, anti-bacterial coating, varying colours/finishes, built-in housings etc.

Uses: **Defrosting** – meat, fish, breads etc. **Reheating** – pre-cooked dinners, vegetables, milk etc. **Melting** – chocolate, butter etc. **Boiling** – water, milk etc. **Cooking** – meat, fish, cakes, vegetables, steamed puddings, stewing fruit, sauces etc. **Sterilising** – babies' bottles, jam jars etc. **Drying** – herbs etc.

Working principle: magnetron converts electrical energy into electro-magnetic energy, waves pass into microwave via wave guide, wave stirrer distributes waves evenly, waves are **reflected** off the metal interior so food does not need turning, **transmitted** through container holding the food, microwaves are attracted to and **absorbed** by water, fat and sugar present in most foods, high frequency electric magnetic waves penetrate the food to a depth of 2-4 cm and cause the molecules in it to vibrate rapidly, as they vibrate they cause friction which produces intense heat in the food, as microwaves only penetrate 3 cm into the food, food thicker than this cooks by conduction, any water present in the food is driven to the surface and together with the absence of external heat prevents the food from browning and crisping etc.

Key points essential for successful use of the microwave: allow standing time as the cooking of food is continued during this time otherwise food may be undercooked, specific microwave recipes must be used for certain foods e.g. bread and cakes, as conventional recipes do not work, light porous foods and foods with a high percentage of fat and sugar cook rapidly, dense foods will slow down the rate at which the microwaves penetrate the food, the larger the amount of food and the colder the food the longer the time required to cook, cover foods with kitchen paper, cling film etc. to prevent food from drying out, large food items should be turned regularly to ensure even cooking, liquid foods should be stirred from the outside towards the centre to distribute heat evenly, foods should be arranged in circles with thickest part facing outwards as this is the first to come in contact with the microwaves, foods with a skin e.g. sausages, egg yolks, tomatoes, & potatoes need to be pierced to prevent bursting during cooking, calculate cooking time having regard to the wattage of the microwave oven etc.

Dishes selected – must be a dish from research suitable for cooking in the microwave

Evaluation (as specified in assignment) - advantages and / or disadvantages of using a microwave oven.

Area of Practice C: Food Technology

Assignment 4

Home baking is becoming increasingly popular for many different reasons.

Carry out research on (i) the rise in popularity of home baking and (ii) commercially available confectionery (range of products, prices etc.).

Investigate **one** method of making muffins **or** cupcakes. Elaborate on the method and explain the principle involved.

In relation to the product chosen (muffins **or** cupcakes), list the variations that can be made.

Describe how you would store the product in order to keep it fresh.

Prepare and bake one of the products (either muffins **or** cupcakes) that you have investigated

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

Key requirements of the assignment

- *research on the rise in popularity of home baking*
- *research commercially available confectionery (range of products, prices etc.)*
- *investigate **one** method of making muffins **or** cupcakes*
- *elaborate on the method and explain the principle involved*
- *list variations that can be made of muffins **or** cupcakes*
- *storage containers (for muffins **or** cupcakes)*
- *chosen product and reasons for choice*

Investigation

Research on the rise in popularity of home baking – *cheaper, people have more free time, TV – celebrity chefs, TV programmes have made cup cakes popular, growing popularity of artisan foods, farmers/ food markets / fairs, helps families bond, keeps children entertained on holidays, healthier option - no additives, restricted diets e.g. coeliac, health concerns – low fat, increased range of convenience products- cake mixes etc., food samples / tasters in shops, marketing, packaging etc.*

Research commercially available confectionery

Research may include *definition of ‘commercial confectionery,’ range of products, brands, quantity/weight, ingredients, nutritive value, packaging/containers, labelling, shelf life, cost etc.*

Method of making muffins **or cupcakes and the principle involved.**

Creaming – *butter and sugar are creamed together by hand or electric mixer until light, fluffy and becomes paler, increases in volume (8 – 10 mins) sugar crystals cut into the fat, tiny air bubbles are created and incorporated to give a delicate light texture when baked, eggs are added at a low speed to prevent curdling, the yolks emulsify and hold moisture within the formed air cells and create a water-in-fat emulsion, flour is folded in gently, heat of oven causes gas to expand and set the mixture etc.*

Muffin method – *liquids (oil, melted butter, milk, yoghurt etc) and dry ingredients are mixed separately and wet mixture is added to dry mixture until just combined – not lump free so the gluten in the flour will not be developed, if over mixed it will not easily rise in the early part of baking and become sticky, heat of oven causes gasses to expand and set the mixture etc.*

Melting – *ingredients e.g. butter, golden syrup, treacle are melted together, added to dry ingredients, produce a dense consistency and baking powder or bread soda when moistened produce carbon dioxide which causes the mixture to rise when heated, heat of oven sets the mixture and rising stops etc.*

Variations of muffins – *chocolate, apple, blueberry, bran, sultana etc.*

Variations of cup cakes - *chocolate mocha, chocolate, vanilla, lemon etc.*

Suitable packaging for muffins / cupcakes *e.g. airtight containers – plastic, tin boxes, cling film, tin foil, greaseproof paper etc.*

If no packaging investigated – 2 marks

Dishes selected – Muffins / Cupcakes.

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

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

Assignment 5

In food preparation many foods are made lighter by the introduction of air, carbon dioxide or steam.

Define “aeration”

Investigate the culinary applications of aeration in the making of a range of dishes explaining the principle involved in each case.

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

Evaluate the assignment in terms of **(a)** implementation and **(b)** success in achieving the desired texture.

Key requirements of the assignment

- *define “aeration”*
- *investigate the culinary applications of aeration in a range of dishes*
- *explain the principle involved in each case*
- *chosen dish and reasons for choice.*

Definition of ‘aeration’

Aeration: *introduction of air, CO² or steam (gaseous form of water) into a mixture, can be **mechanical** i.e. whisking, creaming, beating, rubbing in etc. **chemical** i.e. adding raising agents e.g. bread soda, baking powder to introduce CO², **biological** i.e. yeast, **steam** – using a liquid to introduce steam when the product is cooking etc. Gasses expand and rise when heated, the gas introduced into the dough will push it upwards and cause it to rise until the heat of the oven sets the gluten, gluten enables the dough to stretch due to its elasticity etc.*

Culinary applications of aeration in the making of a range of dishes;

Principle of each application:

Air: *natural raising agent, introduced by mechanical means - sieving, rolling and folding, rubbing in, creaming, whisking, air bubbles are introduced into a mixture, heat is also produced because of the friction, slightly sets the protein chains that unravel and line up around the air bubbles, when heated coagulation of the protein chains occurs and this sets the mixture on a permanent basis or it will collapse, the addition of sugar aids aeration, gelatine can be used to set mixtures etc.*

Culinary applications: Sieving e.g. all cakes and breads etc. **Rolling and folding** e.g. rough puff pastry etc. **Creaming** e.g. cup cakes, maderia cakes etc. **Whisking** e.g. sponge cake, meringue, swiss roll, fruit flan etc.

Steam: *water in a gaseous state is formed as a result of a physical change in the food, when water present in moist food mixtures reaches 100°C steam is formed, foods cooked this way have an open and uneven texture e.g. choux pastry, flaky pastry, puff pastry, baking must be done at a high enough temperature to flash the water to steam – batters are capable of holding steam until set etc.*

Culinary applications: e.g. vol-au-vents, profiteroles, pancakes, chocolate soufflé, éclairs, Yorkshire pudding etc.

Carbon dioxide:

- **chemical raising agents** - carbon dioxide is produced when a chemical or biological raising agent is used, e.g. baking powder and bread soda rely on the chemical reaction of an acid and an alkali, when moistened they produce carbon dioxide, when flour is wet the gluten has the capability of suspending the CO² in the form of tiny bubbles, CO₂ expands when heated, the air bubbles become larger and cause the mixture to rise when heated, when the gas is introduced it forms air bubbles which expand and push the dough upwards until the heat of the oven sets the dough etc.
- **biological raising agent** e.g. diastase in flour converts starch to maltose, enzyme maltase in yeast converts maltose to glucose and invertase converts sucrose to glucose and fructose which produce carbon dioxide by fermentation which is used as a raising agent in baking, yeast feeds on glucose producing alcohol and CO² which causes the product to rise, heat of oven sets mixture etc.

Culinary applications: chemical raising agents e.g. scones, muffins, cakes, etc.

biological raising agent e.g. Chelsea buns, pizza, yeast bread, barm brack etc.

Dishes selected – must illustrate a culinary application of aeration investigated.

Evaluation (as specified in assignment)

How successful the culinary application selected was in achieving the desired texture.

Area of Practice E: Comparative Analysis including Sensory Analysis

Assignment 6

Design and produce a nutritious breakfast cereal as part of a school's healthy eating campaign. The cereal should appeal to teenagers.

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

Your group should choose **one** product to develop and give reasons for the group's choice.

Compile a product specification for the breakfast cereal (appearance, taste etc.) using 6 attributes.

Make the product. Carry out a **descriptive rating test** using line scales or a star diagram.

(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)** how the product made compares with the product specification.

Key requirements of the assignment

- research on **three** different cereal products suitable as part of a school's healthy eating campaign and brief description of **each** cereal product
- selected cereal product and reasons for choice
- compile product specification (appearance, taste etc.) using 6 attributes
- make product
- description, aim and possible outcome of **descriptive rating test** using line scales or a star diagram
- carry out **descriptive rating test** using line scales or a star diagram
- conditions to be controlled during testing

Investigation

- Research / Investigation of products appropriate to the testing
*i.e. investigate and give a brief description of **three** different cereal products, compile a product specification using 6 attributes e.g. appearance, taste, sweetness, colour, aroma etc.* = 20
- **Descriptive Rating Test** using **line scales** or **star diagram**

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

Aim of tests: to compile a sensory profile of the cereal made

Possible outcomes: to have a description of the attributes for the cereal *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, similar quantities in each sample, coding of samples, hygiene, timing, an understanding of the meaning of each attribute, where testing takes place, dietary considerations etc.

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

Selected cereal product. (1 cereal @ 4 marks) = 4

State reasons for choice. (2 reasons @ 2 marks each) = 4

Sources – 2 x 1 mark = 2

Preparation and Planning

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

Descriptive rating test – tray, glass of water, cereal product, spoon, score-cards, record sheets, pen etc.

Work sequence

= 3

Prepare and cook (if appropriate) cereal product

Descriptive Rating Test: *compile product specification, agree descriptive words and agree attributes, label score cards and record sheet, follow instructions on score cards, set up trays, carry out descriptive rating test, present results using line scales or star diagrams, compile sensory profiles based on group results, evaluate results, tidy and wash up, etc.*

Implementation

= 16

Procedure followed when carrying out this aspect of the assignment

The full sequence of implementation should be given and findings should be presented for the test etc.

Descriptive rating test (one product) using star diagram

Prepare and cook (if appropriate) cereal product

*Compile product specification, agree descriptive words and agree 6 attributes, label score cards and record sheets with agreed attributes, follow instructions on score card, arrange sample of cereal in containers, set up trays, tasters taste cereal, 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 the cereal, tidy, wash up etc.*

Line scales:

*Agree descriptive words and agree 6 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 and high rating at right hand end of line, transfer results of each tester in group onto record sheet, average scores for each attribute, **compile a sensory profile** for cereal, 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 cereal, degree of doneness, uniformity of samples for testing, sufficient amounts, glass of water/or dry cracker included to cleanse the palate, importance of silence during testing, samples used are from the same batch, use of appropriate words (attributes) familiar to all students 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 – nuts, special diets e.g. diabetic, coeliac etc.*

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

Evaluation

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

= 8

Testing procedures used

Key factors when conducting the test

Safety and hygiene issues considered

Problems encountered and suggested solutions

Evaluate efficiency of work sequence

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

= 8

How the product made compares with 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. **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 made **not using microwave** - Assignment 3
 - Dish selected shows **few process skills**
 - Dish selected includes **over use of convenience foods**Deduct – 8 marks from total mark awarded for assignment and insert explanation as highlighted above.
 8. A **dish that does not meet the requirements of the assignment** e.g. a dessert dish prepared instead of a main course; no marks to be awarded.
 9. Where a teacher disallows a practical application, no marks are allowed for **Implementation and Evaluation of Implementation**. All other areas may be credited.
- N.B. 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.

