

**GAUTENG DEPARTMENT OF EDUCATION
SENIOR CERTIFICATE EXAMINATION**

HOME ECONOMICS HG

**Possible Answers / Moontlike Antwoorde
Feb / Mar / Maart 2006**

SECTION A

QUESTION 1A				
1.1	A	B	C	D
1.2	A	B	C	D
1.3	A	B	C	D
1.4	A	B	C	D
1.5	A	B	C	D
1.6	A	B	C	D
1.7	A	B	C	D
1.8	A	B	C	D
1.9	A	B	C	D
1.10	A	B	C	D
1.11	A	B	C	D
1.12	A	B	C	D
1.13	A	B	C	D
1.14	A	B	C	D
1.15	A	B	C	D
1.16	A	B	C	D
1.17	A	B	C	D
1.18	A	B	C	D
1.19	A	B	C	D
1.20	A	B	C	D
1.21	A	B	C	D

QUESTION 1B

1.22 **Gelatine dishes**

1.22.1 D

1.22.2 H

1.22.3 A

1.22.4 G

1.22.5 B

1.22.6 C (6)

(Appl.)

1.24 **Cooking Method**

1.24.1 C

1.24.2 D

1.24.3 A

1.24.4 G

1.24.5 F

1.24.6 E (6)

(Comp.)

21x2=(42)

1.23 **Food Systems**

1.23.1 E

1.23.2 G

1.23.3 A

1.23.4 F

1.23.5 D

1.23.6 B (6)

(Comp.)

1.25 **Eggs**

1.25.1 – D – v

1.25.2 – C – iv

1.25.3 – B – i

1.25.4 – A – iii

(Know (4))

(Appl. 4)

1.26 **Manag. Terms** 1.27 **Colour and Texture**

1.26.1 E
1.26.2 D
1.26.3 A
1.26.4 C
1.26.5 B
1.26.6 H
1.26.7 G (7)
(High Cognitive)

1.27.1 A
B (2)
1.27.2 A
B (2)
1.27/3 B
C (2)
1.27.4 A
C (2)

(Explanation)

1.28 **Meat**
B
C
D
G
H (5)
Know

MARK IN ANY ORDER

1.29 **Input**

A

C

E

G (4)

(know)

1.30 **Design principles**

A

C

E

G

(4x2=8)

Appl

TOTAL FOR SECTION A: [100]

SECTION B

QUESTION 2

2.1 Advantageous uses of micro-organisms

Yeast:

- Raising agent for bread
- Changes fruit juices into wine/beer
- Necessary to change cabbage into sauerkraut
- Necessary to change cucumbers into gherkins

Bacteria:

- Changes milk into yoghurt/cheese/cultured or buttermilk
- Necessary to change cabbage into sauerkraut
- Necessary to change cucumber into gherkins

Mould:

- Used in the manufacture of penicillin
- Used in the manufacture of some cheeses, e.g. blue cheese

(Any 4 üüüü) (4)

Explanation

Syll. 2.7

Food hygiene

2.2 Rules a restaurant can apply to prevent food poisoning

CHIEF AREAS	EXAMPLES
<ul style="list-style-type: none"> • Preservation of food 	<ul style="list-style-type: none"> • Store in cool, dry conditions. • Store high-risk food in the fridge. • Store food in airtight containers.
<ul style="list-style-type: none"> • Hygiene in the kitchen 	<ul style="list-style-type: none"> • Keep all surfaces clean. • Wash all dirty equipment regularly. • Handle rubbish hygienically. • Throw cracked porcelain/crockery away
<ul style="list-style-type: none"> • Food preparation 	<ul style="list-style-type: none"> • Prepare perishable foods quickly. • Cook food thoroughly. • Cool food quickly and store in the fridge.
<ul style="list-style-type: none"> • Personal hygiene 	<ul style="list-style-type: none"> • Wash hands well. • Keep nails short and clean. • Do not cough or sneeze over food. • Cover cuts or scrapes with a plaster.

(Any 4 üüüü) (4)

(Know)

Syll. 2.7

Food Hygiene

2.3 Effect of heat on bread

- 2.3.1 **Size** – Carbon dioxide gas bubbles expand when exposed to heat. Gluten network stretches, coagulates and sets in the risen state. Bread increases in size (2)
- 2.3.2 **Colour** – Dry heat dextrinises the starch and caramelises the sugar. Bread goes brown. (2)
- 2.3.3 **Taste** – Starch granules gelatinise and develop a cooked taste. The fermentation process stops and prevents alcohol and carbon dioxide turning into citric acid (as a result of prolonged fermentation process) which gives bread an unpleasant taste. (4)

Application

Syll 2.17

Baked products

2.4.1 Chicken takes longer to grill than steak

Chicken is white and thus reflects heat while beef is darker and absorbs heat rays and cooks faster. (2)

2.4.2 Moderate heat used to cook meat

High temperatures will result in the meat proteins shrinking, the sarcoplasm (meat juices) will be forced out and the meat will be tough and dry. (2)

(Explain)

(Syll 2.4 & 2.12)

(Cooking methods & Meat)

2.4.3 Starch becomes thinner

Vigorous stirring motions will damage the walls of the swollen granules and the liquid that was absorbed during the gelatinisation period will flow out and the mixture will become thin. (4)

(Application)

(Syll. 2.8)

Starch

2.5 Management steps in menu planning – economical (given)

2.7.1 MANAGEMENT STEPS	2.7.2 APPLICATION
Setting of goals (1)	Meal must be economical. (1)
Planning how to reach them (Choosing between alternatives) (1)	Planning which dishes to choose Planning the shopping list (1)
Carrying out the plan (1)	Prevent impulse buying Store foodstuffs correctly Hygienic handling (1)
Evaluate progress/result (1)	Evaluate the meal against the goal – Was it economical? (1)

(Know)

(Syll 2.1)

(Meal planning)

2.6 Effect of heat on cabbage – impact on nutritional value

Cellulose softens, ü water passes into the cells and pre-gelatinisesü the starch granules.

The water dilutes the flavourü and the nutrientsü. Some of the nutrients and flavour leave the cell as a result of osmosisü and dissolve in the boiling waterü. If overcooked, the sulphur component will decompose,ü and the flavour is adversely affected,ü e.g. it becomes bitter. An unpleasantü smell is given off. It will also undergoü a change in colour – a greyish/ white colour will result.

(8)
[40]

(High Cognitive)

Syll 2.14

Fruit and Vegetables

QUESTION 3

3.1 Choux pastry

3.1.1 **Raising agent**
steamü

(1)

(Knowledge)

(Syll 2.17)

Choux pastry

3.1.2 **Water and shortening cooked together**
The butter melts and forms a layer around each starch granule and keeps them separate.ü
This prevents the formation of lumps when the flour is added.ü

(2)

(Comprehension)

(Syll 2.17)

Choux pastry

3.1.3 **Overcooking of water and shortening**
Excessive evaporation of liquid will result in pastry being too stiff.ü
Proportion of ingredients will change, especially water; products will not rise to maximum.ü

(2)

(Comprehension)

(Syll 2.17)

Choux pastry

3.1.4 **Temperature settings**
High temperature is necessary to change water to steam.ü
Reduce temperature to dry out the cavities in the pastries properly.ü

(2)

(Comprehension)

(Syll 2.17)

Choux pastry

3.1.5 **Ingredient responsible for gelatinisation**
flourü

(1)

(Knowledge)

(Syll 2.8)

Starch

3.1.6 **Changes that take place during gelatinisation**

- (a) **The granules swell.**
- Heat energy breaks weak bonds in the starch granules.
 - Water moves into the granule and it starts to swell.
 - Swelling continues as the temperature is raised. (2)
- (b) **Viscosity increases.**
- As they absorb water they swell and take up more space.
 - Friction is created between the granules.
 - The starch pastry becomes thicker.
 - Resistance to stirring can be felt. (2)
- (c) **Mixture becomes translucent/shiny**
- Granules absorb more water and become swollen and fragile
 - The mixture becomes translucent/shiny (2)
- (d) **Develops a cooked taste**
- Starch loses its floury texture and uncooked taste.
 - Becomes smooth, translucent/shiny with a cooked taste (2)

Explanation**Syll 2.8****Starch**3.2 **TWO methods of coagulation of milk****Natural coagulation:**

- Is present when lactic-acid bacteria present in milk accumulates
- The acid precipitates casein as a curd.

Addition of acid:

- Sufficient acid lowers the pH of milk and causes the coagulation of casein.

Rennin coagulation

- Rennin, an enzyme is used to coagulate the protein/casein in milk.

Plant enzymes

- Bromelin, an enzyme found in pineapples, coagulates milk.

(Any two methods) (4)

Knowledge and comprehension**Syll 2.9****Milk**3.3 **Improving eating/keeping quality of milk**

- UHT-treatment
- Pasteurisation
- Homogenising
- Sterilising
- Purification

(Any 4) (4)

(Knowledge)**Syll 2.9****Milk**

3.4 **Storage of lettuce – Wilt during storage – fridge**

- Lettuce was not in airtight container/plastic bag to prevent moisture loss.
Lettuce has high moisture content and if exposed to air in the fridge, convection currents will cause evaporation of moisture, resulting in limp leaves. (2)

(Application)
Vegetables

Syll 2.14

3.5 **Function of Eggs**

COAGULATION	RAISING AGENT	EMULSIFIER
Meat loaf	Lemon soufflé	Mayonnaise
Croquette	Meringue	Butter cake

 (6)

(Application)

(Syllabus 2.10)

Eggs

3.6 **Planning a balanced packed lunch**

FOOD	FOOD GROUPS
Wholewheat rolls/sandwiches with egg/cheese/peanut butter with margarine on bread	Wholewheat products Meat group Fats and oils
Apple / orange / banana	Fruit and veg
Flavoured milk / Yogi Sip / yoghurt	Milk and milk products

The packed lunch should:

CRITERIA WHICH SHOULD BE CONSIDERED WHEN MARKING THIS QUESTION

- Should be balanced – all five food groups present
 - Food should provide high energy – playing soccer
 - Food should be easily digested – playing soccer two hours later
 - Food should be easy to eat – no knife or fork
 - Food should not need to be in the fridge – will be in her case all day
 - Food should be well packed – carried around all day
 - Contain a variety of colour, taste, texture and form.
 - E.G. Whole-wheat roll (sandwich) with cheese/egg/peanut butter filling
 - Apple/banana/apple orange, flavoured milk/yoghurt, chocolate (8)
- [40]

High cognitive

(Syll 2.1)

(Meal planning)

TOTAL FOR SECTION B: [80]

QUESTION 4

4.1 Casserole

4.1.1 **Texturised Plant Protein** is a manufactured product that is designed and formulated to simulate traditional foods/meats. Ideally the appearance, taste, texture and nutritional value should not differ from the traditional product. (2)

4.1.2 Extenders

- Textured Plant Protein
- Potatoes
- Peas
- Carrot blocks / Diced carrots (3)

4.1.3 Meat analogues are in demand.

Animal proteins are expensive and scarce, populations grow, and the need for a cheaper protein source has developed. Soya beans have the highest protein content and can be cultivated on a large scale. It is comparatively cheap. (3)

Knowledge/Comprehension/Explanation Syll 2.12

Meat

4.2 Add cheese after cooking white sauce.

The high temperature of the sauce will overcoagulate the protein in the cheese.

The cheese protein will shrink, toughen and become stringy.

The emulsion will break and fat separates from the mass.

The end-product will be indigestible. (5)

Explanation

Syll 2.9

Dairy products

4.3 Baked fish served with a sauce

- Fish loses juices during the cooking process and needs additional liquid.
- Adds to the flavour
- Increases the nutritional value of the dish (3)

Comprehension

Syll 2.11

Fish

4.4 Guidelines for buying fresh fruit

- Appearance – fruit should be fresh, ripe, good colour, without marks, or blemishes
- Flavour/smell – good quality fruit has a fresh, fruity smell
- Texture – good quality fruit feels firm and heavy for its size
- Price – buy fruit in season – cheaper and of best quality
- Amounts – buy small amounts
- Handling – do not handle fruit unnecessarily (Any 3) (3)

Knowledge

Syll 2.14

Fruit

4.5.1 Evaluation of functional plan

- The space needs of Thabang have not been met – there is no study area for him. Only a work surface and a bar stool, which is not conducive to sitting and studying.ü
- Space is effectively used, there is enough physical space for both of them.ü
- The kitchen as an activity area is effective for Beverly to practise her hobby. The kitchen is safe and should not lead to fatigue as a result of poor/incorrect planning, i.e. the kitchen is well planned.ü
- There is enough natural light and ventilation – lots of windows.ü
- Arrangement of furniture allows for free flow of traffic lanes.ü
- Storage is reasonably well planned – lots of cupboards. The walk-in hanging cupboard is not functional. It should have been in the bedroom with a door from the bathroom.ü
- All the furniture answers the needs for specific requirements, except for the bar stools that Thabang uses when he studies.ü

(Higher cognitive)

(Syllabus 3.1.1)

(Interior)

4.5.2 Install fluorescent lights

- Produce 3 – 4 times more light than incandescent lights with the same wattage
Have a longer lifespan.
 - Light up the whole room/give good general lighting
 - Do not produce shadows
 - Produce little heat/do not get hot
 - Give a whiter, softer light, more like daylight
- (Any 2 üü) (2)

(Comprehension)

(Syllabus 3.1.1)

(Interior)

4.5.3 Good ventilation in the kitchen

- Doors and windows than can be opened
 - Extraction fans can be installed
 - A hood over the stove can be installed
 - Portable fans
 - Air conditioning units
- (Any 3 üüü) (3)

(Knowledge)

(Syllabus 3.11)

(Interior)

4.5.4 **Good traffic lanes**

- The flat has good traffic lanes as there is free pathway from the entrance to any room.
- Also from room to room
- Without going through a furniture arrangement
- Guests can go to the bathroom without going through the bedroom
- Movement in the kitchen will not interfere with anyone who may be cooking
- Doors are well positioned to allow free movement as well as easy arrangement of furniture
- Traffic goes around and not through the different work areas

(Any 4üüüü) (4)

(Application)**(Syllabus 3.1.1)****(Interior)**4.5.5 **Value of shared responsibility**

- It will increase their family unity
- Makes the home a pleasant place to live in
- It will encourage mutual respect for each other.
- Ensure that both have more leisure time.
- Sound communication patterns will be established.
- Good personal habits will develop.
- An attitude of give and take will be developed.
- If they share the load it will give them both more leisure time, Thabang has more time to study, Beverly to practise her hobby.
- The value of time allocation and co-ordination will be learnt.
- The individual capabilities will be discovered and their personalities developed. (Any 4üüüü)

(4)

[40]**(Application)****(Syll 4.2)****(Family studies)****TOTAL FOR SECTION C: [40]**

SECTION D

QUESTION 5

5.1 Maslow's hierarchy of needs

MASLOW'S HIERARCHY OF HUMAN NEEDS	EXAMPLE
5.1.1 Physical	Food, water, clothing, shelter, fresh air
5.1.2 Safety	To be free from fear and anxiety, danger and threats
5.1.3 Social	The needs to be accepted, to love and be loved, companionship
5.1.4 Ego/esteem	To be recognised, self-respect, acknowledgement and status
5.1.5 Self-actualisation	To develop one's potential to the full

(5)

(Knowledge)**(Syllabus 1.1.1)****(Management process)**

5.2 Human resources

5.2.1 time

5.2.2 affective

5.2.3 cognitive

5.2.4 psychomotor

(4)

5.3 Evaluate budget

- It should allow for the needs of the family and the individual.
- It should make provision for emergencies.
- It should ensure that the family remains solvent.
- It should give an indication of the long-term plans.
- It must be realistic.
- Expenses should not exceed income.

(Any 3)

(3)

(Application)**(Syllabus 1.2.2)****(Financial Management)**

5.4 Goals for financial planning

- Help to set family purchases / short-, medium-, long-term goals.
- Ensures available money will be used optimally
- Encourages rational consumer behaviour in the family.
- Prevents family fights over money matters.
- Ensures financial security.
- Helps to identify problems and prevent crises.

(Any 4)

(4)

(Explanation)**(Syll. 1.2.3)****(Financial Management)**

5.5.1 Division of household tasks

- Be flexible about who does what
- Allow members to do what they are best suited to do
- Involve everyone, regardless of age or gender
- Make allowances if a family member has a crisis
- Keep standards flexible
- Biological factors – physical work is often more suited to a man
- Take note of cultural and social values
- Availability of human resources
- Goods, services and facilities that are available (Any 4) (4)

(Knowledge)

(Syllabus 1.1.3)

(Home and enviro. Care)

5.5.2 Human resources

- Knowledge of cleaning methods, products and equipment
- Awareness of new products and equipment
- Skills and capabilities
- Creativity is the ability to be innovative
- Standing plans or routines reduce the need to plan the standards and sequence of each activity
- Time and energy (Any 5) (5)

(Explanation)

(Syllabus 1.1.3)

(Home en enviro. Care)

5.6 Differentiate between types of decision

- Extensive – requires a lot of information to establish criteria, come to a good decision
- Routine – little additional information required, usually review known information (2)

(Comprehension)

(Syll 1.1.2)

(Decision making)

5.7 Values determine goals and standards

- Values represent what is important to a person, directly influencing his/her choice of goals.
- Values determine the standard (Quality) a person will be satisfied to achieve. If a person values perfection, he/she will have high standards. (4)

(Application)

(Syll 1.1.1)

(Management process)

5.8 Poor proportion

- 5.8.1 Table in front of the chair is not the same height as the chair
Corner table is lower than the armrest of the chair
Small picture on the wall above chest is too small in proportion to wall (3)
- 5.8.2 **Repetition**
Repetition of design on the sofa/lines on chest/on mat
Repetition of drawers (2)

(High cognitive)

(Syll 3.1.1)

(Interior)

5.8.3 **Type of balance**

Informal – Visual weight is the same on other side of central point

More interesting and lively than formal balance

Example – Candles and the bowl of fruit are unevenly placed from the middle of the chest. The heavier object (bowl) is placed closer to the centre.

(4)

High cognitive (3) Comp. (1)**(Syll 3.1.1)****(Interior)
[40]****QUESTION 6**6.1.1 **Socialising process****Petrus as a child and teenager:**

- Petrus' mother was a fulltime homemaker. ü
- Petrus' father was sole breadwinner. ü

Petrus believes a woman's place is in the home**Linda as a child, teenager and adult:**

- Linda's mom was a career woman. ü
- Linda's friends are all working mothers. ü

Linda believes that women should develop their full potential.

(4)

(Comprehension)**(Syllabus 4.3)****(Family studies)**6.1.2 **Efficient use of time****Sara**

- Makes lists
- Plans each day
- Uses her best time to plan important tasks
- Does not procrastinate
- Consolidates tasks
- Learns to say no
- Learns to utilize short periods of time
- Takes productivity curve into consideration
- Learns to simplify tasks.

(Any 5 üüüüü) (5)

Explanation**Syl. 1.1.3****Home and Environmental Care**6.2 **Too strong a family relationship**

- It will interfere with effective performance of family tasks.
- It will interfere with the parents' role as leaders, child may not accept authority.
- It may hinder personal development. A boy who is too attached to his mother, might later on battle to let go.
- Intense ties needed as a young child will be difficult to sever when he is older.
- Solidarity that is maintained or artificially created will hamper personality development.

(Any 4üüüü) (4)

(Explanation)**(Syllabus 4.7)****(Family studies)**

6.3 **Communication cycle**

- Sender ü – stating in clear and unambiguous language what he/she feelsü
- Receiver ü – listens attentively to what is said and gives meaning to the words and attitude of the sender
- Message ü – a combination of verbal and non-verbal symbols ü
- Feedback / answerü – response to the message ü

(Know/comp.)**(Syllabus 4.5)****(Family studies)**6.4 **Electrical safety**

- Electrical repairs/work should be carried out by a qualified electrician.
- There must be enough points (sockets) for all equipment.
- Plugs must be correctly wired.
- Broken plugs must be replaced.
- Switch off electrical appliances, e.g. iron, when leaving the room
- Do not pull plugs out of socket by their cords.
- Do not touch electrical appliances with wet hands.
- Use plugs and appliances with the SABS quality stamp.üüüüü

(Knowledge)**(Syllabus 3.1.1)****(Interior)**6.5 **Decision-making process**

	STEPS IN DECISION	STEPS IN MAKING PROCESS	
A	Identify the problem	• Needs to study – no money	(1)
B	Identify the alternatives	• Study part-time and work ü • Get a loanü	(2)
C	Consider the consequences of ONE of the alternatives	Part-time <ul style="list-style-type: none"> • study will take longer • tired from working all day • miss out on student life • no debt at the end Full-time <ul style="list-style-type: none"> • finish study quicker • can take part in student life • no debt to repay • may not get loan (Any twoüü) 	(2)
D	Make a decision	• will select one of the other i.e. part-time / full-time studyü	(1)
E	Evaluate the decision	• Take responsibility for decision <ul style="list-style-type: none"> - full-time – loan must be repayed - part-time no debt ü 	(1)

Application**Syl 1.2.2****Decision making**

6.6 Physical demands made on the body when working

Static muscle contraction

Static muscle - Blood flow impaired muscles contract, enlarge and press on the blood vessel. The increase in blood in a small area causes swelling and pain. Muscles get tired and an uncomfortable feeling develops.

Dynamic muscle - Alternate contracting and relaxing of the muscles helps blood flow through vessels. The activity can be maintained for a long time before fatigue sets in.

Restricted muscle - Occurs when tight, jerky motions are used in place of smooth, rhythmic motions. This leads to fatigue setting in quickly, e.g. beating with a wooden spoon with fast jerky movements. (8)

(Higher cognitive)

(Syllabus 1.1.4)

(Work studies)

TOTAL FOR SECTION D: [40]

TOTAL: 300