



EXAMINATIONS COUNCIL OF ESWATINI

Eswatini General Certificate of Secondary Education

Food and Nutrition (6905)

Examination Report for 2023

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EGCSE FOOD AND NUTRITION

Paper 6905/01
Theory

2501 candidates took part in the 2023 examination, which indicates a remarkable increase as they were **2125** the previous year. The overall performance was slightly below average, and the examination proved to be less approachable when compared with the previous year in most sections.

Most of the candidates attained marks in the range of 25 – 45% a few in the region of 46 – 55%, and a minority in the 60 – 75 %. In some questions, candidates could not respond to recall questions, a fair knowledge of the subject matter was demonstrated in some questions, even though most of them showed limited skills in responding to high-order questions. A remarkable number of them tended to leave some questions unanswered.

In Section A, a few could apply the knowledge of nutrients in the Principles of Nutrition. Some had challenges explaining certain food preparation and kitchen facts in Section B. Most candidates attempted Section C, and although they could state the points, they could not justify most of them.

Section A**Question 1****(a) Candidates were required to define micronutrients**

Most candidates were able to give the correct responses except for a few who gave the wrong ones, such as nutrients needed by the body/ small nutrients found in food.

The correct response was Micronutrients are needed by the body in smaller amounts, e.g. vitamins, essential fatty acids, and trace elements.

(b) Candidates were required to state the terms which describe the effect of:

- (i) dry heat on starch:** Most of them gave the correct response, only a few gave 'dextrin', 'caramelisation', 'coagulation'

The correct answer was Dextrinisation

- (ii) Moist heat on starch.**

Well, attempted by most candidates except a few who gave incorrect responses such as gelatine, moist heat methods of cooking, and conduction.

The correct answer was Gelatinisation

- (c) **Candidates were required to suggest reasons why proteins are considered a secondary source of energy:**

The majority were able to give the correct reason for this question except a few who wrote, the energy values for protein and carbohydrates, defined deamination, and functions of carbohydrates.

The correct answer was Proteins are normally used as an energy supply once it has performed their primary function of growth and tissue repair / if the diet is deficient in fats and carbohydrates.

- (d) **Candidates were required to name elements found in proteins that are not in carbohydrates or fats:**

Most candidates gave the correct responses to this question, although some gave, sulphate, phosphate, and nitrate as the answers.

The correct answers were Nitrogen, Sulphur, Phosphorus and Magnesium.

- (e) **Candidates were required to define visible and invisible fats:**

- (i) **Visible fats:**

Well, attempted by most candidates, except for a few who gave 'meat' as the example instead of 'fat on meat' and some defined them as fat which comes from animals.

The Correct answer where Visible fat is easy to detect in food.

Examples: fat on meat/butter/ margarine/suet/lard/cooking oil

- (ii) **Invisible fats:**

Well, attempted by most candidates and correct examples were given by many. Some defined invisible fat as fat that comes from plants.

The Correct responses included Invisible fat – a constituent part of food and difficult to detect. Examples: lean meat/nuts/pastry/cakes/biscuits/oily fish

- (f) **Candidates were required to explain why some fatty acids are considered to be:**

- (i) **Essential:**

Poorly attempted by most candidates. Some of the wrong responses included fat needed in large quantities, containing too much fat, without them, they might lack some specific nutrients, and the fatty acids present in that product can be used as energy when in excess, essential means HBV.

The correct answer was Essential are fatty acids needed by the body but cannot make themselves e.g. linoleic acid, oleic, omega 6 and omega 3.

(ii) Non-essential:

Poorly attempted by most candidates. Some of the wrong responses were the body needs fatty acids to keep it warm, fatty acids can make the person obese when in excess, and non-essential means low biological value. No examples were given by most candidates.

The correct answer was: Non-essential these are fatty acids needed and can be produced by the body. e.g. butyric acid, palmitic and stearic acid.

Question 2

(a) Candidates were required to name the disaccharide found in milk:

A good number gave the correct response to this question although some gave wrong answers such as galactose, colostrum, lactogen, and sucrose.

The correct answer was Lactose

(b) Candidates were required to name units of monosaccharides that form lactose:

Fairly attempted by candidates nevertheless some just gave names of sugars i.e. fructose, sucrose, maltose.

The correct answers were Glucose and galactose

(c) Candidates were required to describe how the boiling method affects sugar:

Only a minority got this question correct. The majority gave answers such as, sugar melts instead of dissolving, and sugar absorbs water. The steps were mixed up without any logical order i.e. sugar would just caramelize without dissolving.

The correct responses were:

Sugar first dissolves, becomes syrup, then caramelises and finally burns when all the water has evaporated.

(d) Candidates were required to describe changes that take place when an egg is cooked:

Poorly attempted. Most of the candidates missed out on the temperature at which the proteins coagulate which was the key to this question. Some would say egg white or egg yolk coagulates instead of the protein in egg white or yolk.

The correct answers are included.

- Egg white proteins coagulate at 60 C – till the white is solid and opaque.
- Yolk proteins coagulate at 70 C – until the yolk is dry and hard.
- If heated too quickly – the liquid contained in the egg is squeezed out and the egg toughens.

- If overcooked – the protein becomes tough and indigestible.

Question 3

(a) **Candidates were required to give reasons why salt should be limited for the following:**

(a) **Pregnant mother**

Only a few gave correct responses to this question. Common wrong responses included affecting the baby, protecting of foetus from being affected by salt, protecting the baby against diseases, preventing salt diabetes, prevent goitre.

The correct answers are included.

- The body tends to retain salt during pregnancy
- Reduce the risk of high blood pressure

(ii) **Someone with hypertension**

Poorly attempted by most candidates. Some incorrect responses included protection from goitre, forming blood cells

The correct answers were.

- To reduce blood pressure this stiffens and narrows blood vessels
- Reduce the risk of cardiovascular disease

(b) (i) **Candidates were required to name nutrients responsible for maintaining a good skeleton for sports people:**

A few of the candidates did not respond well to this question. They just gave names of any nutrient.

The correct answers were Calcium, Phosphorus, Vitamin D

(ii) **Candidates were required to give reasons for an increase in fluid intake for sports people:**

This question was fairly attempted although some candidates gave functions of water in the body, some wrote 'they lose water'. loss of salt gives energy and easy movement of the body.

The correct answer was to replace fluids lost through sweating.

Question 4**(a) Candidates were required to define digestion:**

This question was fairly attempted by most candidates. Most of them could not clearly define digestion, they omitted 'into small particles' in their definition.

The correct answer was that digestion is the physical and chemical breakdown of food into smaller soluble substances.

(b) Candidates were required to give functions of intestinal juice:

This question was poorly attempted by most candidates. Most of them gave functions of any enzyme found in the digestive system.

The correct answers were

- Provide the correct pH for the enzymes in the ileum to function properly.
- Contain a variety of enzymes e. g erepsin, intestinal lipase

(c) Candidates were required to chemical breakdown of protein and fats in the ileum:**(i) Proteins**

This question was poorly attempted by most candidates. Any enzyme was given as the enzyme which acts on proteins. Some wrote 'protease' as the enzyme and some confused peptides and peptones in their description.

The correct answer was that erepsin converts peptone to amino acids.

(ii) Fats

This question was poorly attempted. The majority described the action of bile on fats instead of the action of the enzyme. Those who managed to answer it correctly omitted 'intestinal' they just gave lipase as the enzyme.

The correct answers were Intestinal lipase converts fats to fatty acid and glycerol.

SECTION B**Question 5****(a) Candidates were required to list the basic ingredients for making bread:**

This question was fairly attempted by most candidates except that some did not specify the type of flour and the temperature of the liquid, they just wrote flour and water.

The correct answers were Bread/strong flour, yeast, warm liquid, salt sugar

(b) Candidates were required to state qualities of well-baked bread:

This question was fairly answered by most of the candidates, but still, most gave incomplete facts such as 'well risen' without specifying the shape i.e. well risen and symmetrical.

The correct answers were

- Bread should rise evenly and symmetrical and feel light.
- The surface should have a pleasant smell.
- The surface should be an even golden-brown colour.
- The flavour should be pleasant, not sour or yeasty.
- Has a hollow sound when tapped with knuckles.

(c) Candidates were required to explain the causes of each fault in bread making:**(i) Close texture**

This question was poorly attempted. Most of the candidates gave the causes of the faults but did not explain them as per the requirement of the question.

The correct answers were.**Close texture**

- The mixture was too stiff- so that the gluten was stiff to stretch.
- It had not risen enough before baking- insufficient fermentation and proving.
- Inactive yeast – no carbon dioxide produced to raise bread.
- Too hot rising and proving conditions – yeast killed.

Cracked bread

- The oven was too hot – a crust was quickly formed before the inside was cooked.
- Too much flour was used.

(d) Candidates were required to describe how a rock cake differs from a scone when baking:

Most of the candidates did not give correct answers to this question. Some of the incorrect answers included scones made using the rubbing-in method rock cakes are made using the creaming method, scones are glazed with an egg, yet rock cakes are glazed using sugar. Some did not specify the temperature for baking each of these instead they wrote high temperature and low temperature.

Correct answers included.

- Rock cakes dough stiff – scones softer
- Rock cake dough is spooned onto tin – scone dough is gently patted and rolled out.
- Rock cakes are baked at a moderate temperature – scones are baked at a higher temperature.

(e) Candidates were required to state reasons for using sauces:**White sauce in fish cakes**

This question was fairly attempted by candidates. Some of the common wrong answers included coating, thickening, and accompanying.

The correct answers were.

- **binding the ingredients together** for the cakes to take shape/to avoid breakage.
- **add nutritional value** -starch in flour that has energy/other amino acids.

Custard sauce in fruit salad

Correct answers included.

- **for contrasting texture**-custard has a smooth texture
- **adds interest and variety**-e.g. custard sauce has a sweet taste/adds variety in colour, flavour.
- **add nutritional value**-protein in milk/carbohydrates in custard powder and sugar.

(f) Candidates were required to state guidelines on the care of a refrigerator:

This question was well answered by most candidates.

Correct answers included:

- The door must always be closed/no frequent opening.
- Defrost once there is too much frost.
- No harsh abrasive when cleaning
- wash rinse and wipe the refrigerator.
- No hot foods

Question 6

(a) Candidates were required to state the use of eggs in the following dishes:

(i) Swiss roll

This question was well attempted except for a few who gave wrong answers such as glazing, adding colour and improving nutritive value.

The correct answers were raising agent/ trapping air

(ii) Mayonnaise

This question was fairly attempted, and the majority gave 'binding ingredients'.

The correct answer was emulsifying.

(b) Candidates were required to describe casseroles as a method of cooking.

This question was poorly attempted as most of them were describing the cooking of macaroni cheese as casserole cooking and those who tried to give the correct description did not give the correct temperature.

The correct response was.

It is a slow method of cooking which is similar to boiling - but the food is cooked below boiling point in the oven - in a covered casserole dish on low heat (160 degrees).

(c) Candidates were required to explain the effects of cooking the following foods:

(i) Boiling potatoes

This question was poorly attempted by most candidates. The majority described the gelatinisation process instead of the specific changes.

The correct answers were.

- They increase in bulk as they absorb water when cooking.
- They become more digestible by cooking the starch they contain.

(ii) Steaming fish

This question was poorly attempted by most candidates. Most of them just described how fish is prepared and cooked using the 'plate method' of steaming. Some gave the general rules to be followed when steaming food.

The correct responses were:

- The protein is denatured.
- Collagen is converted to gelatine and the layers of muscle fiber separate and form flakes.
- Cooking alters appearance with the flesh losing its translucency.
- The protein of fish coagulates at temperatures of 60 – 70 degrees.
- If fish is overcooked, it shrinks and becomes tough and dry.

(d) Candidates were required to the storage of dried beans:

This question was fairly attempted by candidates. The majority gave the correct points but failed to justify them to make a precise description, e.g. they would write 'keep in dry containers' only without giving the reason why.

The correct answers were:

- Store in air-tight dry containers – to prevent moulding.
- Keep them away from sunlight – prevent sprouting.
- Do not mix new and old stock – to prevent contamination.
- The maximum storage life should not exceed 6 months – they harden and take long to cook.

(e) Candidates were required to write Informative paragraphs:**(i) Care and storage of knives**

This question was fairly attempted, and most candidates were just giving any point relating them to knives whether it was choice or use.

The correct responses were:

- Sharp knives should be stored with their cutting edges pointing downwards in a drawer – to prevent accidental touching of the sharp edges.
- Knives should be used on the chopping board – to avoid the knife slipping onto your fingers.
- Keep out of reach of children – they might use them as toys and get injured.

(ii) Safety of kitchen floors

This question was well answered by the majority although some just stated points without any justification to make them informative.

The correct answers were:

- Wipe spillages immediately – to prevent falls.
- Do not polish the surface too highly – to avoid slippery floors causing falls.
- Do not put loose mats on a polished floor – mat can easily move when stepped on.
- Keep the floor clear of obstructions – someone can step on and fall.
- Ensure that there are no curled edges or broken tiles which could trip people.
- Sweep up broken glasses immediately – can be accidentally stepped on and cause cuts.

SECTION C**Question 7**

Candidates were required to discuss how nutrients can be conserved during preparation, cooking and serving of leafy vegetables:

This question was fairly attempted by most candidates although most of them just outlined points without giving any justification. Some did not differentiate between preparation and cooking.

The correct answers were:**Preparation**

- Prepare just before required – to reduce loss of vitamin C, once cut, ascorbic acid oxidase is released.
- Wash before chopping – to minimize loss of vitamin C through solubility.
- Wash but do not soak – to reduce losses of vitamin C which is water soluble.
- Tear leaves rather than cutting them with a knife – tearing prevents disruption of cells.

- Avoid the use of an iron knife – the rate of oxidation is increased by iron.

Cooking

- Avoid cooking in a copper pan – copper speeds up the rate of oxidation.
- Use a minimum amount of water – to prevent loss of vitamin C since it is water soluble.
- Place food to be cooked in boiling water – to denature ascorbic acid oxidase.
- Cook quickly for a minimum amount of time – vitamin C is heat sensitive.
- Never add bicarbonate of soda – to prevent losses of vitamin C as the rate of oxidation is increased by alkalis and to prevent losses of thiamine by decomposition.

Serving

- Serve at once and do not keep warm – to prevent losses of vitamin C due to oxidation.
- Serve the cooking liquid if possible as a soup or sauce – to use the vitamin C in the cooking liquid.
- Avoid further mashing or pureeing – to prevent losses of vitamin C as additional processing increases the rate of oxidation.

EGCSE FOOD AND NUTRITION

Paper 6905/02

Practicals

Introduction

There were **2501** candidates enrolled for the Food and Nutrition practical paper. This showed a slight increase of 376 candidates as compared to the last academic year 2022 (**2125**). Most centres submitted portfolios which were at a commendable standard. However, very few were not up to standard as compared to the previous year (2022). Portfolios should have a clearly labelled cover page (subject, subject code, candidate name, candidate number, centre name, centre number, year of examination), and well-arranged contents (checklist, declaration, question paper, photo of finished dishes and individual mark sheet). However, there were few centres with unclear pictures and not well-arranged portfolios, assessing to be difficult.

There was a challenge in the choice of dishes, with some candidates choosing low-skill dishes and serving desserts without sauce. Some candidates wrote incomplete recipes for dishes on sheet 1. However, sheet 2 (order of work) remains a challenge to most candidates, as they were unable to summarise the order of work, full recipes were written, while some were listing the way they will be doing the practical. In addition, candidates had challenges with sheet 3 (shopping list) as they were unable to write ingredients in correct columns, with some not ordering ingredients at all. Moreover, the order of work should be **at most** one and a half pages, to write a clear order of work.

Teachers are urged to emphasise the importance of correct quantities of ingredients required when planning a meal for a particular test e.g. 500g and 1kg is a very big quantity. It is recommended that Candidates plan for 1-2 people unless the test demands otherwise. In addition, teachers should encourage candidates to stick to the **keywords** of each test. Most candidates could not understand terms like food, they interpreted it as a dish. Moreover, candidates are encouraged to specify in brackets an ingredient asked about in a test e.g. beef stew (red meat) and for equipment sweet scones (baking sheet) for easy marking. **This applies to all questions with specific requirements in a test.** Furthermore, candidates are required to specify ingredients e.g. Cake/bread flour instead of flour or cheddar/feta/ cream cheese instead of cheese or castor sugar, white sugar, brown sugar, icing sugar, etc. instead of sugar.

Comments on specific questions

Generally, responses given by the candidates were average as compared to the previous year, with few candidates giving dishes with low skill and not giving appropriate answers to the given questions. Low-skill dishes are discouraged e.g. preparing a custard sauce as a dessert, or boiled rice especially in (a) of a test, high-skill dishes are required. Moreover, one-pot dishes require a cooked and a raw vegetable

to substantiate the meal. Some candidates would serve samp and beans and accompany it with a stew, egg and broccoli salad, and sometimes pasta salad, which makes the meal high in proteins and carbohydrates. They are required to add cooked vegetables like creamed spinach, boiled mixed vegetables, baked pumpkin, etc. Furthermore, some candidates would serve boiled rice as a carbohydrate dish in (a) whereas it's a low-skill dish, especially part (a) of a question. Some were serving two vegetables for every prepared meal, which is unnecessary unless it's a one-pot dish or it's a question requirement.

Test 1

- (a) Candidates were required to prepare, **cook and serve a two-course meal for a visiting friend that included two traditional foods**. Most candidates had challenges in answering this question. They did not understand that the question wanted dishes that included traditional **foods**, not traditional **dishes** only. However, few candidates were able to give correct responses, making some dishes using traditional foods.
- (b) Most students were able to prepare biscuits using the creaming method, however, for (b) some would have nuts, and some would not. A few were preparing biscuits using the rubbing-in method. Some would opt for biscuits which use the creaming method with peanut butter and not nuts.

Suggested dishes:

(a) Dishes that include traditional foods:

Village chicken stew
Savoury samp
Samp and beans
Tripe stew
Pumpkin leaves relish
Steamed mealie bread
Jeqe
Beef stew/ boiled beef

(b) Biscuits using the creaming method which includes nuts:

Peanut biscuits
Peanut crisps
Peanut cookies

Test 2

Candidates were required to **prepare, cook and serve one sweet dish and one savoury dish that included a cereal or cereal product**. Some candidates would use different products like rice, samp, flour and others. In some cases, low-skill dishes were opted e.g. boiled rice, boiled samp, etc. However, most candidates were using flour, spaghetti or macaroni whereas all are products of the same cereal, which is wheat. Most candidates did not have challenges with a meal for teenage boys. The only challenge was forgetting to make a **two-course** meal as per the question requirement.

Suggested dishes:

(a) Cereal and cereal products dishes

Savoury	Sweet
Savoury rice	cakes
Macaroni cheese	puddings
Spaghetti Bolognese	Sweet pastry
Paella	
Beef stew with dumplings	
Kedgerree	
Beef/Chicken/fish cobbler	
Savoury macaroni	
Samp and beans	

(b) Candidates were **required to choose one dish from (a) to make a two-course meal for two teenage boys**.

Candidates were supposed to consider the nutritional needs of teenage boys e.g.

- Proteins for growth spurt.
- Vitamin D to strengthen and maintain strong bones and teeth/ absorption of calcium and phosphorus.
- Vitamin C for fighting against infections/ absorption of iron.
- Vitamin A to enable the eye to see in a dim light.
- Carbohydrates for energy.

Suggested dishes

Savoury samp	Liver and kidney casserole	Greek salad	Fruit salad with a sauce
Savoury rice	Bean stew	Lettuce salad	Steamed chocolate pudding with sauce
Samp and beans	Baked butternut	Coleslaw salad	Steamed sponge pudding with lemon sauce

Test 3

(a) Candidates were supposed to **prepare, cook and serve a two-course meal for two convalescents recovering from an accident**. Most candidates did not consider the nutritional needs of a convalescent. Instead, they would prepare dishes like macaroni cheese, beef stew/curry, fried foods etc. Candidates were supposed to ensure that the meal contained the following nutrients:

- Protein to repair worn-out tissues.
- Low in fat for easy digestion.
- Low in energy as the person is not doing manual work but recovering.
- Easy to digest as the person doesn't have much appetite.
- Iron for the formation of blood.
- Method of cooking should be considered as food should be easy to digest.
- Rich in fibre to prevent constipation.
- Avoid spicy foods

Suggested dishes

Two-course meal for a convalescent

- (i) Steamed fish with parsley sauce
 Duchesse potatoes
 Mixed salad
 Strawberry Milkshake
 Fruit salad with custard sauce
- (ii) Grilled chicken
 Mashed potatoes
 Coleslaw salad
 Banana Milkshake
 Steamed chocolate pudding with sauce

- (b) Most students were able to choose a cake that uses the melting method, though they would forget to decorate it. However, a few candidates chose cakes which use the creaming and whisking method. In most cases, candidates forgot to include decoration ingredients for the cake, especially in the choice of dishes but baked cakes were served decorated.

Cake using melting method (decorated)

Suggested dishes

Gingerbread

Parkin

Old vicarage cake

Test 4

- (a) Candidates were required to **prepare, cook and serve two dishes each using different ingredients, red meat and dried fruits**. Most candidates answered this question correctly. However, some candidates were using fresh fruits like bananas, apples and pears and some would write that they would dry the fruits. They did not understand that the question wanted fruits like prunes, sultanas, raisins, currants, dried apples, etc.

Suggested dishes:

Red meat	Dried fruits
Roasted red meat	Fruit buns
Stewed red meat	Pilau rice
Grilled red meat	Apricot pudding
Steak and kidney pie	Rock cakes
	Plain fruit cake
	Currant biscuits
	Fruit scones
	Traditional tea bread

In (b) most candidates were ignoring the nutritional needs of a pregnant woman, needs as:

- Meal's rich in proteins for the growth of the baby.
- Rich in iron to produce blood.
- Rich in vitamin C for absorption of iron.
- Rich in fibre to prevent constipation.
- Calcium for the development of bones.
- Vitamin D for absorption of calcium and phosphorus.
- Low in fat to prevent weight gain.

- Avoid highly spiced foods to prevent stomach upset.

(b) Candidates were also including foods that are fried and highly spiced.

Suggested dishes for pregnant women:

- (i) Liver pilaff
Beetroot salad
Lettuce salad
Fruit salad with a sauce
- (ii) Bean Stew
Savoury rice
Coleslaw salad
Steamed sponge pudding with a sauce
- (iii) Beef stew with dumplings
Mixed salad
Baked butternut
Fruit salad with a sauce

Test 5

(a) Candidates were supposed to **prepare, cook and serve two dishes using different pieces of equipment, a baking sheet and a shallow frying pan.** Most candidates did not have a challenge in choosing dishes that use the equipment. Some candidates chose dishes that were deep-fat fried, which shows that they were unable to differentiate between a shallow frying pan and a deep-fat frying pan. They also chose dishes that use cake tin, thus they would bake cakes, instead of using a baking sheet.

Suggested dishes

Baking sheet	Shallow frying pan
scones	fish cakes
pastry (pies)	pan cakes
bread rolls	drop scones
potato wedges	shallow fried fish
chelsea buns	
biscuits	
baked fish	
pizza	

- (b) Candidates were required **to include one dish from (a) in a two-course meal suitable to be served cold at a picnic**. Most candidates ignored that a picnic meal is a packed meal, points to consider for packed meals were to be taken into consideration.

Suggested dishes

Option 1: Sausage rolls

Coleslaw salad

Orange drink

Anzac biscuits

Option 2: Grilled chicken

Jeque

Lettuce salad

Lemonade

Fruit pie with custard sauce

Option 3: Fish in a batter

Baked potato wedges

Mixed salad

Orange drink

Apple pies with custard sauce

Option 4: Ham and cheese pizza

Coleslaw salad

Fruit punch

Victoria sandwich cake