

International General Certificate  
of Secondary Education

**Syllabus**

FOOD AND NUTRITION 0648

For examination in June and November 2010

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# Food and Nutrition

## Syllabus code: 0648

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### Exclusions

This syllabus must not be offered in the same session with any of the following syllabuses:

0611 Food and Nutrition (Botswana)  
0639 Home Economics (Namibia)  
6065 Food and Nutrition  
6070 Food and Nutrition (Singapore)  
6071 Food and Nutrition (Singapore)  
6082 Food and Nutrition (Singapore)  
6083 Food and Nutrition (Syllabus A) (Singapore)  
6084 Food Studies (Syllabus T) (Singapore)



# INTRODUCTION

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International General Certificate of Secondary Education (IGCSE) courses are designed as two-year courses for examination at age 16 plus.

All IGCSE syllabuses follow a general pattern. The main sections are:

Aims

Assessment Objectives

Assessment

Curriculum Content.

The IGCSE subjects have been categorised into groups, subjects within each group having similar Aims and Assessment Objectives.

Food and Nutrition falls into Group V, Creative, Technical and Vocational, of the International Certificate of Education (ICE) subjects.

Food and Nutrition aims to contribute to the total curriculum by providing the opportunity for students to develop their knowledge and skills in an area not only relevant to their own lives but also in relation to understanding the role and applications of Food and Nutrition in contemporary, changing, multi-cultural society. Students will be required to apply knowledge acquired from the Food and Nutrition syllabus and use practical skills within a context which takes into account such factors as personal/family needs and lifestyles, financial resources, food commodities available and the relationship of diet to health.

## AIMS

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The aims of the curriculum are the same for all students. These are set out below and describe the educational purposes of a course in Food and Nutrition for the IGCSE examination. They are not listed in order of priority.

In preparation for further studies, an IGCSE course in Food and Nutrition aims to enable students to:

1. develop an understanding of nutrition and health problems associated with diet;
2. develop an awareness of eating patterns and dietary needs both for people of different ages and for differing groups within society;
3. develop and sustain an interest in the creative aspect and enjoyment of food and the skills necessary for food preparation;
4. develop an understanding and appreciation of socio-economic factors in relation to diet;
5. encourage the development of aesthetic and social sensitivity to dietary patterns;
6. develop the knowledge and skills relevant to food required for the effective organisation and management of family resources, in relation to the needs and lifestyles of members;
7. develop the ability to make informed judgements and choices concerning the use of food available to the family unit in everyday life;
8. appreciate the consumer situation in a developed/under-developed economy and to assess the effectiveness and validity of claims made by advertisers;
9. develop an awareness of relevant mandatory and other necessary safety and hygiene requirements.

# ASSESSMENT OBJECTIVES

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The three assessment objectives in Food and Nutrition are:

- A Knowledge with understanding
- B Handling information and solving problems
- C Experimental skills and investigations

A description of each assessment objective follows.

## **A KNOWLEDGE WITH UNDERSTANDING**

Students should be able to demonstrate their knowledge and understanding in relation to the use of:

1. scientific and technological vocabulary and terminology;
2. needs in relationships, in relation to social, economic and environmental implications;
3. scientific principles, definitions and theories;
4. the correct use of equipment and tools and their suitability for use;
5. safety and hygiene rules and regulations;
6. basic quantities and methods and the appreciation of the importance of accuracy.

## **B HANDLING INFORMATION AND SOLVING PROBLEMS**

Students should be able to:

7. read and interpret information;
8. translate information from one form to another;
9. follow and give instructions;
10. manipulate numerical and other data;
11. organise and manage time, money, energy/effort, materials, equipment and tools and interests according to stated criteria for a given situation;
12. estimate and measure accurately area, shape, size, capacity, quantity, amount, weight, time, distance, temperature.

## **C EXPERIMENTAL SKILLS AND INVESTIGATIONS**

Students should be able to:

13. identify problems;
14. follow and give instructions;
15. test and compare methods, materials and equipment used in food preparation;
16. obtain and interpret evidence on which to base judgements and choices;
17. justify judgements and choices in the light of evidence;
18. identify priorities;
19. assess and evaluate the effectiveness of the course of action;
20. observe and record observations.

## SPECIFICATION GRID

The relationship between the assessment objectives and components of the scheme of assessment.

Paper	Assessment Objectives		
	A Knowledge with understanding	B Handling information and solving problems	C Experimental skills and investigations
1	60	20	20
2	15	60	25

The assessment objectives are weighted to give an indication of their relative importance. They are not intended to provide a precise statement of the number of marks allocated to particular assessment objectives.

## ASSESSMENT

### *Scheme of assessment*

#### **Theory** (Paper 1)

Candidates who have followed the curriculum are eligible for the award of grades A\* to G. Differentiation will be achieved by outcome in the theory paper.

#### **Practical component** (Paper 2)

The scheme of assessment will encourage positive achievement for all candidates.

### **Weighting of papers**

<i>Paper</i>	<i>Weighting</i>
Paper 1 (Theory)	50%
Paper 2 (Practical)	50%

### **Description of papers**

**Paper 1** (Theory, 2 hours) will consist of a number of short-answer questions, structured questions and open-ended essay questions for a total of 100 marks.

**Paper 2** (Practical, 2½ hours, with a planning session of 1½ hours). This will consist of a number of alternative tests, one of which will be allocated to each candidate a week before the examination. The candidate will be allowed a 1½ hour planning session to state how he/she will carry out the test and will hand in a shopping list and plan at the end of that session.

In the Practical examination, the plans of work will be re-issued and the candidates allowed 2½ hours to carry out the tests.

During the Practical Examination, there should be sufficient space and adequate equipment allowed for individual work by each candidate. No more than two candidates should work at one stove/cooker of the European type.

All Practical Examiners must be accredited by CIE and will be required to follow an assessment scheme prepared by CIE. The generic content of the mark scheme is printed in the syllabus. The marks available, and awarded, for the Practical are also recorded on the Practical Examination Working Marksheet, which is printed in the syllabus. **However**, the final marks awarded must reflect the requirements of the specific tasks given in each examination session.

## MODERATION

### Internal Moderation

When several teachers in a Centre are involved in internal assessments, arrangements must be made within the Centre for all candidates to be assessed to a common standard.

It is essential that within each Centre the marks for each skill assigned within different teaching groups (e.g. different classes) are moderated internally for the whole Centre entry.

## CURRICULUM CONTENT

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Students will follow the curriculum given below.

Students should be able to use the skills described under the Assessment Objectives with respect to the following:

- |   |  |   |
|---|--|---|
| 1 | An understanding of the terms used in nutrition and nutrition related problems | Diet, balanced diet, metabolism, malnutrition, under-nutrition, over-nutrition, deficiency disease.   |
| 2 | Nutritive value of foods   | <p>The sources and functions of: <i>proteins</i> (high biological and low biological value), <i>carbohydrates</i> (monosaccharide, disaccharide and polysaccharide), <i>fats</i>, <i>vitamins</i> (A, D, C, B group – thiamin, riboflavin, nicotinic acid and B<sub>12</sub>) <i>mineral elements</i> (calcium, phosphorous, iron, sodium chloride, chlorine, iodine, fluorine), <i>water</i>.</p> <p>Sources and uses of food energy.</p> <p>Sources and functions of dietary fibre.</p> |
| 3 | Digestion and absorption   | <p>Digestion at each stage of the digestive system, mouth, stomach, duodenum, ileum.</p> <p>Enzymes as catalyst in the digestive process.</p> <p>Absorption – structure of ileum.</p>   |
| 4 | Dietary guidelines   | <p>Factors affecting food requirements.</p> <p>Planning and serving of family meals. Meals for all ages and occupations. Special needs of pregnant and lactating women, convalescents, vegetarians (vegans and lacto-vegetarians). Meals for special occasions, festivals, packed meals, snacks (light refreshment), beverages. Use of herbs, spices and garnishes. Attractive presentation of food.</p>  |
| 5 | Composition and value of the main foods in the diet                            | <p>Milk, meat, fish, cheese, eggs, margarine and butter.</p> <p>Cereals (wheat, rice, maize, millets, oats), fruits and vegetables (importance of pulses and nuts as inexpensive sources of protein, especially the soya bean because of its higher protein value and content – contains high biological value protein).</p>  |



6	Cooking of food	Transfer of heat by conduction, convection and radiation. Principles involved in the different methods of cooking – boiling, stewing, grilling, baking, roasting, frying, steaming, pressure cooking. Reasons for cooking food. Effect of dry and moist heat on proteins, fats and oils, sugars and starches, vitamins A, B, C and D. Preparation and cooking of food to preserve nutritive value and flavour. Traditional methods of cooking. Economical use of food, equipment, fuel and labour.
7	Convenience foods	Foods partly or totally prepared by a food manufacturer – dehydrated, tinned, frozen, ready to eat. Intelligent use of these foods. Advantages and disadvantages.
8	Basic proportions and methods of making	Biscuits, scones and cakes made by rubbing-in, creaming, melting, whisking and one-stage methods. Pastries – shortcrust, flaky and rough-puff. Sauces – pouring and coating; roux and blended methods. Batters – thin (pouring) and coating. Bread made with yeast.
9	Raising agents	Air, carbon dioxide, water vapour. Ways of introducing these gases into a mixture (to include bicarbonate of soda, baking powder, yeast).
10	Food spoilage, and hygiene in the handling and storage of food	Action of enzymes, bacteria, yeasts and moulds. Personal hygiene, hygiene in shops and markets, food storage at home, refrigeration, kitchen hygiene, waste disposal.
11	Food preservation	Reasons for preserving food. Methods of preservation, an understanding of the principles involved. Heating – canning, bottling. Removal of moisture – drying. Reduction in temperature – freezing. Chemical preservation – sugar (jam making), salt, vinegar. The processing of milk. The use of enzymes and bacteria in the manufacture of cheese and yoghurt.
12	Kitchen planning	Organisation of cooking area and equipment for efficient work. Kitchen surfaces – walls, floors, work surfaces.
13	Kitchen equipment	Choice, use and care of cookers, thermostatic control, automatic time controlled ovens, microwave ovens, slow electric cook pots and other modern developments. Refrigerators, freezers, small kitchen equipment (knives, saucepans, oven tins, scales, etc.)
14	Kitchen safety, simple first aid	Awareness of potential danger areas in the kitchen. Safety precautions. First aid for cuts, burns and scalds, shock, electric shock, fainting.

## GRADE DESCRIPTIONS

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The scheme of assessment is intended to encourage positive achievement by all candidates.

A **Grade A** candidate must show a critical awareness and intelligent understanding of the scientific and practical concepts within the curriculum. He/she should demonstrate an ability to select appropriate dishes, organise time and show a good variety of skills.

A **Grade C** candidate must show some critical awareness and understanding of the scientific and practical concepts of the curriculum. He/she should demonstrate a reasonable ability to select appropriate dishes, some organisation of time and some skills in preparation.

A **Grade F** candidate must show some theoretical and practical understanding of the concepts of the core curriculum. He/she should show some ability to select appropriate dishes and some knowledge of skills needed for preparation.

**This generic mark scheme is for guidance only.** It should be used in conjunction with the confidential mark scheme sent to Examiners for each examination session. The confidential mark scheme refers to the allocation of marks for the specific tasks set in the practical examination.

## PAPER 2 – PRACTICAL TEST

### GENERIC MARK SCHEME

The detailed mark scheme is to enable Examiners to maintain a uniform standard.

**To pass** a candidate must work systematically using a reasonable degree of skill, good methods and sound recipes. At least **half** of the resulting dishes should be of a **good** standard – well served, with good appearance, consistency, texture and flavour. If the **main** dishes of the test are inedible, then a pass result should not be given.

#### Allocation of marks – 150

The marks should be recorded on the Practical Examination Working Marksheet.

(The final raw mark must be **scaled to a mark out of 100** before transferring to the MS1 marksheet).

The total of 150 is divided thus:

1	Preparation session – choice and plan	50
2	Method of working	55
3	Quality of dishes	35
4	Serving and appearance	10

### DETAILED ALLOCATION OF MARKS

1	<b>PREPARATION SESSION</b>	<b>(50 marks)</b>	<b>Choice</b>	<b>20</b>
			<b>Plan</b>	<b>30</b>

**(a) Choice** (Max 20)

**General Points** – applicable to each test.

The dishes chosen should meet the requirements of the specific tasks and:

- (i) show a variety of skills and processes
- (ii) combine to form well balanced meals
- (iii) have attractive appearance
- (iv) show thought for economy in fuel and food
- (v) show an awareness of the time available for cooking and serving

Note **quantities** chosen – these should be adequate for the number being served.

Under choice, give credit for variety in texture and for inclusion of **local fruit** and **vegetables**.

**(b) Plan of Work** (Max 30)

Please note and mark the following points:

**(i) Recipe section** (5 marks)

Dishes chosen must be clearly listed with the quantity of each ingredient for each dish.

**(ii) Planning section** (23 marks)

- 1 A logical sequence of work from beginning of test to final serving – each item followed through to serving stage. This is the most important part of the plan. It should show the candidate's ability to visualise exactly what he/she is going to do throughout the test time and to write it down in clear sequence with adequate timing. (10 marks)
- 2 Clear indication of method for each dish, e.g. make cake – creaming method – make sauce – roux method. (5 marks)
- 3 Oven temperature required for each dish and cooking time – although this can be incorporated in (a). (3 marks)
- 4 Time allowed for cleaning and dish washing at convenient points in plan (**not** necessarily after every dish). (3 marks)
- 5 Allowance of time for serving meals in correct order of courses.  
Detailed timing is **not** required – a sensible guide is preferable. (2 marks)

**(iii) Shopping List** (2 marks)

Should give correct total quantities of ingredients required under correct headings. Any special equipment should be stated. (2 marks)

**2 MARKING OF METHOD OF WORKING** (55 marks)

As a general guide, 28/55 for methods which just deserve a pass, 33/55 for a really sound pass and 44/55 for **very** good methods, excellent timing and a variety of skills shown – this mark will only be given to a very able candidate. A candidate who shows little skill and who has not chosen sufficient dishes for the available time cannot be given more than 25/55 for this section.

The majority of candidates will probably gain between 28 and 42 marks.

**Method of Working** (Maximum 55 marks)

The following points should be considered when deciding on this mark. The suggested sections are intended to guide the Examiner in assessing the total mark to be given for this section.

- (a) The candidate's **general approach** – business-like and confident – should show in working that she/he has knowledge and clear understanding of recipes and methods being used. Sense of timing. (5 marks)

- (b) **Manipulation** – correct use of tools, skill in handling mixtures, and large and small equipment. Correct preparation of dish, meat, vegetables, fruit, seasonings and flavourings, etc. (20 marks)
- (c) Judgement of consistencies of various mixtures for e.g. scone mixtures, cake mixture etc. **before** actual cooking. (10 marks)
- (d) Good **hygienic** methods and **economy** in the use of fuel and food. (5 + 5 marks)
- (e) **Oven management** – control of heat on top of stove. Knowledge of correct oven temperatures and positioning of dishes in the oven. (5 marks)
- (f) Tidy and methodical work throughout. (5 marks)

If a candidate is extremely untidy then more than 5 marks may be deducted – if this happens please comment on the mark sheet.

Where a candidate is preparing very simple dishes then the maximum mark of 55 should be reduced accordingly.

The term 'fresh vegetables' includes the preparation and cooking of root and/or green vegetables. Salads, which should include a variety of vegetables and fruits, may merit a maximum of 6, dressing up to 4 according to type and skill involved.

NB. Tinned, frozen and freeze-dried vegetables and instant coffee – maximum 1 mark each. Commercially prepared fruit juice or squash = 0. These marks apply to result only. If serving and presentation of vegetables good then give credit in last section, but for tinned juice etc. no mark.

### 3 **QUALITY OF DISHES** (maximum mark 35)

All dishes must be tasted. Each dish must be marked according to flavour, texture and edibility. Please note that the maximum marks must be reduced for simple dishes involving little skill. Dishes added after the planning session has been completed will not receive a mark.

In assessing the quality of finished dishes, comments should be written on the assessment sheet about the flavour, texture and edibility of each dish.

Serving and appearance are assessed with a separate mark.

### 4 **SERVING AND APPEARANCE** (maximum 10 (usually 5 + 5))

**Serving** – note the following points: sequence of serving meal, correct temperature of food and serving dishes.

**Appearance** – attractive presentation, tasteful garnishing and decoration. Cleanliness of dishes and tablecloth. Correct use of d'oyleys (doilies) and dish papers. Suitable simple flower arrangement.

**NOTE:** The raw mark awarded to each candidate out of 150 must be scaled to a mark out of 100.

## PRACTICAL TEST ADMINISTRATION

Examiners should have access to the Confidential Instructions, a generic mark scheme (shown in the syllabus) and a specific mark scheme for Choice and Results for the relevant examination session.

Candidates will be allocated specific test questions according to the Confidential Instructions. Within the Planning time limit, of 1 hour 30 minutes, candidates are expected to complete three preparation sheets.

On the day of the Planning Session for the Practical Examinations, each candidate will be issued with the specific test allocated and three carbonised preparation sheets:

- Page 1 – Plan of Work;
- Page 2 – Time Plan;
- Page 3 – Shopping List.

### *Page 1 – Plan of Work*

Candidates list the names of the dishes they have chosen in the correct order to answer the question set. Next to each named dish there should be a list of the exact amounts of ingredients required to make the dish.

### *Page 2 – Time Plan*

Candidates should show clearly how they plan to cook their chosen dishes within the 2½ hour time limit. For each dish, methods, cooking times, temperatures, washing up and serving details should be included. A sensible sequence should be shown in order to serve the dishes, hot if required, at the end of the test time. Special points should be listed such as special tools, time preparation, consistencies etc.

### *Page 3 – Shopping List*

Correct total quantities of all ingredients should be listed in the sections for the different types of foods. Special equipment could be cooking dishes, serving dishes etc.

At the end of the planning session the carbonised sheets should be separated. The *top copies* of all three sheets should be kept securely and should be available for use by the Examiner. These sheets should be marked by the Examiner **before** the actual cooking.

Pages 1 and 2 of the *duplicate* copies should be kept securely and should only be returned to the candidates on the day of the practical examination for use during cooking.

Page 3 – Shopping List should be available as soon as it is completed for the use of the teacher in the Centre to order ingredients for the candidate.

### *Practical Examination Working Marksheet* (see page 14)

One copy should be available for the Examiner to use to mark the work of each candidate. The three planning sheets should be marked **before** the actual cooking, using the specific *mark scheme for Choice* and the generic mark scheme. Marks should be transferred to the Practical Examination Working Marksheet. There should also be comments/annotation by the Examiner to explain the awarding of marks.

During the time the candidates are cooking, the dishes they have planned, the Examiner should complete the *method of working, results and serving* sections using the specific mark scheme for Quality/Results for each session and the generic mark scheme. It is particularly important that comments/annotation is included in these sections to support the marks awarded.

A *Summary Marksheet* (see page 15) should be provided for each Centre. Examiners should complete this, listing in correct examination order the candidate numbers, names, marks for each section of the work, a total mark (out of 150) and a scaled final mark (out of 100) for each candidate. Marks should always be checked by an independent person.

Immediately after all the practical sessions have been completed the following should be sent to CIE:

- Marked top copies (pages 1, 2 and 3) of the candidates' Preparation Sheets;
- One completed Practical Examination Working Marksheet per candidate (page 14 of syllabus);
- One copy of the Summary Marksheet per Centre (page 15 of syllabus).

A Coursework Training Handbook is available for this subject which contains detailed information about the practical examination.

**FOOD AND NUTRITION (0648/2)**  
**Preparation for the Practical Examination**  
**Page 1 – Plan of Work**

Centre Number						Centre Name	
Candidate Number						Candidate Name	
June/November	2	0	1			Test Number	

[illegible]

**FOOD AND NUTRITION (0648/2)**

## Preparation for the Practical Examination

## Page 2 – Time Plan

Centre Number					Centre Name	
Candidate Number					Candidate Name	
June/November	2	0	1		Test Number	

[illegible]



**FOOD AND NUTRITION (0648/2)**  
**Preparation for the Practical Examination**  
**Page 3 – Shopping List**

Centre Number					Centre Name	
Candidate Number					Candidate Name	
June/November	2	0	1		Test Number	

Milk and milk products	Fruit and Vegetables	Fresh fish, meat and poultry
		Cereals and cereal products
		Canned, frozen and packaged foods
	Condiments and Spices	Other ingredients

Mark with a \* items brought from home

**Special equipment and/or serving dishes**

**FOOD AND NUTRITION (0648/2)**  
**Practical Examination Working Marksheet**  
**IGCSE**

Centre Number						Centre Name			
June/November		2	0	1		Examiner's Name			
Candidate Number						Candidate Name			Test No.
Planning						Mark Available		Mark Awarded	
						Choice	20		
						(i)	5		
						(ii) 1	10		
						2	5		
						3	3		
						4	3		
						5	2		
						(iii)	2		
						<b>Total</b>		<b>50</b>	
Method of Working						General Approach	5		
						Manipulation	20		
						Consistency	10		
						Hygiene and Economy	5+5		
						Oven Management	5		
						Tidy and Methodical	5		
						<b>Total</b>	<b>55</b>		
						Dishes Chosen			
Mark Available Each Dish									
Name	Marks								
<b>Total</b>	<b>35</b>								
Serving and Appearance						Serving	5		
						Appearance	5		
						<b>Total</b>	<b>10</b>		
						<b>Total</b>	<b>150</b>		
						<b>SCALED MARK</b>	<b>100</b>		



**FOOD AND NUTRITION (0648/2)**  
**Practical Examination Summary Marksheet**  
**IGCSE**

<b>Centre Number</b>					<b>Centre Name</b>	
<b>June/November</b>	<b>2</b>	<b>0</b>	<b>1</b>		<b>Examiner's Name</b>	

Candidate Number	Candidate Name	Preparation		Method of Working (max 55)	Quality/ Results (max 35)	Serving/ Appearance (max 10)	Total (max 150)	Scaled Total (max 100)
		Choice (max 20)	Planning (max 30)					

Notes:

