# THE NATIONAL EXAMINATIONS COUNCIL OF TANZANIA



# CERTIFICATE OF SECONDARY EDUCATION EXAMINATION FORMATS

**ISSUED BY** 

THE NATIONAL EXAMINATIONS COUNCIL OF TANZANIA P.O. BOX 2624 DAR ES SALAAM TANZANIA

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### **FOREWORD**

In 2005, the Ministry of Education and Vocational Training (MOEVT) revised the 1997 ordinary level secondary education curriculum. The revised curriculum mainly emphasises on the development of competences as opposed to mere acquisition of content. This Examinations Format booklet has, therefore, been revised to accommodate those changes. The schedule of subjects covered in this document and which must be taken by candidates sitting for the CERTIFICATE OF SECONDARY EDUCATION EXAMINATION, is as prescribed by Circular Number 1 of the Ministry of Education and Vocational Training (MOEVT), of April 2006. It includes seven core/compulsory subjects, bias and optional subjects.

The seven core subjects are Civics, History, Geography, Kiswahili, English Language, Biology and Mathematics. The list of bias and optional subjects is as specified in the said MOEVT'S Circular (attached as Annex 1). Science stream candidates will be examined in the Physics and Chemistry subjects in addition to the seven compulsory, bias and optional subjects.

New syllabuses have been prepared for those seven core subjects. The new syllabuses were introduced in secondary schools in 2005 and will be examined for the first time in the CSEE in October 2008. The syllabuses for Physics and Chemistry, which were still undergoing revisions up to 2007, are expected to be in use effective from January 2008. They will be examined for the first time in the Certificate of Secondary Education Examination in 2011. Meanwhile, the 1997 syllabuses for Physics and Chemistry subjects, as well as for bias and optional subjects, will continue to be used.

This Examinations Format Booklet includes the formats of all the subjects that will be examined in the Certificate of Secondary Education Examination in October 2008 onwards. The major objective is to have a single Booklet on Examinations Format for all the subjects examined in the Certificate of Secondary Education Examination to ensure easy reference by the users.

It is hoped that this Booklet will give an extra guidance to teachers on examination procedures, particularly on the use of Table of Specifications in setting examinations. Teachers are therefore strongly encouraged to take advantage of these format models in assessing their learners so as to harmonise their assessment procedures and those used by the National Examinations Council of Tanzania.

The Examinations Format Booklet will also help examiners in producing examination papers, which fulfil the requirements of the syllabus. The formats are also expected to help teachers and learners to cope with syllabus requirement for successful syllabus coverage and acquisition of knowledge and skills. Additionally, these Examination Formats are designed such that they will be used hand in hand with the syllabuses. They should not therefore, substitute subject syllabuses.

Lastly, I would like to extend my sincere gratitude to UNICEF for financially supporting the preparation of these formats. I am also grateful to various individuals for their invaluable inputs during the revision and improvement process of this document. I am particularly appreciative to the Teachers, School Inspectors, Examinations Officers, and Curriculum Developers who participated in the revision of these formats.

Any constructive comments, especially suggestions from users of these formats will always be welcome and appreciated.

Dr. Joyce L. Ndalichako

EXECUTIVE SECRETARY

THE NATIONAL EXAMINATIONS COUNCIL OF TANZANIA

#### **PREFACE**

The Examination Formats contained in this document are for examined subjects being studied at the Certificate of Secondary Education level. They were prepared in response to the revisions of Certificate of Secondary Education syllabuses of 2005 and were used for the first time in October 2008 Certificate of Secondary Education Examination (CSEE).

The Examination Formats are presented in numbered paragraphs. Altogether, there are five paragraphs which include Introduction, General Objectives, General Competences, Examination Rubric and Examination Content. All the formats end with Table of Specifications. The paragraphs provide specific information or spell out procedures for preparing question papers.

Each paragraph of these formats is significant in its own merit. However, the paragraph on Introduction highlights areas of obvious departure from the former formats. This paragraph outlines the brief backgrounds of the formats with some mention of objectives of revising them.

The accessibility of these formats will help examination setters and moderators, as well as teachers and learners to cope with the syllabus requirements for successful course outline completion and acquisition of knowledge and skills. It is necessary to underscore the appropriate use of these formats, i.e. they should not be used in place of the subject syllabuses.

One copy of this Examination Format Book is issued free of charge to heads of schools/examinations centres registered with the National Examinations Council of Tanzania. Additional copies may be bought from the Council's offices.

T.L. Oseno

DEPUTY EXECUTIVE SECRETARY
NATIONAL EXAMINATIONS COUNCIL OF TANZANIA

### 010 QUALIFYING TEST

(For Private Candidates Only)

### 1.0 INTRODUCTION

The Qualifying Test examination will be administered to private candidates intending to sit for the Certificate of Secondary Education Examination (CSEE), but do not have Form II level secondary education.

The Qualifying Test will comprise questions from Civics, Cross Cutting issues, English Language, Kiswahili, History, Geography, Biology, Chemistry, Mathematics and Physics.

Qualifying Test examination draws as much as possible from the form I and II national syllabus but focus more on testing for knowledge and skills equivalent to National Form II Examination.

### 2.0 GENERAL OBJECTIVE

The main objective of the Qualifying Test is to determine whether the prospective candidates have attained secondary education equivalent to form two level and thus are in a position to sit for the Certificate of Secondary Education Examination (CSEE).

### 3.0 GENERAL COMPETENCES

The examination will specifically test candidate's ability to:

- 2.1. Interpret basic knowledge, facts, principles, concepts and figures in the stated subjects.
- 2.2. State, define and name basic knowledge, facts, principles and concepts in the relevant subjects.
- 2.3. Write correct language using proper grammar, structure and vocabulary in the subject tested.
- 2.4. Write a clear summary, answer comprehension questions and write a composition on a given passage, topic or subject.
- 2.5. Demonstrate and interpret mathematical knowledge within a given context and manipulate set theory and application, and carry out simple differentiation and integration.
- 2.6. Demonstrate use of knowledge and skills in Physics, Chemistry and Biology to solve problems which may involve unfamiliar situations.
- 2.7. Use knowledge, concepts, laws, theories and principles of the Physics, Chemistry and Biology subjects in daily life.

### 4.0 EXAMINATION RUBRIC

There will be one paper of three (3) hours duration. The paper will consist of 20 questions in sections A and B. Section A will comprise two parts. Part I will be on Civics and current affairs and Part II will be on English and Kiswahili languages. Candidates will be required to answer all questions in section A.

Section B will consist of three parts. Part I will be on History and Geography, part II on Physics and Mathematics and part III on Biology and Chemistry. Candidates will be required to **confine** themselves to **one** part only.

# SECTION A: CIVICS, CURRENT AFFAIRS AND LANGUAGE

This section will comprise twelve (12) questions, and will weigh 60 marks.

### PART I: CIVICS AND CURRENT AFFAIRS

In this part, question numbers **one** to **three** will be on Civics content based on forms one and two syllabuses and question number four will be on Current Affairs.

# PART II: KISWAHILI AND ENGLISH LANGUAGE

Will consist of eight (8) questions, four (4) from Kiswahili syllabus and four (4) from English language syllabus for forms one and two.

### **English Language**

The English Language component will comprise four (4) questions. One question will be on composition and another one on comprehension. The third one will be a multiple choice question consisting of five items on English patterns. The fourth one will be of the fill-in-the-blanks type, dealing with tenses, and will have five items. Each question will carry 5 marks.

#### Kiswahili

Kutakuwa na maswali manne (4) yatakayotoka katika mada za Kiswahili za kidato cha kwanza na kidato cha pili ambazo ni ufahamu, utungaji, sarufi na uundaji wa maneno. Kila swali litakuwa na alama tano (5).

# SECTION B: GEOGRAPHY, HISTORY, PHYSICS, MATHEMATICS, BIOLOGY AND CHEMISTRY

Section B will comprise three (3) parts; each part will have four (4) questions and will weigh 40 marks. Candidates will be required to **confine** themselves to only one part.

### PART I: GEOGRAPHY AND HISTORY

Will comprise four (4) questions, two (2) questions will be on Geography and two (2) questions on History. Candidates will be required to answer all the questions in this part.

### PART II: PHYSICS AND MATHEMATICS

Part II will comprise four (4) questions; two (2) questions will be on Physics and two (2) questions on Mathematics.

### PART III: BIOLOGY AND CHEMISTRY

Part III will comprise four (4) questions; two questions will be on Biology and two (2) questions on Chemistry.

### 5.0 EXAMINATION CONTENT

#### 5.1 Civics and Current Affairs

- 5.1.1 Promotion of life skills and family life
- 5.1.2 Human rights and responsible citizenship
- 5.1.3 Government of Tanzania and democracy
- 5.1.4 Proper behaviour and responsible decision making

### 5.2 Kiswahili

- 5.2.1 Ufahamu na ufupisho
- 5.2.2 Sarufi
- 5.2.3 Fasihi
- 5.2.4 Utungaji

# 5.3 English

- 5.3.1 Comprehension and summary
- 5.3.2 Structure
- 5.3.3 Tenses
- 5.3.4 Composition

# 5.4 Geography

- 5.4.1 The solar system
- 5.4.2 Weather and climate
- 5.4.3 Map work
- 5.4.4 Human activities

# 5.5 History

5.5.1 Evolution of man, technology and environment

- 5.5.2 Development of social, political system and economic activities in pre-colonial Africa and their impact
- 5.5.3 Social and economic development in production in pre-colonial Africa
- 5.5.4 Africa and the external world
- 5.5.5 Transition to industrial capitalism

### 5.6 Chemistry

- 5.6.1 Laboratory techniques and safety
- 5.6.2 Scientific procedures
- 5.6.3 Matter
- 5.6.4 Air combustion, rusting and fire fighting

### 5.7 Biology

- 5.7.1 Safety in our environment.
- 5.7.2 Health and prevention of diseases.
- 5.7.3 Cell structure and organisation
- 5.7.4 Classification of living things
- 5.7.5 Nutrition
- 5.7.6 Balance of nature
- 5.7.7 Transport of materials in living things
- 5.7.8 Gaseous exchange and respiration

### 5.8 Physics

- 5.8.1 Laboratory practice
- 5.8.2 Structure and properties of matter, force and pressure
- 5.8.3 Work, energy, power, light and static electricity
- 5.8.4 Current electricity and magnetism

# 5.9 Basic Mathematics

- 5.9.1 Numbers, fractions, decimals and percentages
- 5.9.2 Units, approximation and geometry
- 5.9.3 Ratio, profit and loss
- 5.9.4 Coordinates geometry, perimeters and areas

### 6.0 TABLE OF SPECIFICATIONS

				Sl			ing			
S/n		Promotion of life skills and		Comprehension	Application	Analysis	Synthesis	Evaluation	Total number of questions / items	Percentage weighting per topic
		Promotion of life skills and family life			1	2		2	5	6.25
1.	CIVICS	Human rights and responsible citizenship	2	1			1	1	5	6.25
1.	CIVICS	Government of Tanzania, democracy	2	1			1	1	5	6.25
		Proper behaviour and responsible decision making						1	1	1.25
2.	KISWAHILI	Ufahamu na ufupisho				1			1	1.25
		Sarufi	1	2		2			5	6.25

				S	kills to	be test	ed			ting
S/n		Торіс	Knowledge	Comprehension	Application	Analysis	Synthesis	Evaluation	Total number of questions / items	Percentage weighting per topic
		Fasihi		2	2	1			5	6.25
		Utungaji					1		1	1.25
		Comprehension and summary		1					1	1.25
3.	ENGLISH	Structure	2	1	2				5	6.25
5.	LINGLISH	Tenses	2		2			1	5	6.25
		Composition					1		1	1.25
		The solar system	2	2		1			5	6.25
		Weather and climate	2	2		1			5	6.25
4.	GEOGRAPHY	Map work	2	1	2				5	6.25
		Human activities	1			2		2	5	6.25
		Evolution of man, technology and environment	2		1	1		1	5	6.25
5.	HISTORY	Development of social, political system, economic activities in pre-colonial Africa and their impact	2		1			2	5	6.25
5.	HISTORY	Social economic development in production in pre-colonial Africa	1		2	1		1	5	6.25
		Africa and external world & transition to industrial capitalism	2		1			2	5	6.25
		Numbers, fractions, decimals and percentages	2			1	1	1	5	6.25
6.	MATHEMATICS	Units, approximation and geometry	2			1	1	1	5	6.25
		Algebra, ratio, profit and loss	2			1	1	1	5	6.25
		Coordinate geometry, perimeters and areas	2			1	1	1	5	6.25
		Laboratory practice and measurements	2		1		1	1	5	6.25
7.	PHYSICS	Structure and properties of matter, force and pressure	2		1		1	1	5	6.25
		Work, energy and power, light and statistic and electricity.	2	1	1		1		5	6.25
		Current electricity and magnetism	2		1		1	1	5	6.25
		Laboratory techniques and safety	2	2		1			5	6.25
8	CHEMISTRY	Scientific procedures	2	2		1			5	6.25
U		Matter	2	1	2	<u> </u>		<u>L</u>	5	6.25
		Air combustion, rusting and fire fighting	2		2	1			5	6.25
9.	BIOLOGY	Safety in our environment, health and prevention of diseases	2		1	1		1	5	6.25

			SI	xills to	be test	ed			ing
S/n	Торіс	Knowledge	Comprehension	Application	Analysis	Synthesis	Evaluation	Total number of questions / items	Percentage weighting per topic
	Cell structure and organization, classification of living things	2		1		1	1	5	6.25
	Nutrition and balance of nature	2		2			1	5	6.25
	Transport of materials in living things and gaseous exchange and respiration	2	1	1			1	5	6.25
Num	Number of questions/ items		20	27	20	13	25	160	
Perce	Percentages weighting per skill		12.5	16.8	12.5	8.1	15.6		100

### 011 CIVICS

(For Both School and Private Candidates)

### 1.0 INTRODUCTION

In this revised format, all the topics in the old syllabus have been retained except public legal education (Form III) and international cooperation (Form IV). New topics such as: Promotion of life skills, work, family life, proper behaviour and responsible decision making, road safety education, gender, poverty and globalization, have been introduced.

### 2.0 GENERAL OBJECTIVES

The general objectives of the examination are to assess:

- 2.1 The extent to which candidates have acquired the competences shown in the syllabus.
- 2.2 Candidates' level of understanding of concepts and skills and ability to apply them.

#### 3.0 GENERAL COMPETENCES

The Civics examination will test the extent to which candidates have acquired the following competences:

- 3.1 Understanding of globalization issues and ability to reflect critically on their impact on society.
- 3.2 Knowledge of and respect for rights and responsibilities as a citizen in a democratic state.
- 3.3 Knowledge and appreciation for our cultural heritage and natural resources and ability to preserve them.
- 3.4 Ability to collect, select, organize and analyse information related to current events which shape the development of Tanzania.
- 3.5 Willingness to work hard for national development.
- 3.6 Understanding and appreciation of democratic values.
- 3.7 Knowledge of government structure and its working.
- 3.8 Knowledge of cross-cutting issues and their impact on our society.
- 3.9 Ability to analyse matters related to family issues and make the right decision.
- 3.10 Ability to use roads correctly and safely.
- 3.11 Knowledge and ability to apply life skills.

# 4.0 EXAMINATION RUBRIC

There will be **one** paper of  $2\frac{1}{2}$  hours consisting of **10** questions spread in three sections, A, B and C. Candidates will be required to answer **ALL** questions in sections A and B and **THREE** (3) questions from section C.

- 4.1 **Section A** will comprise **two (2)** questions. Question 1 will consist of 10 multiple choice items. Each item will weigh **01** mark. Question 2 will consist of 10 matching items. Each item will weigh **01** mark. Question 1 and 2 will be set from any topic of the syllabus. Section A will weigh **20** marks.
- 4.2 **Section B** will comprise **2** questions (Question 3 and 4). Candidates will be required to answer both questions. Question number 3 will be on comprehension. In this question, candidates will give short answers to 5 items that will be set from the passage. The passage will consist of 250 to 300 words. Question number 3 will weigh **10** marks.
  - Question 4 will be broken into two sub-items, (a) and (b), that will demand short answers. This question will be set from any topic in the syllabus and it will weigh 10 marks (05 marks for each of the two items).
- 4.3 **Section C** will comprise **six** (**6**) essay type questions (Questions 5 10). The questions will be set from various topics of the syllabus. Each question will weigh **20** marks. Candidates will be required to answer any **three** (**3**) questions from this section. Section C will weigh **60** marks in total.

# 5.0 EXAMINATION CONTENT

- 5.1 Our nation
- 5.2 Promotion of life skills
- 5.3 Human rights
- 5.4 Responsible citizenship
- 5.5 Work
- 5.6 Family life
- 5.7 Proper behaviour and responsible decision making
- 5.8 Road safety education
- 5.9 Government of Tanzania
- 5.10 Democracy
- 5.11 Gender
- 5.12 Economic and social development
- 5.13 Poverty
- 5.14 Culture
- 5.15 Globalization

# 6.0 TABLE OF SPECIFICATIONS

			Sl	cills to	be test	ed			per
S/n	Topics	Knowledge	Comprehension	Application	Analysis	Synthesis	Evaluation	Number of questions	Percentage weighting per topic
1.	Our nation				1			1	3.0
2.	Promotion of life skills	1	1	1	1			4	12.1
3.	Human rights						1	1	3.0
4.	Responsible citizenship	1				1		2	6.1
5.	Work	1						1	3.0
6.	Family life				1			1	3.0
7.	Proper behaviour and responsible decision making				1			1	3.0
8.	Road safety education						1	1	3.0
9.	Government of Tanzania	1			1		1	3	9.1
10.	Democracy				1	1		2	6.1
11.	Gender					1	1	2	6.1
12.	Economic and social development	1			1	1		3	9.1
13.	Poverty				1			1	3.0
14.	Culture	1		2	1	2	2	8	24.2
15.	Globalization			1			1	2	6.1
	ber of questions	6	1	4	9	6	7	33	
Perc	entage weighting per skill	18.2	3	12.1	27.3	18.2	21.2		100

### 012 HISTORY

(For Both School and Private Candidates)

### 1.0 INTRODUCTION

One obvious departure of this new History Examination Format from the former is that question 3 in section B now requires candidates to locate sites and events on a historical sketch map or diagram instead of answering questions based on the time-line chart.

#### 2.0 GENERAL OBJECTIVES

The general objectives of the History examination are

- 2.1 to determine the candidate's achievements of the competences on historical events, conditions and factors which shaped the past and the present conditions of Africa in relation to the rest of the world.
- 2.2 to determine the candidate's ability to apply the History knowledge in interpreting, analysing and evaluating events taking place in the World and Africa in particular.
- 2.3 to determine the development of basic skills of critical thinking, reasoning, judgement, empathy and effective participation in developmental activities.

### 3.0 GENERAL COMPETENCES

The examination will generally test candidate's ability to

- 3.1 identify the efforts made by pre-colonial African societies in mastering their environment and social, political and economic advancement.
- 3.2 critically discuss the impact of foreign domination, over African societies from the period of interaction with the external world to colonization of Africa.
- 3.3 explain and appraise various efforts and strategies made by the African states in the struggle against colonial subjugation.
- 3.4 critically assess cultural, political, economic and technological changes made by the African countries after independence.
- 3.5 analyse the objectives, achievements and problems of the establishment of regional, continental and intercontinental co-operation.

### 4.0 EXAMINATION RUBRIC

There will be **one** (1) paper of **three** (3) hours duration. The paper will consist of sections A, B and C with a total of 10 questions. Candidates will be required to answer **ALL** questions in sections A and B and any three (3) questions from section C.

Section A will comprise TWO (2) questions. Question 1 will comprise 10 multiple-choice items from all major topics of the syllabus. Question 2 will have ten (10) matching items. This section will weigh 20 marks.

Section B will comprise TWO (2) questions. Question number three will consist of 10 items on maps and diagrams set from all major topics. Candidates will be asked to illustrate (by drawing maps and diagrams). Question 4 will comprise **five** (5) items of either finding the missing statement or incorrect statement and **five** (5) items of arranging historical events/facts in chronological order. This section will weigh 20 marks (each question 10 marks).

Section C will have **six** (6) essay type questions set from the major topics of the syllabus. Candidates will be required to answer **three** (3) questions. Each question will weigh 20 marks.

### 5.0 EXAMINATION CONTENT

- 5.1 Sources and importance of History
- 5.2 Evolution of man, technology and environment
- 5.3 Development of economic activities and their impact
- 5.4 Development of social and political systems

- 5.5 Interactions among the people of Africa
- 5.6 Socio-economic development and production in pre-colonial Africa
- 5.7 Africa and the external world
- 5.8 Industrial capitalism
- 5.9 Establishment of colonialism
- 5.10 Colonial administrative systems
- 5.11 Colonial economy
- 5.12 Colonial social services
- 5.13 Crises in the capitalist system
- 5.14 Nationalism and decolonisation
- 5.15 Changes in political, social and economic policies in Africa after independence
- 5.16 Africa in international affairs

# 6.0 TABLE OF SPECIFICATIONS

			Sl	xills to	be teste	ed		ion	pic
S/n	Topics	Knowledge	Comprehensio n	Application	Analysis	Synthesis	Evaluation	Number of question	Percentage per topic
1.	Sources and importance of History	1		1				2	4.3
2.	Evolution of man, technology and environment		1	1			1	3	6.5
3.	Development of economic activities and their impact				1		1	2	4.3
4.	Development of social and political systems		1					1	2.1
5.	Interactions among the people of Africa					1		1	2.1
6.	Social-economic development and production in pre-colonial Africa		1					1	2.1
7.	Africa and the external world	1		1			1	3	6.5
8.	Industrial capitalism		1		1		1	3	6.5
9.	Establishment of colonialism		1		2	1	1	5	10.9
10.	Colonial administrative systems			1			1	2	4.3
11.	Colonial economy	1		1			1	3	6.5
12.	Colonial social services	1		1	1		1	4	8.7
13.	Crises in the capitalist System				1		1	2	4.3
14.	Nationalism and decolonisation	1	1	1	1		2	7	15.2
15.	Changes in political, social and economic policies in Africa after independence	1			2		2	5	10.9
16.	Africa in international affairs		1	1				2	4.3
	ber of questions	6	7	8	9	3	13	46	
Perc	entage weighting per skill	13.0	15.2	17.4	19.6	6.5	28.3		100

### 013 GEOGRAPHY

(For Both School and Private Candidates)

### 1.0 INTRODUCTION

The only topic that has been completely dropped out from the former format is **TRADE AND COMMERCE**. Otherwise the subject content in the revised format has to a large extent remained the same.

### 2.0 GENERAL OBJECTIVES

The general objectives of the Geography examination are to determine:

- 2.1 the extent to which candidates have developed awareness of resources at national and global levels.
- 2.2 whether candidates have acquired methods, skills of observation, measuring, recording and interpreting geographical phenomenon and can use them in solving daily life problems.
- 2.3 whether candidates have acquired the social economic skills for competing in the labour market of the globalised world.

### 3.0 GENERAL COMPETENCES

At the end of the four years of secondary education, candidates are expected to demonstrate the following competences.

- 3.1 Understanding of their country and ability to value it as their heritage.
- 3.2 Ability to use sustainably natural resources to raise the standard of living.
- 3.3 Ability to use different ways to overcome day to day social and economic constraints.
- 3.4 Understanding of interactions between their country and other countries and draw lessons to solve existing problems.
- 3.5 Ability to observe, record, analyse, interpret geographical phenomenon and conduct research.
- 3.6 Ability to utilize skills and take appropriate measures to manage the environment.
- 3.7 Utilization of socio-economic skills to successfully compete in the labour market within the globalised world.

### 4.0 EXAMINATION RUBRIC

There will be **one** (1) paper of **three** 3 hours duration. The paper will consist of 12 questions in sections A, B, C and D. Section D will have **two** (2) parts. Candidates will be required to answer **all** questions in Sections A, B and C and **two** (2) questions from section D, choosing **one** (1) question from each part.

- 4.1 **SECTION A:** This section will comprise **three** (3) questions. Question number 1 will consist of 10 multiple-choice items from Physical and Mathematical Geography. Each item will weigh **one** (1) mark. Question number 2 will consist of matching items from any topic of the syllabus except Human Geography. List A will consist of 5 items which will be matched with 10 items from list B. Each item will weigh **one** (1) mark. Question number 3 will be an explanatory question set from a Physical Geography topic. The question will weigh **10** marks. Hence section A will weigh **25** marks.
- 4.2 **SECTION B:** There will be **three** (3) questions in this section from the following topics: Application of statistics, introduction to research and elementary surveying. Each question in this section will carry **nine** (9) marks. Thus section B will weigh 27 marks.

- 4.3 **SECTION C:** This section will consist of **two (2)** questions. One question will be set from the map extract given and will weigh **18** marks, the other will be set from the photograph provided and will weigh **10** marks. The section will weigh **28** marks.
- 4.4 **SECTION D:** This section will comprise **four** (**4**) essay questions in parts 1 and II. Part one will consist of **two** (**2**) questions set from regional focal studies. Part two will also consist of **two** (**2**) questions. One of the questions will be set from either human population or settlement. The other question will be set environmental issues and management. Each question in this section will weigh **10** marks. The whole section will weigh **20** marks.

# 5.0 EXAMINATION CONTENT

- 5.1 The concept of geography
- 5.2 The solar system
- 5.3 Major features of the earth's surface
- 5.4 Weather
- 5.5 Climate
- 5.6 Map reading and interpretation
- 5.7 Photograph reading and interpretation
- 5.8 Elementary surveying
- 5.9 Introduction to research
- 5.10 Application of statistics in geography
- 5.11 Agriculture
- 5.12 Water management for economic development
- 5.13 Sustainable use of forest resources
- 5.14 Sustainable mining
- 5.15 Tourism industry
- 5.16 Manufacturing industry
- 5.17 Sustainable use of power and energy resources
- 5.18 Transport
- 5.19 Structure of the earth
- 5.20 Forces that affect the earth
- 5.21 Climate and natural regions
- 5.22 Soil
- 5.23 Human population
- 5.24 Settlements
- 5.25 Environmental issues and management

# 6.0 TABLE OF SPECIFICATION

			S	kills to	be teste	ed			50
S/n	Торіс	Knowledge	Comprehension	Application	Analysis	Synthesis	Evaluation	Number of questions	Percentage weighting per topic
	Consent of accountly								
1.	Concept of geography								
2.	The solar system								
4.	Major features of the earth								
5.	Weather Climate	6	3	4	1		4	18	50
6.	Structure of the earth								
7.	Forces that affect the earth								
8.	Soil								
9.	Climate and natural regions								
10.	Map reading and interpretation		2	1	2		1	6	16.6
11.	Photography reading and						1		
11.	interpretation	1	1		1	1		4	11.1
12.	Elementary surveying		1					1	2.7
13.	Application of statistics			1				1	2.7
14.	Introduction to research		1					1	2.7
15.	Agriculture								
16.	Water management								
17.	Forestry resources								
18.	Sustainable mining								
19.	Tourism industry		1			1		2	5.6
20.	Manufacturing industry								
21.	Sustainable use of energy and								
	power resources								
22.	Transport								
23.	Human population				1			1	2.7
24.	Settlements	1						1	2.7
25.	Environmental issues and			1				1	2.7
	management		•						
	number of questions	8	9	7	5	2	5	36	460
Percer	ntage weighting per skill	22.2	25	19.4	13.8	5.6	13.8		100

### 014 BIBLE KNOWLEDGE

(For Both School and Private Candidates)

### 1.0 INTRODUCTION

The Bible Knowledge Examination format was designed to accommodate the syllabus in use. The 2001 examination format had some shortfalls that this new format has rectified. The former format, in every topic, specified a lot of Bible texts, which candidates were supposed to have read. In the revised format no single Bible text is specified. Candidates are supposed to have read not only some texts, but all the books of the Bible that are relevant to the topics.

### 2.0 GENERAL OBJECTIVES

The Bible Knowledge examination is intended to find out to what extent candidates:

- 2.1 Have studied and understood the Biblical texts relevant to the topics.
- 2.2 Can read and apply the knowledge they gained from the texts to strengthen their own faith in God and to help their people.
- 2.3 Recall and comment on what they have studied in the Bible.
- 2.4 Can interpret the teachings of Jesus in normal language and draw from them ideas on how to be good citizens.
- 2.5 Can comment on different apostolic teachings as presented in the texts.

### 3.0 GENERAL COMPETENCES

The Bible Knowledge examination questions will test the candidates' ability to:

- 3.1 Comment on Biblical quotations
- 3.2 Interpret parables used by Jesus in his teaching
- 3.3 Remember what they had read and their understanding of the different apostolic teachings as presented in the Bible
- 3.4 Comment on views of authors and ideas of faith as presented in the prescribed Bible
- 3.5 Give their ideas on faith, with reference to the text.

#### 4.0 EXAMINATION RUBRIC

The examination will consist of two papers, **014/1 Bible Knowledge 1** and **014/2 Bible Knowledge 2**. Candidates will be required to sit for both papers.

# **4.1 014/1 Bible Knowledge 1**

This paper will consist of EIGHT (8) questions set from Part 1 of the syllabus i.e. The Old Testament. Candidates will be required to answer FIVE (5) questions. Each question will carry **20 marks**. The paper will be of two and a half hours  $(2\frac{1}{2})$  duration.

### 4.2 014/2 Bible Knowledge 2

This paper will be set from Part 2 of the syllabus i.e. The New Testament, specifically, the Gospels according to Matthew and Luke and Acts of the Apostles.

It will comprise **alternatives** A and B. Each alternative will comprise eight (8) questions. The questions in the two Alternatives will be of equal weight. Candidates will answer Five (5) questions. Question one (1) of the Alternative A and question number nine (9) of the Alternative B will be compulsory. Each question will carry **20 marks**. The paper will be of two and half hours (2½) duration.

### 5.0 EXAMINATION CONTENT

- 5.1 The history of religion: Israel before and after Abraham
- 5.2 Israel under the leadership of Moses: Exodus
- 5.3 Israel under the leadership of Joshua: Settlement in the promised land
- 5.4 Israel under Judges
- 5.5 The Gospel according to Matthew and the Acts of the Apostles
- 5.6 The Gospel according to Luke and the Acts of the Apostles

# 6.0 TABLE OF SPECIFICATIONS

# 6.1 014/1 Bible Knowledge 1

			Sk	tills to	be tes	ted		ions	oic
S/n	Торіс	Knowledge	Comprehension	Application	Analysis	Synthesis	Evaluation	Number of questions	Percentage weighting per topic
1	The History of Religion: Israel	1	1					2	25
	Before and After Abraham								
2	Israel under the Leadership of	1	1					2	25
	Moses: Exodus								
3	Israel under the Leadership of	1	1					2	25
	Joshua: Settlement in the promised								
	land								
4	Israel under Judges	1	1					2	25
Num	Number of questions		4					8	
Perce	entage weighting per skill	50	50						100

# 6.2 014/2 Bible Knowledge 2

			Sk		ons	ting			
S/n	Торіс	Knowledge	Comprehension	Application	Analysis	Synthesis	Evaluation	Number of questions	Percentage weighting per topic
1	The Gospel according to Matthew and the Acts of the Apostles	2	4	2				8	50
2	The Gospel according to Luke and the Acts of the Apostles	2	4	2				8	50
Numl	ber of questions	4	8	4				16	100
Perce	entage weighting per skill	25	50	25					

### 015 ELIMU YA DINI YA KIISLAMU

(Kwa watahiniwa walioko na wasiokuwa Shuleni)

### 1.0 UTANGULIZI

Muhtasari wa somo la Elimu ya Dini ya Kiislamu ulifanyiwa mapitio mwaka 1996. Mapitio hayo hayakuleta mabadiliko katika mada zilizokuwamo katika muhtasari, hivyo hata fomati ya mtihani wa somo hili haina mabadiliko.

Fomati hii mpya itakuwa na mabadiliko katika muundo wa maswali – hasa katika karatasi ya kwanza (015/1). Mabadiliko haya yamefanywa kutokana na maoni ya watahini na ushauri wa wataalamu mbalimbali wa somo hili pamoja na kukidhi mahitaji ya taratibu za kisasa za kutahini.

### 2.0 MALENGO YA JUMLA

Mtihani utapima uwezo wa mtahiniwa katika:

- 2.1 Kuielewa dini ya Kiislamu
- 2.2 Kuelewa sura zilizoteuliwa za Qur-an na kueleza uhusiano wake na maisha ya mwanadamu
- 2.3 Kuelewa nguzo za Uislamu na uhusiano wake na maisha ya kila siku
- 2.4 Kuelewa nguzo za Imani
- 2.5 Kuifahamu na kueleza historia ya Uislamu.

### 3.0 MALENGO MAHSUSI

Mtihani utapima uwezo wa mtahiniwa katika:

- 3.1 Kueleza maana, dhima, ukusanyaji, uhifadhi na mafunzo ya Hadith na Sunna
- 3.2 Kueleza kushushwa, kuhifadhiwa, kukusanywa mafunzo ya sura zilizochaguliwa, Kuthibitisha na kuitetea Qur-an kuwa ni Neno la Mwenyezi Mungu
- 3.3 Kueleza dhana ya Dini ya Uislamu
- 3.4 Kuchambua Nguzo za Imani na Nguzo za Uislamu
- 3.5 Kutofautisha Uislam na imani nyingine
- 3.6 Kuchambua chimbuko la Fiqh
- 3.7 Kuhusisha Fiqh na maisha ya kila siku
- 3.8 Kueleza mtazamo wa Uislamu juu ya Ibada
- 3.9 Kuchambua mfumo wa maisha ya Kiislamu: Kijamii, kiuchumi na kisiasa
- 3.10 Kuhusisha: Historia ya Uislamu kabla ya Mtume (S.A.W). Uislamu katika kipindi cha Mtume (S.A.W.), Uislamu katika kipindi cha Makhalifa na Mtume hadi sasa na maisha ya kila siku ya Waislamu na zama za sasa.

#### 4.0 MFUMO

Mtihani wa Elimu ya Dini ya Kiislamu katika kiwango cha Mtihani wa Kitado cha Nne utakuwa na karatasi mbili kwa watahiniwa walioko na wasiokuwa shuleni. Kila karatasi itakuwa na jumla ya alama 100Percentage.

# 4.1 015/1 ELIMU YA DINI YA KIISLAMU 1

#### MUDA: Saa 2

Karatasi hii itakuwa na sehemu kuu tano (5). Kila sehemu itakuwa na maswali mafupi yatakayomtaka mtahiniwa ama achague jibu sahihi/atoe (yeye) jibu sahihi au aoanishe taarifa. Mtahiniwa atatakiwa ajibu maswali yote ya karatasi hii.

# 4.1.1 SEHEMU YA KWANZA

Katika sehemu hii kutakuwa na maswali kumi (10) ya kuchagua jibu sahihi kutoka katika machaguo matano yenye vipotoshi vinne atakavyopewa.

### 4.1.2 SEHEMU YA PILI

Sehemu hii itakuwa na maswali kumi na tano (15) ya kuoanisha. Mtahiniwa atatakiwa aoanishe taarifa ya fungu moja na ile ya fungu la pili ili kukamilisha taarifa kuhusu Quran.

### 4.1.3 SEHEMU YA TATU

Sehemu hii itakuwa na sentensi kumi na tano (15) fupifupi zilizoparaganyika. Mtahiniwa atatakiwa azipange katika mtiririko wenye kuleta mantiki.

### 4.1.4 SEHEMU YA NNE

Sehemu hii itakuwa na maswali kumi na tano (15) yatakayomhitaji mtahiniwa kutoa majibu mafupi ama kulinganisha kutokana na maswali yatakavyotungwa.

### 4.1.5 SEHEMU YA TANO

Sehemu hii itakuwa na maswali kumi na tano (15) yatakayomtaka mtahiniwa ajaze nafasi zilizo wazi katika sentensi atakazopewa. Aandike maneno yanayokosekana tu katika kijitabu cha kujibia kutokana na seti ya maneno atakayopewa.

# 4.2 015/2 ELIMU YA DINI YA KIISLAMU 2

MUDA: Saa 2½

Karatasi hii itakuwa na sehemu nne (4). Kila sehemu itakuwa na maswali matatu (3); karatasi yote itakuwa na jumla ya maswali kumi na mawili (12). Mtahiniwa atatakiwa ajibu maswali manne (4) tu kwa kuchagua swali moja kutoka kila sehemu. Majibu yote yatatolewa kwa njia ya kuandika insha. Kila swali litakuwa na alama 25Percentage. Jumla ya alama kwa karatasi hii ni 100Percentage.

### 5.0 MAUDHUI YA MTIHANI

- 5.1 Sunna na Hadith
- 5.2 Our an
- 5.3 Tawhiid
- 5.4 Figh
- 5.5 Tarekh
- 5.6 Our'an
- 5.7 Tawhid
- 5.8 Tarekh
- 5.9 Figh

# 6.0 JEDWALI LA KUTAHINIA

### 6.1 015/1 ELIMU YA DINI YA KIISLAMU 1

			Sta	di za k	utahin	iwa		:=	я
Na.	Mada kuu	Maarifa	Ufahamu	Matumizi	Uchambuzi	Kuunganisha	Tathmini	Idadi ya maswali	Asilimia ya maswali kwa kila mada
1	Sunna na Hadith	3	2	3	1	1		10	14.3
2	Qur - an	3	2	4	3	1	2	15	21.4
3	Tawhiid	1	3	3	3	3	2	15	21.4
4	Fiqh	3	3	3	2	3	1	15	21.4
5	Tarekh	2	4	3	4	2		15	21.4
Idad	i ya maswali	12	14	16	13	10	05	70	
Asili stadi	mia ya maswali kwa kila i	17.1	20	22.9	18.6	14.3	7.1		100

# 6.2 015/2 ELIMU YA DINI YA KIISLAMU 2

	Mada kuu		Sta	di za k	utahin	iwa		Idadi ya maswali	ili
Na		Maarifa	Ufahamu	Matumizi	Uchambuzi	Kuunganisha	Tathmini		Asilimia ya maswali kwa kila mada
1	Qur - an		1	1	1			03	25.0
2	Tawhiid		1	1			1	03	25.0
3	Fiqh	1		2				03	25.0
4	Tarekh			3				0.3	25.0
Idad	Idadi ya maswali		2	7	1		1	12	
	Asilimia ya maswali kwa kila stadi		16.7	58.3	8.3		8.3		100

### 016 FINE ART

(For School Candidates Only)

### 1.0. INTRODUCTION

This Examination format has been designed to suit the changes made in the Fine Arts syllabus issued by the Ministry of Education and Vocational Training in 2005.

### 2.0. GENERAL OBJECTIVES

The general objective of the Fine Art Examination is to test Candidates' ability to:

- 2.1. Acquire skills in drawings, painting and designing.
- 2.2. Apply artistic skills in the service and refinement of society and environment for better living standards.
- 2.3. Recognize and promote the artistic heritage of Tanzania due to its cultural importance.
- 2.4. Pursue a professional arts career if one so aspires.

# 3.0. GENERAL COMPETENCES

This examination will specifically test candidate's ability to:

- 3.1. Explain terminologies and theories of Fine Art.
- 3.2. Create pictorial arts with communicative and aesthetic values.
- 3.3. Make constructive criticism on works of Fine Art.
- 3.4. Make drawings, paintings and designs.
- 3.5. Produce works of Fine Art by using traditional and modern technologies.
- 3.6. Do entrepreneurship in the field of Fine Art.
- 3.7 Estimate resources (time, materials and labour) for efficient production of works of Fine Art.

#### 4.0. EXAMINATION RUBRIC

The examination will consist of **TWO** papers.

### 4.1. 016/1 FINE ART 1

This paper will consist of **THREE** sections with a total of six (6) questions. Candidates will be required to answer **two** (2) questions from any **two** (2) sections. The paper **will be opened\_24 hours** before the date of sitting. This paper will carry a total of 100 marks and its duration will be 3:30 hours.

### 4.2. 016/2 FINE ART 2

The paper will consist of two (2) sections; A and B with a total of eight (8) questions. Candidate will be required to answer ONE (1) question from either section A or B. This paper will not be opened\_24 hours before the time of commencement of the examination. The weight of this paper will be 100 marks and its duration will be 3:30 hours.

# 5.0. EXAMINATION CONTENT

- 5.1 Still life drawing
- 5.2 Nature drawing
- 5.3 Drawing from a living person
- 5.4 Imaginative composition in colour
- 5.5 Crafts A: Design

# 6.0. TABLE OF SPECIFICATIONS

6.1 016/1 FINE ART 1

			Sk		per				
S/n	Торіс	Knowledge	Comprehension	Application	Analysis	Synthesis	Evaluation	Total number of questions	Percentage weighting J topic
1.	Drawing	3	3					6	100
	Number of questions	3	3					6	
	Percentage weighting per skill	50	50						100

# 6.2. 016/2 FINE ART 2

			Sk		er				
S/n	Торіс	Knowledge	Comprehension	Application	Analysis	Synthesis	Evaluation	Total number of questions	Percentage weighing per topic
1.	Painting	1	1	1			1	4	50
2.	Designing	1	1	1			1	4	50
Nun	ber of questions	2	2	2			2	8	
Perc	entage weighting per skill	25	25	25			25		100

### 017 MUSIC

(For School Candidates Only)

### 1.0 INTRODUCTION

In 2005, the Ministry of Education and Vocational Training issued a low competence based Music syllabus. The music examination format has been redesigned to suit the changes made in the new syllabus.

### 2.0 GENERAL OBJECTIVES

The examination will test the candidates' ability to:

- 2.1 Use skills in reading, writing and listening to music
- 2.2 Sing simple melodies at sight
- 2.3 Compose simple rhythms and melodies using aesthetic values
- 2.4 Harmonise simple music
- 2.5 Explain musical terms and signs to loudness, speed and expression
- 2.6 Give critic to musical works
- 2.7 Sing melodies of selected songs
- 2.8 Play traditional and modern musical instruments of Tanzania
- 2.9 Dance traditional and modern music of Tanzania

### 3.0 GENERAL COMPETENCES

The examination will assess the candidate's ability to:

- 3.1 Demonstrate writing and listening skills to music
- 3.2 Perform music (singing and playing musical instruments)
- 3.3 Compose music using aesthetic values
- 3.4 Harmonise music
- 3.5 Explain terminologies and theories of music
- 3.6 Criticize music works
- 3.7 Demonstrate entrepreneurship skills

#### 4.0 EXAMINATION RUBRIC

The examination will consist of **two (2)** papers: Music Paper I, (017/1 Music 1) and Music Paper 2 (017/2 Music 2).

### 4.1 017/1 MUSIC 1

This paper will consist of **fourteen (14)** questions divided into Parts I and II. Candidates will be required to answer **10** questions. The paper will be of **three (3)** hours duration.

### 4.1.1 PART I

Part I will consist of **eight (8)** questions divided into sections A and B.

### **SECTION A**

Section A will consist of **four (4)** questions and candidates will be required to answer **all** of them. Questions in this section will focus on general musical knowledge and will cut across the whole syllabus. While questions number 1,2 and 3 will carry 10 marks each, question number 4 will carry 4 marks.

**Question 1** Will be a multiple choice question comprising 10 sub-items, each carrying 1 mark.

**Question 2** Will be a matching type of question and will carry 10 marks.

**Question 3** Will comprise 10 jumbled sentences each carrying 1 mark. **Question 4** Will be a short answer type of question having **two (2)** sub-items on topic: Rudiments of Music. The question will carry **4 marks**.

### **SECTION B**

Will consist of **four (4)** questions and candidates will be required to answer **three (3)**. Each question will carry **10 marks**. Questions in this section will be sampled from topics: Rudiments of Music and Harmony.

### 4.1.2 PART II

Will consist of **six** (8) questions divided into three sections: A, B and C. Each of these sections will have **two** (2) questions and candidates will be required to answer **one** (1) question from each section. Each question will carry 12 marks.

**SECTION** C will be based on the topic of Application of Music in Society.

**SECTION D** will be based on the sub-topic: Musicians and Their Works (Music Appreciation).

**SECTION E** will be based on topic: Classification of Tanzania Traditional and Modern Musical Instruments.

### 4.2 017/2 MUSIC

This paper will be of 2 hours duration and will consist of **ten** (10) questions. Candidates will be required to answer **all** of them. This paper will carry a total of 100 marks, and each question will carry 10 marks.

The question in this paper will be arranged in the order of increasing complexity, i.e. from simple to complex questions.

### 5.0 EXAMINATION CONTENT

- 5.1 Rudiments of Music
- 5.2 Harmony
- 5.3 Applied Music

### 6.0 TABLE OF SPECIFICATIONS

### **6.1 MUSIC 1**

			Sl	kills to	be teste	ed			•
S/n	Торіс	Knowledge	Comprehension	Application	Analysis	Synthesis	Evaluation	Total number of questions	Percentage weighting per topic
1.	Rudiments of Music	8	12	9		2		31	67.4
2.	Harmony			3	5	1		9	19.6
3.	Applied music					2	4	6	13.0
Total 1	<b>Total number questions</b>		12	12	5	5	4	46	·
Percer	Percentage weighting per skill		26.1	26.1	10.9	10.9	8.7		100

# 6.2 MUSIC 2

			S		per				
S/n	Торіс	Knowledge	Comprehension	Application	Analysis	Synthesis	Evaluation	Total number of questions	Percentage weighting per topic
1.	Rudiments of Music	2		1	1		3	7	70
2.	Harmony				1	1	1	3	30
Total number questions		2		1	2	1	4	10	
Percer	ntage weighting per skill	20		10	20	10	40		100

### 018 PHYSICAL EDUCATION

(For School Candidates Only)

### 1.0 INTRODUCTION

This Examination format has been formulated on the basis of the revised Physical Education Syllabus of 2005. In this format a number of competences will be examined to check the examinee's achievements.

### 2.0 GENERAL OBJECTIVES

The general objectives of Physical Education Examination are to test the candidate's ability to

- 2.1 Demonstrate a sense of obedience, responsibility, self-confidence and cooperation, regardless of gender and socio-economic background.
- 2.2 Show strength preference and mental abilities.
- 2.3 Participate and value Physical Exercises, Sports and Games and recreational activities.
- 2.4 Interpret and apply health rules, render first aid and safety measures at individual and community levels.

### 3.0 GENERAL COMPETENCES

The examination will specifically test the candidate's ability to:

- 3.1 Demonstrate social and moral standards of sport behaviour.
- 3.2 Demonstrate neuromuscular skills and physical development.
- 3.3 Demonstrate sport habits and performance skills.
- 3.4 Demonstrate interest to participate in sport and recreational activities.
- 3.5 Render first aid and safety services at individual and community levels.

### 4.0 EXAMINATION RUBRIC

Physical Education examination will comprise two (2) papers.

### 4.1 **PAPER 1**

This paper will consist of 12 questions in sections A, B and C. Candidates will be required to answer **all** questions in Sections A and B and **three** (3) questions from Section C. The paper will be of 2:30 hours' duration.

**Section A** will comprise 2 questions. Question 1 will consist of 10 multiple-choice question items set from all major topics of the syllabus. Each item will carry 1 mark. Question 2 will have 10 items, 5 of which will be matching items and another 5 filling in the blank items. Each item will carry **1 mark**. Total marks for this section will be **20**.

**Section B** will comprise **four (4)** short answer questions. Candidates will be required to answer **all** of them. Each question will carry **5 marks**. Total marks for this section will be **20**.

**Section C** will comprise **six** (6) essay type questions set from all major topics of the syllabus. Candidates will be required to answer **three** (3) questions only. Each question will carry **20 marks**.

### 4.2 PAPER 2 (ALTERNATIVE TO PRACTICAL)

This paper will comprise ten (10) practical oriented questions. Candidates will be required to answer five (5) questions in 2:30 hours. Each question will carry 20 marks.

### 5.0 EXAMINATION CONTENT

- 5.1 Principles of physical education.
- 5.2 First aid
- 5.3 Safety
- 5.4 Health related physical fitness

- 5.5 Performance related physical fitness
- 5.6 Gymnastics
- 5.7 Swimming
- 5.8 Recreation and outdoor activities
- 5.9 Ball games
- 5.10 Track and field events
- 5.11 Racket games
- 5.12 Management and administration of physical activities
- 5.13 Games
- 5.14 Athletics
- 5.15 Physical fitness
- 5.16 Facilities and equipment
- 5.17 Coaching and officiating

# 6.0 TABLE OF SPECIFICATIONS

# 6.1 **018/1 PHYSICAL EDUCATION 1**

		Skills	to be t	tested					<u> 5</u>
S/n	Торіс	Knowledge	Comprehension	Application	Analysis	Synthesis	Evaluation	Total number of questions	Percentage weighting per topic
1.	Principles of physical education	1						1	3.3
2.	First aid			1				1	3.3
3.	Safety			1				1	3.3
4.	Health related physical fitness	1						1	3.3
5.	Performance related physical fitness			1				1	3.3
6.	Gymnastics	1		1				2	6.7
7.	Swimming	1		1				2	6.7
8.	Recreation and outdoor activities	1		1				2	6.7
9.	Ball games	1		2			1	4	13.3
10.	Track and field events	2		2			2	6	20
11.	Racket Games	2		4			1	7	23.3
12.	Management and administration of physical education	1		1				2	6.7
Numb	Number of questions			15			4	30	
Percer	tage weighting per skill	36.7	50.0				13.3		100

# 6.2 018/2 PHYSICAL EDUCATION 2

			Sl	kills to	be test	ed			<b>b</b> 0
S/n	Topic	Knowledge	Comprehension	Application	Analysis	Synthesis	Evaluation	Number of questions	Percentage weighting per topic
1.	Games	2		2			1	5	50
2.	Athletics	1		1				2	20
3.	Physical fitness			1				1	10
4.	Facilities and equipment			1				1	10
5.	Coaching and officiating			1				1	10
Numb	Number of questions			6			1	10	
Percer	ntage weighting per skill	30		60			10		100

### 021 KISWAHILI

(Kwa Watahiniwa walioko na wasiokuwa Shuleni)

### 1.0. UTANGULIZI

- 1.1. Katika muhtasari uliorekebishwa 2005 mada zote zilizokuwepo kwenye muhtasari uliotolewa 1997 zimezingatiwa. Hata hivyo muhtasari uliorekebishwa umejikita zaidi katika kuibua ujuzi mdogomdogo uliosambaa katika mada nyingi.
- 1.2. Aidha mada zifuatazo zimeongezwa: Utunzi na Uhifadhi wa fasihi simulizi Kidato cha Pili na Utunzi na Uhifadhi wa Fasihi Andishi Kidato cha Tatu na cha Nne. Mada ya Historia ya Kiswahili ambayo hufundishwa Kidato cha Tatu na cha Nne imebadilishwa jina na kuitwa Maendeleo ya Kiswahili.

#### 2.0. MALENGO YA JUMLA YA KUTAHINI SOMO LA KISWAHILI

Malengo ya mtihani ni kupima uwezo wa mtahiniwa katika:

- 2.1. kuwasiliana kwa Kiswahili fasaha katika fani mbalimballi za maisha.
- 2.2. kutathmini Kiswahili kama sehemu muhimu ya utamaduni wa Tanzania.
- 2.3. kujenga tabia ya udadisi na ubunifu katika masuala ya lugha na fasihi ya Kiswahili.
- 2.4. kuelewa, kuthamini na kutumia kazi za fasihi katika maisha.
- 2.5. kutumia lugha ya Kiswahili katika miktadha mbalimbali.
- 2.6. kukuza na kukieneza Kiswahili ili kiweze kutumika kwa mawasiliano na nchi jirani na kimataifa
- 2.7. kujenga tabia ya kujisomea maandiko mbalimbali ya Kiswahili.
- 2.8. kupata msingi bora na imara wa kujifunza na kujiendeleza.
- 2.9. kutumia Kiswahili kupata maarifa, mwelekeo, na stadi za kijamii, kitamaduni, kiteknolojia na kitaaluma kutoka ndani na nje ya nchi.

### 3.0. UJUZI WA JUMLA WA SOMO LA KISWAHILI

Utahini kwa kutumia muhtasari huu utazingatia ujuzi na utendaji wa mtahiniwa katika:

- 3.1. kusikiliza na kuwasiliana kwa Kiswahili sanifu katika miktadha mbalimbali.
- 3.2. kukipenda na kukithamini Kiswahili kama lugha ya Taifa.
- 3.3. kusoma maandiko mbalimbali ya Kiswahili kwa ufanisi.
- 3.4. kuandika habari fupi na ndefu kwa Kiswahili sanifu.
- 3.5. kusoma kwa ufahamu na kujisomea ili kupata maarifa na kwa burudani.
- 3.6. kutumia lugha ya kifasihi katika mawasiliano kwa kuzingatia stadi zote za lugha.
- 3.7. kutafiti vipengele mbalimbali vya lugha ya Kiswahili.
- 3.8. kuwasiliana kwa kutumia lugha ya ishara na alama (kwa viziwi).
- 3.9. kusoma na kuandika lugha ya Kiswahili kwa kutumia herufi za breili kwa wasioona.

# 4.0. MAELEKEZO

Mtihani wa somo la Kiswahili utakuwa na karatasi moja (1) yenye sehemu A, B, C, D na E na itafanywa kwa muda wa saa tatu (3).

- 4.1 **Sehemu A** itahusu Ufahamu na itakuwa na maswali **mawili (2).** Swali la kwanza litahusu kifungu cha habari na swali la pili litakuwa la ufupisho. Mtahiniwa atatakiwa kujibu maswali yote mawili. Sehemu hii itakuwa na **alama 10**.
- 4.2 **Sehemu B** itahusu Sarufi na Utumizi wa lugha. Itakuwa na **maswali matano**. Mtahiniwa atatakiwa kujibu maswali yote matano yenye kuhitaji majibu mafupi. Sehemu hii itakuwa na **alama 25**.
- 4.3 **Sehemu C** itahusu Uandishi. Itakuwa na maswali **mawili (2)** na mtahiniwa atatakiwa kujibu swali moja (1) tu. Sehemu hii itakuwa na **alama 10**.
- 4.4 **Sehemu D** itahusu Maendeleo ya Kiswahili. Itakuwa na swali **moja tu** ambalo litakuwa na **alama 10**.

4.5 **Sehemu E** itahusu mada za Fasihi kwa ujumla. Uhakiki wa kazi za fasihi andishi, fasihi simulizi na utunzi na uhifadhi wa kazi za fasihi. Itakuwa na maswali matano (5). Mtahiniwa atatakiwa kujibu maswali matatu (3) tu. Swali moja litakuwa ni la lazima. Sehemu hii itakuwa na **alama 45**.

# 5.0. MADA ZA KUTAHINI KISWAHILI

- 5.1. Ufahamu
- 5.2. Sarufi na Utumizi wa Lugha
- 5.3. Uandishi
- 5.4. Maendeleo ya Kiswahili
- 5.5. Fasihi

# **TANBIHI**

Orodha ya vitabu vya Fasihi itatolewa na Wizara ya Elimu na Mafunzo ya Ufundi.

# 6.0 JEDWALI LA KUTAHINIA

# 021 KISWAHILI

			St		li				
S/n	Mada	Maarifa	Ufahamu	Matumizi	Uchambuzi	Uundaji	Tathmini	Idadi ya maswali	Asilimia ya maswali kwa kila ujuzi
1.	Ufahamu	1	1					2	13.3
2.	Sarufi na Utumizi wa Lugha	1		1	1	1	1	5	33.3
3.	Uandishi	1					1	2	13.3
4.	Maendeleo ya Kiswahili	1						1	6.7
5.	Fasihi	1			1	1	2	5	33.3
Idadi y	Idadi ya maswali		1	1	2	2	4	15	
Asilim ujuzi	ia ya maswali kwa kila	33.3	6.7	6.7	13.3	13.3	26.7		100

### 022 ENGLISH LANGUAGE

(For Both School and Private Candidates)

### 1.0 INTRODUCTION

The obvious departure of the revised format from that of 2001 is that the rubric of Section D of this paper on Response to reading has been amended to ensure that candidates answer at least one (1) question on poetry and one (1) question on novels/short stories and plays. The new Examination format based on changes suggested in the 2005 English Language syllabus will be effective from 2008.

#### 2.0 GENERAL OBJECTIVES

The examination will generally measure the extent to which candidates can:

- 2.1 Express themselves in both spoken and written English Language.
- 2.2 Read widely for pleasure and for information.
- 2.3 Perform a variety of writing tasks according to the required conventions.
- 2.4 Use knowledge of the English Language to demonstrate awareness and consciousness of basics of society and the part they can play in its development.
- 2.5 Use knowledge of the English Language in furthering their education.
- 2.6 Communicate effectively with other speakers of the English Language both inside and outside the country.

### 3.0 GENERAL COMPETENCES

The examination will measure the candidate's ability to:

- 3.1 Use English Language appropriately to communicate in a variety of settings.
- 3.2 Use English Language to achieve academically in all content areas.
- 3.3 Communicate in English Language using signs and read, using Braille, for the deaf and the blind respectively.

### 4.0 EXAMINATION RUBRIC

The examination will consist of **one** (1) paper of three (3) hours duration. There will be 14 questions in sections A, B, C and D. Candidates will be required to answer all questions except in Compositions and Response to Reading from each of which the candidates will be required to answer **two** (2) out of the four alternatives given.

# 4.1 Section A: Comprehension and Summary

This section will consist of **two** (2) questions. Question one (1) will have two parts; part one will involve reading a passage and respond to multiple- choice items and the second part will involve transferring information to a chart or filling-in-blank spaces. Question **two** (2) will involve summary writing. Both questions will carry a total of **10 marks** (i.e. 5 marks each).

# 4.2 Section B: Patterns and Vocabulary

There will be a total of **five** (5) questions designed to test the candidates' ability to apply (use) different language patterns and vocabulary items in different communicative situations. There will be a total of **five** (5) situations each carrying **four** (4) **marks**. The total marks for the section will be **twenty** (20).

# 4.3 Section C: Language Use

The section will have a total of **three** (3) questions. These will be matching, jumbled items and one on composition writing. The matching and jumbled items will carry **five** (5) marks each. The questions on composition will comprise four choices (a-d). Candidates will be required to choose **two** (2). Each composition will carry **ten** (10) marks. The whole section will comprise 30 marks.

# 4.4 Section D: Response To Reading

There will be **four (4)** questions in this section. **Two (2)** questions on poetry from which the candidate will be required to attempt one(1) question and **two (2)** others on novels/short stories and plays from which the candidate will also attempt one(1). Each question will carry

20 marks. Total marks for this section will be 40. For Section D (Question 11-14) the List of Readings will be provided by the Ministry of Education and Vocational Training.

# 5.0 EXAMINATION CONTENT

- 5.1 Comprehension and Summary
- 5.2 Patterns/Vocabulary
- 5.3 Language Use
- 5.4 Response to Reading

# 6.0 TABLE OF SPECIFICATION

		Skills to be tested							per
S/n	Topics	Knowledge	Comprehension	Application	Analysis	Synthesis	Evaluation	No. Of questions	Percentage weighting propic
1.	Comprehension and Summary		1			1		2	14.3
2	Patterns/Vocabulary	1	1	1	1	1		5	35.7
3.	Language Use			1	1		1	3	21.4
4.	Response to Reading			1	1	1	1	4	28.6
Num	Number of questions per topic		2	3	3	3	2	14	
Perce	Percentage weighting per skill		14.3	21.4	21.4	21.4	14.3		100

### 023 FRENCH LANGUAGE

(For Both School and Private Candidates)

### 1.0 INTRODUCTION

A New French Language Syllabus was issued in 2005 to replace the old one which had been in use since 1997. There is a big change in the New Syllabus. In the former syllabus, there were 53 topics while in the New Syllabus there are 31 topics. Some of the topics in the Former Syllabus appeared in the New Syllabus as sub topics and some are incorporated in Language Use.

Since the new syllabus emphasises on oral expression, even the topics were designed to give much emphasis on candidate's ability to communicate orally. These charges made it necessary for an introduction of a new format for the French Language so as to accommodate suggested competences. The former syllabus put more emphasis in grammar while the new format is more communicative because it enables the students to demonstrate their competence in speaking without putting much emphasis in grammar. There is also a question on letter writing which will be included in the section of Written Expression. This new format will be effective from October 2008.

### 2.0 GENERAL OBJECTIVES

In this examination, the following competencies will be examined:

- 2.1 Communicate in French in a simple way in various situations.
- 2.2 Read and write correctly the texts and letters in simple French.
- 2.3 Express feelings, ideas and attitudes.
- 2.4 Participate in a discussion or when invited using appropriate language.
- 2.5 Take part in conversations on familiar topics using appropriate vocabulary.

### 3.0 GENERAL COMPETENCES

The examination will test candidates' ability to:

- 3.1 Understand a simple written text in French.
- 3.2 Use French for communication in basic needs in various situations.
- 3.3 Express themselves correctly in written French.
- 3.4 Express themselves fluently orally.

### 4.0 EXAMINATION RUBRIC

This examination will consist of one paper of 3 hours duration. This paper will consist of 3 sections i.e. A, B and C with 24 questions out of which the candidates will be required to answer 23 questions. Sections A and B are both compulsory while in Section C, candidates are supposed to choose one question only.

### SECTION A: COMPREHENSION

This will comprise of a passage followed by 5 multiple choice questions, 1 matching items, 1 short answer question and 1 question on summary. This section will carry 15 marks.

# **SECTION B: LANGUAGE USE**

This section will comprise of 14 questions; 5 questions on filling in the blanks, 1 on matching items, 2 on dialogues, 3 on transformation, 1 on re-writing, 1 question on True or False and 1 question on jumbled sentences. This section will carry 70 marks.

### SECTION C: WRITTEN EXPRESSION

This will comprise of 2 questions on letter writing and composition. The topics on composition will be based on cross-cutting issues. This section will carry 15 marks.

# 5.0 EXAMINATION CONTENT:

The following will be tested:

- 5.1 Comprehension:
- 5.2 Language Use:
- 5.3 Written Expression:

# 6.0 023 TABLE OF SPECIFICATIONS

		ed			<b>.</b>				
S/n	Topics	Knowledge	Comprehension	Application	Analysis	Synthesis	Evaluation	Number of quesitons	Percentage weighting per topic
1.	Comprehension	1	5				2	8	33.3
2.	Language Use	2	1	10	1			14	58.3
3.	Written Expression			1			1	2	8.3
Numb	er of questions	3	6	11	1		3	24	
Percer	ntage weighting per skill	12.5	25	45	4.16		12.5		100

## 024 LITERATURE IN ENGLISH

(For Both School and Private Candidates)

## 1.0 INTRODUCTION

This Literature in English Examination format is a revised version of that of 2001. The format will be effective from 2008.

#### 2.0 GENERAL OBJECTIVES

The Literature in English examination general objectives is to find out the extent to which candidates:

- 2.1 Have attained knowledge of theories of Literature, literary genres, form and content in plays, novels, short stories and poetry.
- 2.2 Have acquired skills to be able to produce a continuous narrative, argument or a piece of descriptive or informative writing, e.g. of a process, a character, a scene or an event.
- 2.3 Can identify and critically analyse different issues of literature that are related to everyday life
- 2.4 Can adopt what they learnt in the subject to improve their language competence and to further their lives and education.

## 3.0 GENERAL COMPETENCES

The general competences for the Literature in English examination are to assess the ability of candidates to:

- 3.1 Recall the meaning of Literature as an artistic expression of a person's culture;
- 3.2 Demonstrate knowledge of style in writing;
- 3.3 Differentiate between form and content in novels, short stories, plays and poetry;
- 3.4 Define literary terms and exemplify literary genres;
- 3.5 Describe the roles of characters in plays, novels, and short stories and relate their behaviour and actions to everyday life
- 3.6 Differentiate poetry from prose.

#### 4.0 EXAMINATION RUBRIC

There will be one paper for this subject. The paper will be of  $2\frac{1}{2}$  hours duration. It will comprise 12 questions in sections A, B, C and D. Candidates will be required to attempt **five** (5) questions. Each question will be awarded **twenty marks** (20). In answering the questions candidates will be required to refer to at least two texts. The list of texts to be referred to will be listed down under each relevant section.

- 4.1 **SECTION A** will consist of **three** (3) questions and candidates will be required to attempt **two** (2) questions. The questions in this section will be on Theories of Literature, Definitions of Literary Terms, Role of Literature and Form and Content in Drama.
- 4.2 **SECTION B** will consist of **three** (3) questions on form and content of Plays **a**nd candidates will be required to attempt **one** (1) question. A list of prescribed texts will be provided.
- 4.3 **SECTION C** will consist of **three** (3) questions on form and content of Novels and Short Stories. Candidates will be required to attempt **one** (1) question. A list of prescribed texts will be provided.
- 4.4 **SECTION D** will consist of **three** (3) questions on form and content in Poetry. Candidates will be required to attempt **one** (1) question. The main reference for this section will be 'The Selected Poems compiled by the Institute of Education'.

## **5.0 CONTENT**

- 5.1 Form and content in Plays
- 5.2 Role of characters, audience, message, language and actions. The list of texts for "Plays' for reference will be:

The Lion and the Jewel Soyinka, W. Soyinka, W. The Trials of Brother Jero Soyinka, W The Swamp Dwellers Kinjeketile Hussein, E. The Dilemma of a Ghost Aidoo, A.A. The Barbed Wire Rugyendo, M. Dedan Kimathi Watene, K. The Government Inspector Gogol, N.

5.3 Form and Content, characters and their role in educating the reader.

The list of Novels and Short Stories under this section is:

Tales of Amadou Koumba
Quartet
A Walk in the Night
Houseboy
The Old Man and the Medal
The Concubine
Sundiata
Diop, B.
ed. Rive, R.
La Guma, A.
Oyono, F.
Oyono, F.
Amadi, E.
Niame, D.

Secret Lives Ngugi wa Thiong'o

Three Solid Stones Mvungi, M.
Girls at War Achebe, C.
Uncle Tom's Children Wright, R.

## 6.0 024 LITERATURE IN ENGLISH TABLE OF SPECIFICATIONS

			Sl	xills to	be test	ed			ng
S/n	Topic/sub topic	Knowledge	Comprehension	Application	Analysis	Synthesis	Evaluation	No. Of questions	Percentage weighting per topic
1	Drama	1	1	1				3	25
2	Plays	1	1	1				3	25
3	Novels and Short stories	1	1	1				3	25
4	Poetry	1	1	1				3	25
Total 1	number of questions	4	4	4				12	
Percer	tage weighting per skill	33.3	33.3	33.3					100

## 025 ARABIC LANGUAGE

(For Both School and Private Candidates)

## 1.0 INTRODUCTION

The 2008 Arabic Language Examination Format replaces that of 1996. Since there has been no change in the syllabus to date, this Examination Format brings forth no difference in terms of the examination content. What has been done in this revised format is clarification of the objectives of examining the subject at CSEE level, organizing and rearranging the sections of the examination paper.

## 2.0 GENERAL OBJECTIVES

The examination will measure the candidate's ability to:

- 2.1 Read and comprehend texts written in the Arabic Language.
- 2.2 Summarise texts written in the Arabic language.
- 2.3 Apply correctly the Arabic grammar.
- 2.4 Write correct Arabic composition using given titles.

## 3.0 GENERAL COMPETENCES

The objectives of examining the Arabic Language at CSEE level are to measure the candidates' ability to:

- 3.1 Read for comprehension on the Arabic Language.
- 3.2 Write a summary of a given Arabic text.
- 3.3 Distinguish between correct and incorrect grammatical forms and use grammatical rules in context.
- 3.4 Write composition in the Arabic Language communicatively.
- 3.5 Give written literary responses from a given set of literary readings.

## 4.0 EXAMINATION RUBRIC

The Arabic Language examination at CSEE shall comprise **one** (1) paper. The duration of the examination will be **three** (3) hours. The paper will consist of 14 questions in sections A, B, C and D.

## 4.1 SECTION A

A reading text will be given and under which 10 multiple- choice items shall be set. There will be a summary question on part or the whole text read. Candidates will be required to answer all the questions under this section. This section will carry 20Percentage of the total marks.

## 4.2 SECTION B

Seven grammar questions shall be set. The candidates will be required to answer all the questions under this section. The section will carry 40 marks.

## 4.3 SECTION C

The candidates will be required to produce a written composition on topics of conventional essay, letter writing and article for a newspaper. The required length of the composition will be about three hundred and fifty words (350). Candidates will be required to answer only one question out of the three questions. This section will carry 20 marks.

# 4.4 SECTION D

The candidates will be examined on their 'positive' responses on the prescribed set of books. **Three** (3) questions shall be set and the candidates will be required to answer **one** (1) question. This section will carry 20 marks.

## 5.0 EXAMINATION CONTENT

- 5.1 Comprehension and summary
- 5.2 Grammar
- 5.3 Composition
- 5.4 Response to literary reading of prescribed set of books

# 6.0 TABLE OF SPECIFICATIONS

			S			per			
S/n	Торіс	Knowledge	Comprehension	Application	Analysis	Synthesis	Evaluation	No of questions	Percentage weighting per topic
1	Comprehension and		1					1	7.14
2	Grammar Grammar	1	6					7	50.0
3.	Composition					1	2	3	21.43
4.	Literature: on four (4) books				1	1	1	3	21.43
Numb	per of questions	1 7 1 2 3							
Perce	ntage weighting per skill	7.14	50.0	21.43		100			

## 031 PHYSICS

(For Both School and Private Candidates)

## 1.0 INTRODUCTION

This revised Physics examination format is based on the 2007 Physics syllabus. The 2007 syllabus has been improved to focus more on acquisition of competences rather than content and it also includes new topics, Sustainable energy and Geophysics. Hence, the 2001 Physics examination format had to be revised to accommodate the changes in the revised syllabus of 2007.

According to the revised format, the two added topics in the syllabus will increase the scope of assessing candidates' competences specific to the Physics subject as well as gauge their awareness in environmental and sustainable energy issues. The format also proposes to exclude the Alternative to Practical from the examination papers and this will be put into the practice when approved by the Ministry of Education and Vocational Training.

The revised examination format will be effective in 2011. This implies that the 2001 Physics examination format will continue to be used up to 2010.

## 2.0 GENERAL OBJECTIVES

The general objectives of the Physics examination are to test the candidates' ability to:

- 2.1 develop knowledge of concepts, laws, theories and principles of Physics
- 2.2 use procedures of scientific investigation
- 2.3 use scientific principles on conservation and suitable use of the environment
- 2.4 demonstrate manipulative skills to manage various technological appliances
- 2.5 develop the language of communication in physics.

## 3.0 GENERAL COMPETENCES

The examination will assess the candidates' ability to:

- 3.1 use Physics knowledge, principles and concepts in daily life
- 3.2 demonstrate scientific methods in solving problems in daily life
- 3.3 demonstrate technological skills in conservation and sustainable use of the environment
- 3.4 manage simple technological appliances
- 3.5 use the language of Physics in communication.

## 4.0 EXAMINATION RUBRIC

There will be two (2) papers.

## 4.1 031/1 PHYSICS 1 THEORY

This paper will consists of eleven (11) questions in sections A, B and C. Candidates will be required to answer all the questions in sections A and B and one (1) question from section C. The paper will be of **3 hours** duration.

**Section A** will consist of **three** questions. Question 1 with **ten** multiple choice items, question 2 with **ten** matching items and question 3 with **ten** filling- in- the- blanks items. Candidates will be required to answer **all** the questions in this section. This section will weigh **30 marks**.

**Section B** will consist of **six** (6) long answer questions. Candidates will be required to answer all the questions in this section. This section will weigh **60 marks**.

Section C will consist of two (2) questions aimed at assessing the candidates' skills in management of Physics apparati and simple technological appliances in everyday life. Candidates will be required to answer only one (1) question. The section will weigh 10 marks.

## 4.2 031/2 ACTUAL PRACTICAL

This paper will consist of **two** (2) questions and candidates will be required to answer **both** questions. Question one will come from topic Mechanics and question two will come from Heat, Light, Waves or Electricity topics. Each question will weigh 25 marks. The paper will be of  $2\frac{1}{2}$  hours duration.

#### Note:

- (i) Advance instructions will be sent to schools at least one month before the date of sitting for this paper. However, there will be **no 24 hours advance instructions** and the envelope containing the question papers will **not be opened 24 hours before the time of commencement of the examinations**.
- (ii) More than one alternative papers will be prepared and sent to schools according to the number of candidates taking the paper. Alternative A will be sent to schools with up to 100 candidates, alternatives A and B to schools with candidates not exceeding 200 and alternatives A, B and C to schools with more than 200 candidates.

## 5.0 EXAMINATION CONTENT

- 5.1 Mechanics
- 5.2 Heat
- 5.3 Light
- 5.4 Waves
- 5.5 Electricity
- 5.6 Electromagnetic
- 5.7 Radioactivity
- 5.8 Thermionic emission
- 5.9 Electronics
- 5.10 Elementary astronomy
- 5.11 Geophysics
- 5.12 Sustainable energy

## 6.0 TABLE OF SPECIFICATIONS

## 031/1 PHYSICS 1-THEORY

			Sk	tills to	be test	ed			per
S/n	Topic	Knowledge	Comprehension	Application	Analysis	Synthesis	Evaluation	Total number of items (questions) per main topic	Percentage weighting <sub>F</sub> topic
1.	Mechanics	4	3	4				11	28.9
2.	Heat	1	2	1				4	10.5
3.	Light	1	1	1	1	1		5	13.2
4.	Electricity and electromagnetism	2	1	1	1	2		7	18.4
5.	Radioactivity/thermionic emission and electronics	1	1	1	1			4	10.5
6.	Elementary astronomy		1					1	2.6

			Sk	xills to	be test	ed			per
S/n	Topic	Knowledge	Comprehension	Application	Analysis	Synthesis	Evaluation	Total number of items (questions) per main topic	ntage weighting
7.	Waves/ geophysics and sustainable energy	2	3	1				6	15.8
Numb	er of questions	11	12	9	3	3		38	
Percer	tage weighting per skill	28.9	31.6	23.7	7.9	7.9			100

# 6.0 TABLE OF SPECIFICATIONS 031/2 PHYSICS 2 – ACTUAL PRACTICAL

			Sk	tills to	be test	ed			er
S/n	Major topic	Knowledge	Comprehension	Application	Analysis	Synthesis	Evaluation	Total number of items (questions) per main topic	Percentage weighting per topic
1.	Mechanics and properties of matter			1				1	50
2.	Heat								
3.	Light				1			1	50
4.	Waves				1			1	50
5.	Electricity								
Numb	er of questions			1	1			2	
Percer	ntage weighting per skill			50	50				100

## 032 CHEMISTRY

(For Both School and Private Candidates)

## 1.0 INTRODUCTION

The revised chemistry Examination Format is based on the 2007 Chemistry syllabus. The 2007 syllabus has been improved to focus more on acquisition of competences rather than content. Hence, the 2001 Chemistry Examination format had to be revised to accommodate the changes in the revised syllabus of 2007.

The main features in which the new revised examination format differs from the old one are:

- 1. Exclusion of Alternative to Practical Examination paper since the New Syllabus intrinsically inculcates entrepreneurial skills, to learners. This will put into practices when approved by the Ministry of Education and Vocational Training
- 2. In both theory and practical papers, candidates will attempt all the questions. This has deliberately been done to ensure that all candidates are tested on the same competences. It is hoped that the move will motivate more candidates to study Chemistry.
- 3. The revised Examination Format will be effective in 2011. This implies that the 2001 Chemistry Examination format will continue to be used up to 2010.

## 2.0 GENERAL OBJECTIVES

The main objectives of the Chemistry examination are to test the candidates' ability to:

- 2.1 apply Chemistry knowledge, skills and principles in everyday life activities.
- 2.2 design and perform experiments.
- 2.3 understand symbols, formulae and equations to communicate in Chemistry.
- 2.4 apply the scientific principles and knowledge in exploitation of natural resources with conservation of the environment.

## 3.0 GENERAL COMPETENCES

The examination will specifically test the candidates' competences in:

- 3.1 ability to demonstrate Chemistry knowledge, skills and principles in solving daily life problems.
- 3.2 developing knowledge on Chemistry by doing various activities and/or experiments.
- 3.3 ability to demonstrate chemical symbols, formulae and equations to communicate in Chemistry.
- 3.4 using science and technological skills in conserving and making sustainable use of the environment.

## 4.0 EXAMINATON RUBRIC

There will be two papers; 032/1 Chemistry 1 and 032/2 Chemistry 2.

# 4.1 032/1 Chemistry 1

This will be a theory paper of 3 hours duration and will comprise thirteen questions in sections A, B and C. Candidates will be required to answer all the questions.

- 4.1.1 Section A will consist of **two** questions. Question **one** will comprise **ten** multiple choice items and question two will comprise **ten** matching items. This section will weight twenty marks.
- 4.1.2 Section B will consist of **nine** short answer questions. Each question will comprise **two** items. This section will weigh **fifty-four** marks.
- 4.1.3 Section C will consist of two essay questions without items. This section will weigh **twenty-six** marks.

## 4.2 032/2 CHEMISTRY 2 PRACTICAL

This paper will be of  $2\frac{1}{2}$  hours duration and will consist of **three** questions. Candidates will be required to answer **all** of them.

Question 1 will be on Volumetric Analysis and Laboratory Techniques and Safety. Question 2 will be derived from Ionic Theory and Electrolysis/Chemical Kinetics, Equilibrium and Energy. Question 3 will be on Qualitative Analysis.

Questions 1 will carry **twenty (20)** marks and the remaining questions will carry **fifteen (15)** marks each.

The use of qualitative analysis guide pamphlets will be allowed in the examination room. Advance instructions and 24 hours advance instructions will be sent to the schools to enable them to prepare apparatuses, equipment and materials required for the examination, well in advance.

**NOTE**: This paper will have more than one **alternative** papers which will be sent to schools depending on the number of candidates.

## 5.0 EXAMINATION CONTENT

- 5.1 Introduction to chemistry
- 5.2 Laboratory techniques and safety
- 5.3 Heat sources and flames
- 5.4 The scientific procedure
- 5.5 Matter
- 5.6 Air, combustion, rusting and fire fighting
- 5.7 Oxygen and hydrogen
- 5.8 Water
- 5.9 Fuels and energy
- 5.10 Atomic structure
- 5.11 Period classification
- 5.12 Formula bonding and nomenclature
- 5.13 Chemical equations
- 5.14 Hardness of water
- 5.15 Acids, bases and salts
- 5.16 The mole concept and related calculations
- 5.17 Volumetric analysis
- 5.18 Ionic theory and electrolysis
- 5.19 Chemical kinetics, equilibrium and energetic
- 5.20 Extraction of metals
- 5.21 Compounds of metals
- 5.22 Non-metals and their compounds
- 5.23 Organic chemistry
- 5.24 Soil chemistry
- 5.25 Pollution
- 5.26 Qualitative analysis

# 6.0 TABLE OF SPECIFICATIONS

# **6.1 032/1 CHEMISTRY 1**

			Ski	ills to	be tes	ted			per
S/n	Topics	Knowledge	Comprehension	Application	Analysis	Synthesis	Evaluation	Number of questions	Percentage weighting per topic
1.	Introduction to chemistry	1						1	2.5
2.	Laboratory techniques and safety						1	1	2.5
3.	Heat sources and flames			1				1	2.5
4.	The scientific procedure						1	1	2.5
5.	Matter	1		1			1	3	7.5
6.	Air, combustion, rusting and fire fighting			1				1	2.5
7.	Oxygen and hydrogen		1					1	2.5
8.	Water			1				1	2.5
9.	Fuels and energy					1		1	2.5
10.	Atomic structure			1				1	2.5
11.	Periodic classification		1					1	2.5
12.	Formula bonding and nomenclature		1			1		2	5.0
13.	Chemical equations				1			1	2.5
14.	Hardness of water					1		1	2.5
15.	Acids, bases and salts			1			1	2	5.0
16.	The mole concept and related calculations			1				1	2.5
17.	Volumetric analysis				1			1	2.5
18.	Ionic theory and electrolysis			1	1			2	5.0
19.	Chemical kinetics, equilibrium and energetic	1		1			1	3	7.5
20.	Extraction of metals						1	1	2.5
21.	Compounds of metals			1			1	2	5.0
22.	Non-metals and their compounds		1	1			1	3	7.5
23.	Organic chemistry	1					1	2	5.0
24.	Soil chemistry			1			1	2	5.0
25.	Pollution		1				2	3	7.5
26.	Qualitative analysis			1				1	2.5
Num	ber of questions	4	5	13	3	3	12	40	
Perc	entage weighting per skill	10	12.5	32.5	7.5	7.5	30		100

# 6.2 032/2 CHEMISTRY 2

	Skills to be tested								50
S/n	Topics	Knowledge	Comprehension	Application	Analysis	Synthesis	Evaluation	Number of anestions	Percentage weighting per topic
1.	Volumetric analysis				1			1	33.3
2.	Ionic theory and electrolysis/chemical kinetics, equilibrium and energetic/laboratory techniques and safety						1	1	33.3
3.	Quantitative analysis					1		1	33.3
Num	ber of questions				1	1	1	3	
Perc	entage weighting per skill				33.3	33.3	33.3		100

## 033 BIOLOGY

(For Both School and Private Candidates)

## 1.0 INTRODUCTION

This examination format replaces the 2001 version. No topic has been dropped out; but a new topic called "safety in our environment" has been added. The revised examination format excludes alternative to practical paper. The mode of assessment has also changed from content based to competence based.

## 2.0. GENERAL OBJECTIVES

The examination will generally assess the extent to which the candidates can:

- 2.1. evaluate the role, influence and importance of biological science in everyday life.
- 2.2. develop the capacity to improve and maintain their own health, of families and the community.
- 2.3. develop mastery of fundamental concepts, principles, and skills of biological science and related fields, such as agriculture, medicine, pharmacy and veterinary.
- 2.4. develop necessary biological practical skills.
- 2.5. ability to demonstrate scientific skills and procedures in interpreting various biological data.
- 2.6. acquire basic knowledge and apply appropriate skills in combating problems related to HIV/AIDS/STIs, gender, population, environment, drug/ substance abuse, sexual and reproductive health.
- 2.7. develop the ability and desire for self-study, self confidence and self-advancement in biological sciences and related fields.

## 3.0. GENERAL COMPETENCES

The examination will test the candidates' ability to:

- 3.1. make appropriate use of biological knowledge, concepts, skills and principles in solving various problems in daily life.
- 3.2. record, analyze and interpret data from scientific investigations, using appropriate methods and technology to generate relevant information in biological science.
- 3.3. demonstrate knowledge and skills in combating health related problems such as HIV/AIDS, drugs and drug abuse, sexual and reproductive health.
- 3.4. access relevant information on biological science and related fields for self-study and life-long learning.

## 4.0. EXAMINATION RUBRIC

The examination will consist of two papers. Paper 1 will be a theory paper and paper 2 a practical paper.

## 4.1. 033/1 BIOLOGY 1

The theory paper will be of 3 hours duration. It will comprise 13 questions in sections A, B, and C.

Candidate will be required to answer all the questions in sections A, and B; and one question from section C. The paper will weigh 100 marks.

## **4.1.1.** Section A

Will consist of two questions each of which will weigh 10 marks.

## **4.1.2. Section B**

Will consist of **eight (8)** structured short answer questions, each of which will be divided into two parts. This section will weigh a total of **60 marks**, and the mark allocation for individual questions will be indicated at the end of each question.

## **4.1.3. Section C**

Will comprise **three** (3) long answer/ essay questions. Candidates will be required to answer only **one** (1) question. The answer for this question will have to be comprehensive, having as many points as possible. This question will weigh **20 marks**.

## 4.2. 033/2 BIOLOGY 2 - PRACTICAL

Will be of 2:30 hours duration. The paper will consist of **two (2)** questions. Question 1 will be taken from any of the topics listed in the examination contents. Questions 2 will focus on classification of living things.

Candidate will be required to answer both questions. The paper will weigh **50 marks**, with **25 marks** allocated for each question.

#### 5.0. EXAMINATION CONTENT

- 5.1 Introduction to Biology
- 5.2 Safety in our environment
- 5.3 Health and prevention of diseases
- 5.4 Cell structure and organization
- 5.5 Classification of living things
- 5.6 Nutrition
- 5.7 Balance of nature
- 5.8 Transport of materials in living things
- 5.9 Gaseous exchange and respiration
- 5.10 Movement
- 5.11 Co-ordination
- 5.12 Excretion
- 5.13 Regulation
- 5.14 Reproduction
- 5.15 Growth
- 5.16 Genetics
- 5.17 Evolution
- 5.18 Human immuno deficiency virus (HIV) Acquired Immune Deficiency Syndrome (AIDS) and sexually transmitted infections (STIs)

## 6.0 TABLE OF SPECIFICATIONS

## 5.5 033/1 BIOLOGY

			}	Skills t	o be te	sted			per
S/n	Торіс	Knowledge	Comprehension	Application	Analysis	Synthesis	Evaluation	Total number of questions	Percentage weighting per topic
1.	Introduction to biology	1				1		2	5.1
2.	Safety in our environment	1		1		1		3	7.7
3.	Health and prevention of diseases	1	1				1	3	7.7
4.	Cell structure and organisation		1					1	2.6

			,	Skills t	o be te	sted			per
S/n	Торіс	Knowledge	Comprehension	Application	Analysis	Synthesis	Evaluation	Total number of questions	Percentage weighting per topic
5.	Classification of living things	1		1	1	1		4	10.3
6.	Nutrition			1	1		1	3	7.7
7.	Balance of nature	1				1		2	5.1
8.	Transport of materials in living things			1	1		1	3	7.7
9.	Gaseous exchange and respiration.			1			1	2	5.1
10.	Movement			1				1	2.6
11.	Coordination			1	1		1	3	7.7
12.	Excretion		1					1	2.6
13.	Regulation						1	1	2.6
14.	Reproduction			1	1		1	3	7.7
15.	Growth				2			2	5.1
16.	Genetics	1		1	1			3	7.7
17.	Evolution						1	1	2.6
18.	Human immuno deficiency virus (HIV)/Acquired immune deficiency syndrome (AIDS) and Sexually transmitted infections (STIs)			1				1	2.6
	Number of questions	6	3	10	8	4	8	39	
]	Percentage weighting per skill	15.4	7.7	25.6	20.5	10.25	20.5		100

# 6.2 033/2 BIOLOGY 2 PRACTICAL

			Sl	cills to	be test	ed			
S/n	topic	Knowledge	Comprehension	Application	Analysis	Synthesis	Evaluation	Total number of questions	Percentage weighting per topic
1.	Nutrition								
2.	Movement								
3.	Transport in living things								
4.	Gaseous exchange and respiration						1	1	50
5.	Reproduction						1	1	50
6.	Coordination								
7.	Regulation								
8.	Growth								
9.	Classification of living things			1				1	50
	Number of questions	0	0	1	0	0	1	2	100
Pe	ercentage weighting per skills	0.0	0.0	50	0.0	0.0	50	100	

## 034 AGRICULTURAL SCIENCE

(For Both School and Private Candidates)

## 1.0 INTRODUCTION

The revised Agricultural Science format is based on the 1998 syllabus. The 1998 syllabus has been improved to focus more on acquisition of competences rather than content.

## 2.0 GENERAL OBJECTIVES

The Examination aims at testing candidates'

- 2.1 knowledge and understanding of basic concepts and principles used in farming business
- acquisition of modern scientific and technological skills required in crop and livestock farming.
- 2.3 ability to demonstrate the inter-relationships among the various disciplines of Agriculture required in any agricultural production venture.
- 2.4 ability to apply scientific skills in carrying out investigations/experiments.

#### 3.0 GENERAL COMPETENCES

The examination will access candidates' ability to:

enumerate facts and ideas

state principles, laws and theories

define and explain agricultural terms

describe concepts, principles and theories

outline agricultural processes

demonstrate the application of knowledge, concepts and principles to explain intelligently the observations and offer solution to problems in familiar and unfamiliar situations.

#### 4.0 EXAMINATION RUBRIC

The Agricultural Science examination will comprise 2 papers, paper 1: Theory and paper 2: Practical.

## 4.1 **034/1 AGRICULTURAL SCIENCE 1 (THEORY)**

This will be a theory paper of 2½ hours duration. It will consist of sections A, B and C. Candidates will be required to answer **all** questions in sections A and B and only **one** question from section C. The paper will weigh 100 marks and 2/3 weighting.

- 4.1.1 Section A will consist of two objective type questions, each of which will weigh 10 marks. Question 1 will consist of ten multiple-choice items. Each item will have **five** choices from which candidate will be required to chose the correct answer and write its letter beside the corresponding item number. Question 2 will consist of ten matching items. Ten stems or premises will be listed in column A and 20 matching statements/responses in column B. Candidates will be required to write the letter of the response in column B that fits the premise in column beside the premise number.
- 4.1.2 Section B will have **eight (8)** short-answer questions weighing 60 Percentage of the total marks. Each question will be composed of two items (a) and (b). The mark allocation will be indicated at the end of each question.
- 4.1.3 Section C will comprise **three** (3) questions. Candidates will be required to answer only one question from this section by writing an essay. Each question will weigh 20 marks.

## 4.2 034/2 AGRICULTURAL SCIENCE 2 (PRACTICAL)

The paper will be of 2½ hours duration. It will consist of three questions and candidates will be required to attempt only **two** (2) questions. Each question will weigh 25 marks, total 50 marks and 1/3 weighting.

## 5.0 EXAMINATION CONTENT

- 5.1 Crop science and Production
- 5.2 Livestock science and production
- 5.3 Agricultural and environment management
- 5.4 Agro-mechanics
- 5.5 Soil science
- 5.6 Rural economy
- 5.7 Natural resources
- 5.8 Agricultural extension
- 5.9 Crop science and production
- 5.10 Livestock science and production
- 5.11 Soil science
- 5.12 Agro-mechanics

## 6.0 TABLE OF SPECIFICATIONS

## 6.1 034/1 AGRICULTURAL SCIENCE 1

				per					
S/n	Topics	Knowledge	Comprehension	Application	Analysis	Synthesis	Evaluation	Total number of questions	Percentage weighting per topic
1.	Introduction to Agriculture	1						1	3.2
2.	Crop science and production	2	1	1	1		1	6	19.4
3.	Livestock science and production	1	1	1		1	1	5	16.1
4.	Agricultural and environmental management		1	1		1		3	9.7
5.	Agro-mechanics	1	1	1				3	9.7
6.	Soil science	2	1	1		1		5	16.1
7.	Rural economy	2	1	1	1			5	16.1
8.	Natural resources	1	1					2	6.4
9.	Agricultural extension			1				1	3.2
Total 1	number of questions	10	7	7	2	3	2	31	
Percer	ntage weighting per skill	32.3	22.6	22.6	6.4	9.7	6.4		100

# 6.2 034/2 AGRICULTURAL SCIENCE 2

			S	kills to	be test	ed		]	50
S/n	Topics	Knowledge	Comprehension	Application	Analysis	Synthesis	Evaluation	Total number Of questions	Percentage weighting per topic
1.	Crop science and production			1				1	33.3
2.	Livestock science and production			1				1	33.3
3.	Agro-mechanics/Soil science			1				1	33.3
Total	number of questions		0	3	0	0	0	3	
Percei	ntage weighting per skill	0.0	0.0	100	0.0	0.0	0.0		100

## 36 INFORMATION AND COMPUTER STUDIES

(For School Candidates Only)

## 1.0 INTRODUCTION

This revised format replaces that of 2001. The remarkable features of this revised format include dropping out all topics allocated for forms three and four and one from form two and introducing new topics. The mode of assessment has also changed from content-based to competence-based. There are also changes in the type of questions in section A and a question of true and false type has been added in Paper 1.

## 2.0 GENERAL OBJECTIVES

By the end of the four years course, the candidates should be able to:

- 2.1 demonstrate skills of data processing and interpretation of information.
- 2.2 appreciate the role of information to technology in socio-economic and cultural development of the society.
- 2.3 develop awareness of the place of information technology in the society.
- 2.4 apply information technology knowledge and skills in daily life.
- 2.5 develop practical skills in the use of computers.
- 2.6 outline types of networks and security issues in a networked environment.

## 3.0 GENERAL COMPETENCES

The examination will assess the candidates' ability to:

- 3.1 interpret, organize and present information in a variety of forms.
- 3.2 identify the parts of computer and their uses.
- 3.3 use information and communication technology in data and information processing.
- 3.4 create relevant documents and publications using application software packages.
- 3.5 apply principles, knowledge and skills of information technology in daily life.
- 3.6 demonstrate willingness to keep abreast with current developments and issues related to everyday use of computer.

## 4.0 EXAMINATION RUBRIC

There will be **two (2)** papers for this subject. Paper 1 which will be a theory paper and paper 2 which will be a practical paper. The duration for each paper will be **3 hours**.

## **4.1 PAPER 1**

This will be a theory paper and will consist of 12 questions in sections A, B and C.

## 4.1.1 SECTION A

This section will consist of 3 questions which will be:

- 1. Multiple-choice question-with 10 sub-items
- 2. Matching items question-with 10 sub-items
- 3. True and False question with 10 sub-items

This makes a total of items in this section to be 30. All the items in this section will carry **1 mark**, totalling to **30 marks**. Candidates will be required to answer **all** the questions in this section.

## 4.1.2 SECTION B

This section will consist of  $\mathbf{six}$  (6) short answer-questions. Each question will have 3-5 sub-items, making a total of **25 sub-items**. Candidates will be required to answer **all** the questions in this section. This section will carry a total of 50 **marks**.

## 4.1.3 SECTION C

This section will consist of **three** (3) long questions. Candidates will be required to answer **two** (2) questions. Each question will carry 10 marks.

## 4.2 **PAPER 2**

This will be a practical paper. The paper will consist of **three** (3) questions. Candidates will be required to answer **two** (2) questions. Each question will carry **25 marks**. The total marks for this paper will be 50.

# NOTE

There will be no 24 hours advanced instructions for this paper. Candidates will submit soft copies of their work to NECTA alongside their written practical work.

## 4.3 Weighting per paper:

Paper 1 - 100 marks

Paper 2 - 50 marks

## **5.0 EXAMINATION CONTENT**

- 5.1 Information
- 5.2 The computer
- 5.3 Computer software
- 5.4 Computer handling
- 5.5 Computer evolution
- 5.6 Word processing
- 5.7 Spreadsheet
- 5.8 Computer networks and communications
- 5.9 Internet
- 5.10 Impact of ICT in the society
- 5.11 Web development
- 5.12 Presentation
- 5.13 Database as information systems
- 5.14 Desktop publishing
- 5.15 Multimedia
- 5.16 Management of database information systems

## **6.0** TABLE OF SPECIFICATIONS

# 6.1 036/1 INFORMATION AND COMPUTER STUDIES 2

			S		50				
S/n	Торіс	Knowledge	Comprehension	Application	Analysis	Synthesis	Evaluation	Total number of questions	Percentage weighting per topic
1.	Information	1	1		1			3	7
2.	The computer	1		1	1	1		4	9.3
3.	Computer software	1	1		1			3	7

			S	kills to	be teste	d			8
S/n	Торіс	Knowledge	Comprehension	Application	Analysis	Synthesis	Evaluation	Total number of questions	Percentage weighting per topic
4.	Computer handling	1	1	1				3	7
5.	Computer evolution						1	1	2.3
6.	Word processing	1		1	1	1		4	9.3
7.	Spreadsheet	1		1	1	1	1	5	11.6
8.	Computer networks and communications	1	1	1				3	7
9.	The internet/ multimedia	1	1	1				3	7
10.	Impact of ICT in the society	1	1	1	1		1	5	11.6
11.	Web development/ database as information systems	1		1		1	1	4	9.3
12.	Presentation/ desktop publishing	1	1		1	1	1	5	11.6
Num	Number of questions		7	8	7	5	5	43	
Perc	entage weighting per skill	25.6	16.3	18.6	16.3	11.6	11.6		100

# 6.2 036/2 INFORMATION AND COMPUTER STUDIES 2

			S	kills to	be teste	ed			50
S/n	Торіс	Knowledge	Comprehension	Application	Analysis	Synthesis	Evaluation	Total number of questions	Percentage weighting per topic
1.	Spreadsheet/ web development			1				1	33.3
2.	Database as information systems/ management of database information systems				1			1	33.3
3.	Desktop publishing/ multimedia			1				1	33.3
Num	Number of questions			2	1			3	
Perc	entage weighting per skill	0.0	0.0	66.7	33.3	0.0	0.0		100

## 041 BASIC MATHEMATICS

(For Both School and Private Candidates)

## 1.0 INTRODUCTION

This reviewed format focuses on competences rather than content only. One remarkable feature in this revised format is that the topic on Kinematics has been omitted and a topic on Accounts has been introduced.

## 2.0 GENERAL OBJECTIVES

The general objectives of the Basic Mathematics examination are to test whether

- 2.1 Mathematical competences among candidates in solving practical problems in daily life have been developed.
- 2.2 Mathematical concepts can be applied by candidates in interpreting situations at local and global levels.
- 2.3 Candidates are able to use mathematical knowledge, techniques and life skills for studying mathematics and related subjects.
- 2.4 Candidates have been adequately prepared for higher studies.

#### 3.0 GENERAL COMPETENCES

The general competences tested in the Basic Mathematics examination will include the candidates' ability to:

- 3.1 think critically and logically in interpreting and solving problems.
- 3.2 use mathematical language in explaining and clarifying mathematical ideas.
- 3.3 apply mathematical knowledge and techniques in other fields.

## 4.0 EXAMINATION RUBRIC

There will be **one** (1) paper of **three** (3) hours duration. The paper will consist of sections A and B. Section A will comprise **ten** (10) short answer questions carrying **six** (6) marks each. Section B will comprise **six** (6) long answer questions carrying **ten** (10) marks each. Candidates will be required to answer **ALL** questions in section A and **four** (4) from section B. In this section, candidates will be required to clearly show all workings.

## 5.0 EXAMINATION CONTENT

- 5.1 Numbers/Fractions, Decimals and Percentages/Approximations
- 5.2 Exponents/Radicals/Logarithms
- 5.3 Algebra / Sets
- 5.4 Coordinate Geometry / Vectors
- 5.5 Geometry / Perimeter and Areas / Congruence and Similarities
- 5.6 Units / Rates and Variations
- 5.7 Ratio, Profit and Loss
- 5.8 Sequences and Series
- 5.9 Trigonometry / Pythagoras Theorem
- 5.10 Quadratic Equations
- 5.11 Linear Programming
- 5.12 Statistics
- 5.13 Three Dimensional Figures/Circles/The Earth as a Sphere
- 5.14 Accounts
- 5.15 Matrices/ Transformations
- 5.16 Probability/Relations/Functions

# 6.0 TABLE OF SPECIFICATIONS

			Sl	kills to	be test	ed		S	<u> </u>
S/n	Торіс	Knowledge	Comprehension	Application	Analysis	Synthesis	Evaluaion	Number of questions	Percentage weighting per topic
1.	Numbers/fractions/decimals/percent ages and approximations		1	1	1			3	6.3
2.	Exponents/radicals/ logarithms	1	1	1				3	6.3
3.	Algebra and sets	1	1	1				3	6.3
4.	Coordinate geometry/vectors		1	1		1		3	6.3
5.	Geometry/perimeters and areas/congruence and similarity	1	1	1	1			4	8.3
6.	Units/rates and variations		1	1				2	4.1
7.	Ratio/profit and loss			1	1			2	4.1
8	Sequences and series		1	1		1		3	6.3
9.	Trigonometry and Pythagoras theorems		1	1		1		3	6.3
10.	Quadratic equations		1	1				2	4.1
11.	Linear programming			1	1			2	4.1
12.	Statistics		1	1	1			3	6.3
13.	Three dimensional figures, circles/the earth as a sphere		1	1	1	1	1	5	10.4
14	Accounts			1	1			2	4.1
15	Matrices and transformations		1	1	1			3	6.3
16.	Probability/ functions/relations	1	1	1	1	1		5	10.4
Numb	er of questions	4	13	16	9	5	1	48	
Percer	ercentage weighting per skill		27.1	33.3	18.8	10.4	2.1		100

## 042 ADDITIONAL MATHEMATICS

(For Both School and Private Candidates)

## 1.0 INTRODUCTION

This revised format replaces that of 2001. A number of topics have been added. They are: Number, Symmetry, Geometrical Constructions, Variation and Locus. The topics have been added to attain the competence-based objectives contained in the 2005 revised syllabus. The Linear programming topic has been omitted in the reviewed syllabus.

#### 2.0 GENERAL OBJECTIVES

The general objectives of the Additional Mathematics examination are to assess candidates ability to:

- 2.1 think logically and discover mathematical concepts.
- 2.2 demonstrate confidence in solving practical problems,
- 2.3 use mathematical knowledge and skills studied and acquired in everyday life.

## 3.0 GENERAL COMPETENCES

The general competences for Additional Mathematics examination is to assess the candidates' ability to:

- 3.1 think critically and logically in interpreting and solving problems.
- 3.2 apply mathematical knowledge and techniques in other fields.
- 3.3 apply mathematical knowledge skills and language in explaining and clarifying mathematical ideas and issues.

## 4.0 EXAMINATION RUBRIC

This paper will consist of **two** (2) Sections; **A** and **B**. Section **A** will comprise **ten** (10) short answer questions; each will carry **six** (6) marks. Section B will comprise **six** (6) long answer questions; each will carry **ten** (10) mark. The candidates will be required to answer **all** the questions in section A and **four** (4) questions from Section B. The paper will be of 3 hours duration.

## 5.0 EXAMINATION CONTENT

- 5.1 Numbers
- 5.2 Sets
- 5.3 Equations and Remainder Theorem/Function
- 5.4 Algebra
- 5.5 Symmetry/Geometrical Constructions
- 5.6 Variations
- 5.7 Differentiation/Integration
- 5.8 Trigonometry
- 5.9 Locus
- 5.10 Plan and Elevations
- 5.11 Coordinate geometry
- 5.12 Statistics
- 5.13 Logic
- 5.14 Permutations and Combinations/Probability
- 5.15 Vectors/Matrices and Linear Transformation
- 5.16 Differentiation/ Integration

# 6.0 TABLE OF SPECIFICATIONS

			S	kills to	be test	ed			
S/n	Topic	Knowledge	Comprehension	Application	Analysis	Synthesis	Evaluation	Total number of questions	Percentage weighting per topic
1.	Numbers		1	1				2	4.0
2.	Sets	1	1	1	1			4	8.0
3.	Equations & remainder theorem/ functions		1	1	1			3	6.0
4.	Algebra		1	1	1	1		4	8.0
5.	Symmetry and geometrical constructions.		1	1	1	1		4	8.0
6.	Variations		1	1				2	4.0
7.	Differentiation/integration	1		1	1			3	6.0
8.	Trigonometry			1	1			2	4.0
9.	Locus	1		1				2	4.0
10.	Plan and elevations				1	1		2	4.0
11.	Coordinate geometry			1	1	1	1	4	8.0
12.	Statistics		1	1		1		3	6.0
13.	Logic	1	1	1	1	1		5	10.0
14.	Permutations and combinations/ probability	1	1	1				3	6.0
15.	Vectors/matrices and linear transformation		1	1	1	1		4	8.0
16.	Differentiation/integration			1	1	1		3	6.0
	number of questions	5	10	15	11	8	1	50	
Percer	ntage weighting per skill	10	20	30	22	16	2		100

## 051 FOOD AND NUTRITION

(For School Candidates Only)

## 1.0 INTRODUCTION

This Food and Nutrition format replaces that of 2001 and will be effective in 2008.

## 2.0 GENERAL OBJECTIVES

The examination aims at assessing the candidates' ability to:

- 2.1 understand food and food nutrients
- 2.2 practice the cooking process and planning of family meals
- 2.3 process and preserve food
- 2.4 understand matters concerning family relationship, child development and other aspects of personal and family living
- 2.5 understand the nutritional needs in the context of selection, preparation and use of food.
- 2.6 manage resources.

#### 3.0 GENERAL COMPETENCES

The examination will specifically test candidates' ability to:

- 3.1 recall knowledge and basic skills of family and community life
- 3.2 Select and use resources available to them to the best advantage considering desirability, efficiency and social values.
- 3.3 apply food and Nutrition knowledge in the planning, preparation and presentation of a balanced diet.
- 3.4 plan a balanced diet for the family
- 3.5 prepared a food budget related to nutritional requirements of the family
- 3.6 apply knowledge of commodities commonly used in cooking and economy in the preparation
- 3.7 plan and cook complete meals
- 3.8 use different methods of cooking food.

## 4.0 EXAMINATION RUBRIC

There will be two papers of 3 hours duration. Paper 1 will consist of 11 questions in three sections; A, B and C. Candidates will be required to answer **all** the questions in sections A, B and ONE (1) question from section C. The paper will weight 100 marks.

## 4.1 051/1 FOOD AND NUTRITION 1

#### **SECTION A:**

This section will consist of questions 1 and 2 and will weight 20 marks; 10 marks for each question.

**Question 1** will consist of ten (10) multiple choice sub-items (i) - (x). The items will consist of a stem which may be a question or an incomplete statement. Five alternative answers will be listed under each item and they will include one correct answer and four distracters.

**Question 2** will be of matching items. A series of 10 items (i) - (x) will be listed in column A and 20 responses in column B. Candidates will be required to write the letter of response in column B that fits the premises in column A beside the item number.

## **SECTION B**

This section will consist of 6 short answer questions. Each of the six questions will test a syllabus topic different from those covered in section A and will have three items; (a), (b) and (c). Each question will weight 10 marks and the section will weight a total of 60 marks.

#### SECTION C

This section will consist of 3 essay type questions. Candidates will be required to attempt ONE question only. The section will weight a total of 20 marks.

## 4.2 051/2 FOOD AND NUTRITION 2 (PRACTICAL)

This practical paper consist of FIVE (5) practical questions will be divided into two sessions; a planning session and a practical session. The planning session will be of 1½ hours duration, during which each candidate is allocated one (1) question by secret ballot drawing. Candidates will write a plan of work and a shopping list of requirements (ingredients and equipment). Three working days before the commencement of the practical sessions are to be used for shopping and other preparation.

Candidates will be supposed to make a choice of dishes according to the requirements of the questions. Practical session will be of 2½ hours. Each question will weight 100 marks distributed as follows:

	OBSERVATION	MARKS IN %
1.	Choice of dishes	10
2.	Plan of work (time plan)	05
3.	Skill	35
4.	Quality	30
5.	Tidiness and Washing up	05
6.	General Impression	05
7.	Serving and appearance	10
	TOTAL	100

## 5.0 EXAMINATION CONTENT

- 5.1 The toddler
- 5.2 The adolescent
- 5.3 Food and nutrition
- 5.4 Cooking food
- 5.5 Nutritionally adequate meals
- 5.6 Money management
- 5.7 Vegetables and fruits
- 5.8 Staple foods
- 5.9 Pastry
- 5.10 Raising agents
- 5.11 Cakes and biscuits
- 5.12 Milk and milk products
- 5.13 Eggs
- 5.14 Butters
- 5.15 Beverages
- 5.16 Appetizers
- 5.17 Meat
- 5.18 Fish
- 5.19 An Ideal home
- 5.20 Laundering in the home
- 5.21 The house compound
- 5.22 Cleaning agents

- 5.23 Floor and floor Coverings
- 5.24 Meal planning
- 5.25 Packed meals
- 5.26 Malnutrition
- 5.27 Cooking for different occasions
- 5.28 Reheated foods
- 5.29 Convenience foods
- 5.30 Food preservation
- 5.31 Food contamination
- 5.32 Catering
- 5.33 Child health
- 5.34 The family
- 5.35 Age courtship and marriage practices
- 5.36 Sanitation

# 6.0 TABLES OF SPECIFICATIONS

# 6.1 051/1 FOOD AND NUTRITION 1

			S	kills to	be test	ed			
S/n	Торіс	Knowledge	Comprehension	Application	Analysis	Synthesis	Evaluation	Number of qestions	Percentage weighting per topic
1	The toddler/the adolescent	1						1	3.4
2	Food and nutrition	1			1			2	6.9
3	Cooking food			1			1	2	6.9
4	Nutritionally adequate meals					1		1	3.4
5	Money management	1						1	3.4
6	Vegetables and fruits		1					1	3.4
7	Staples foods	1						1	3.4
8	Pastry/ raising agents/ bread			1				1	3.4
9	Cakes and biscuits	1						1	3.4
10	Milk and milk products	1						1	3.4
11	Eggs				1			1	3.4
12	Butters		1					1	3.4
13	Beverages/appetizers		1					1	3.4
14	Meat/ fish			1				1	3.4
15	Meal planning				1			1	3.4

			Sl	kills to	be test	ed			٠
S/n	Торіс	Knowledge	Comprehension	Application	Analysis	Synthesis	Evaluation	Number of qestions	Percentage weighting per topic
16	Packed meals		1					1	3.4
17	Malnutrition	1					1	2	6.9
18	Cooking for different occasions					1		1	3.4
19	Child health		1					1	3.4
20	Convenience foods/ reheated foods		1					1	3.4
21	Food preservation/ food contamination			1				1	3.4
22	Catering			1				1	3.4
23	An ideal home/ floor and floor coverings	1						1	3.4
24	Laundering in the home/cleaning agents	1						1	3.4
25	The family/ age courtship and marriage practices						1	1	3.4
26	Sanitation/ the house compound	09	1					1	3.4
	Number of questions		07	05	03	02	03	29	
Percer	ntage weighting per skill	31	24.1	17.2	10.3	6.9	10.3		100

# 6.2 051/2 FOOD AND NUTRITION 1

		Skills to be tested						×	gu
S/n	Торіс	Knowledge	Comprehension	Application	Analysis	Synthesis	Evaluation	Number of qestions	Percentage weighting per topic
1	Nutritionally adequate meals			1				1	20
2	Vegetables and fruits			1				1	20
3	Pastry			1				1	20
4	Bread			1				1	20

			S	kills to	be test	ed			gu
S/n	Торіс	Knowledge	Comprehension	Application	Analysis	Synthesis	Evaluation	Number of qestions	Percentage weighting per topic
5	Cakes and biscuits			1				1	20
6	Milk and milk products			1				1	20
7	Eggs			1				1	20
8	Butters			1				1	20
9	Beverages			1				1	20
10	Appetizers			1				1	20
11	Meat			1				1	20
12	Fish			1				1	20
13	Meal planning			1				1	20
14	Packed meal			1				1	20
15	Cooking for different occasions			1				1	20
Numb	per of qestions	0	0	05	0	0	0	05	
	ntage weighting per skill	0.0	0.0	100	0.0	0.0	0.0		100

## 052 TEXTILES AND DRESSMAKING

(For School Candidates Only)

## 1.0 INTRODUCTION

This Textiles and Dressmaking format replaces that of 2001 and will be effective in 2008.

## 2.0 GENERAL OBJECTIVES

The examination aims at assessing the candidates' ability to:

- 2.1 understand fabrics, fashion design, sewing equipment and sewing process
- apply skills in creative work and use of modern techniques and equipment.

## 3.0 GENERAL COMPETENCES

The examination will specifically test candidates' ability to:

- 3.1 recall knowledge of fabrics, fashion designs, sewing machines and sewing processes
- 3.2 demonstrate an understanding of the principle underlying the choice
- 3.3 use and care of sewing machines and fabrics
- 3.4 draft, design and use patterns or embroider different items.
- 3.5 relate types of fabrics to their uses
- 3.6 sew and mend garments
- 3.7 follow correct processes in sewing garments.

#### 4.0 EXAMINATION RUBRIC

There will be two examination papers:

052/1 Textiles and Dressmaking 1 and 052/2 Textiles and Dressmaking 2.

## 4.1 052/1 Textiles and Dressmaking 1

This is a theory paper of **3 hours** duration. It will consist of **11** questions in **three** sections; A, B and C. Candidates will be required to answer **all** the questions in Sections A and B and **ONE** (1) question from section C. The paper will weight **100 marks**.

## 4.1.1 Section A

This section will consist of **two** questions and each question will weight **10 marks**. Questions in this section will be drawn from any part of the syllabus.

**Question 1** will consist of 10 multiple choice items. Each item will consist of a stem which may be a question or an incomplete statement. Five choices of answers will be listed under each item and they will include one correct answer and four distracters.

**Question 2** will consist of matching items. A series of 10 stems will be listed in column A and 20 responses in column B Candidates will be required to write the letter of the response in column B that fits the premise in column A beside the item number.

## 4.1.2 Section B

This section will consist of 6 short answer questions. Each of the six questions will test a syllabus topic different from those covered in section A and will have three items (a), (b) and (c). Each question will weight 10 marks and the section will weight a total of 60 marks.

## **4.1.3 Section C:**

This section will consist of 3 essay questions. Candidates will be required to answer ONE (1) question only. Each question will weight 20 marks.

## 4.2 052/2 Textiles and Dressmaking 2

This paper will be a practical paper and will comprise two components.

4.2.1 **Coursework** – consisting of articles started in form three and completed in form four which include:

A child's dress

A personal garment, i.e. dress or skirt and blouse

An embroidered article.

The coursework component will weight 25% of the total marks.

The articles should be displayed and marked during the Food and Nutrition Practical examination. The weight of the coursework marks is distributed as follows:

OBSI	ERVATION	MARKS (%)
1.	Presentation	2
2.	Fittings	2
3.	Cleanliness and tidiness	2
4.	Details on the wrong side	8
5.	Details on the right side	7
6.	Embroidery	4
	TOTAL	25

4.2.2 The practical examination will have one question. The candidates will be required to cut out, make up and complete part of a specified garment showing certain dressmaking skills and processes. The examination will weight 75 marks distributed according to number of details and processes demanded by the examination. The duration of the paper will be 3 hours.

## 5.0 EXAMINATION CONTENT

- 5.1 The sewing room
- 5.2 Basic sewing stitches
- 5.3 Making aprons
- 5.4 Embroidery
- 5.5 Undergarments
- 5.6 Mending
- 5.7 Making a blouse
- 5.8 Making a skirt or shorts
- 5.9 Fabrics
- 5.10 Making own garment
- 5.11 Children's clothing
- 5.12 Machine
- 5.13 Style colour and line in garment making
- 5.14 Soft home furnishing
- 5.15 Economics in textiles and dressmaking

## 6.0 052/1 TEXTILES AND DRESSMAKING TABLE OF SPECIFICATIONS

	Topic	Skills to be tested						- c	
Sn		Knowledge	Comprehension	Application	Analysis	Synthesis	Evaluation	Number of question	Percentage weighting per topic
1	The sewing room	1		1				2	6.9
2	Basic sewing stitches	1		1			1	3	10.3
3	Fabrics	1		1			1	3	10.3
4	Making aprons		1	1				2	6.9
5	Embroidery	1		1				2	6.9
6	Undergarments	1		1				2	6.9
7	Mending		1					1	3.4
8	Making a blouse	1		1				2	6.9
9	Making a skirt or shorts	1		1				2	6.9
10	Making own garments	1		1			1	3	10.3
11	Children's clothing			1				1	3.4
12	Machine			1				1	3.4
13	Style, colour and line in garment making		1		1			2	6.9
14	Soft home furnishing		1					1	3.4
15	Economics in textiles and dress making					1	1	2	6.9
Numb	Number of question		04	11	01	01	04	29	100
Percentage weighting per skill		08 27.5	13.8	38	3.4	3.4	13.8	100	

## 061 COMMERCE

(For Both School and Private Candidates)

## 1.0 INTRODUCTION

This examination format has been prepared to replace the old format in order to ensure a wider coverage of the syllabus. The revised format will include multiple-choice, matching and short answer items which were not included in the former format.

## 2.0 GENERAL OBJECTIVES

Commerce examination will test candidates'

- 2.1 knowledge of commercial procedures and formalities of import and export trade.
- ability to discuss and analyse contracts which are the cornerstone of exchange and distribution of goods and services.

#### 3.0 GENERAL COMPETENCES

The examination will test candidates' ability to:

- 3.1 evaluate activities that are taking place in various commercial sectors.
- 3.2 explain commercial methods and procedures, e.g. import and export formalities.
- 3.3 discuss the economic role played by commerce in the day to day activities.
- 3.4 describe the basic principles of commerce which are necessary in modern business environment.
- 3.5 identify the indicators/criteria used in identifying commercial activities.

## 4.0 EXAMINATION RUBRIC

- 4.1 One paper of  $2\frac{1}{2}$  hours duration will be set.
- 4.2 The paper will consist of sections A, B and C, with a total of 10 questions.
- 4.3 Section A will consist of one question with ten (10) multiple-choice items and another question with ten (10) matching items. Each question will weigh ten (10) marks.
- 4.4 Section B will have four questions; one of which will be based on calculations or drawings. The other three will be short answer questions on different commercial concepts or terms. Each question will weigh ten marks.
- **4.5** Section C will consist of four essay questions. Candidates will be required to answer two questions. Each question will weigh twenty marks.

## 5.0 EXAMINATION CONTENT

- 5.1 Scope of commerce
- 5.2 Production
- 5.3 Retail trade
- 5.4 Wholesale trade
- 5.5 Business units
- 5.6 Banking
- 5.7 Warehousing
- 5.8 Taxation
- 5.9 Transport
- 5.10 Communication
- 5.11 Money
- 5.12 Foreign trade
- 5.13 Management
- 5.14 Financial aspects of a business
- 5.15 Trade documents
- 5.16 Demand and supply theory
- 5.17 Marketing
- 5.18 Insurance

# 6.0 TABLE OF SPECIFICATIONS

	Topic		S						
S/n		Knowledge	Comprehension	Application	Analysis	Synthesis	Evaluation	No of questions	Percentage weighting per topic
1	Scope of commerce	1				1		2	7.15
2	Production				1			1	3.57
3	Retail trade						1	1	3.57
4	Wholesale trade		1					1	3.57
5	Foreign trade			1		1	1	3	10.7
6	Business units				1		1	2	7.15
7	Money		1					1	3.57
8	Banking	1						1	3.57
9	Warehousing		1					1	3.57
10	Transport	1		1				2	7.15
11	Communication	1						1	3.57
12	Taxation			1				1	3.57
13	Management		1					1	3.57
14	Financial aspects of a business		1			1		2	7.15
15	Trade documents				1			1	3.57
16	Demand and supply theory			1		1	1	3	10.71
17	Marketing	1					1	2	7.15
18	Insurance				1		1	2	7.15
Number of questions		5	5	4	4	4	6	28	
Perc skill	Percentage weighting per skill		17.8	14.3	14.3	14.3	21.4	-	100

#### 062

#### **BOOK KEEPING**

(For Both School and Private Candidate)

# 1.0 INTRODUCTION

This examination format has been prepared to replace the old format in order to ensure wide coverage of the syllabus. The revised format will include multiple-choice, matching items and short answer/explanation questions which were not included in the former format.

# 2.0 GENERAL OBJECTIVES

The examination will test the candidates' ability to:

- 2.1 distinguish various book-keeping systems concerning financial matters and records.
- 2.2 understand the importance of keeping books of accounts for individuals, companies and the state.

#### 3.0 GENERAL COMPETENCES

The examination will test the candidates' ability to:

- 3.1 discuss various book-keeping systems concerning financial matters and records.
- 3.2 analyse accounts terminologies with clarity for the purpose of communication and control of business.
- 3.3 discuss book-keeping concepts of government accounting and auditing.
- 3.4 explain the importance of keeping books of accounts for individuals, companies and the state.

# 4.0 EXAMINATION RUBRIC

- 4.1 One paper of 3 hours duration will be set.
- 4.2 The paper will comprise 7 questions in sections A, B and C. Candidates will be required to answer all the questions.
- 4.3 Section A will consist of ten (10) multiple-choice and ten (10) matching items. Each item will weigh one (1) mark.
- 4.4 Section B will consist of two (2) short answer/explanation/calculation questions. Each question will weigh ten (10) marks.
- 4.5 Section C will consist of three (3) questions on manipulations and recording of transactions. This section will weigh sixty (60) marks which will be distributed according to the weight of each question.

# 5.0 EXAMINATION CONTENT

- 5.1 Subject matter of book-keeping
- 5.2 Principle of double entry
- 5.3 Classification of accounts
- 5.4 Trial balance
- 5.5 Final accounts with adjustments
- 5.6 Books of prime entry
- 5.7 Petty cash and imprest system
- 5.8 Bank reconciliation statements
- 5.9 Government accounting and financial procedures
- 5.10 General journal
- 5.11 Correction of errors
- 5.12 Capital expenditure and revenue expenditure
- 5.13 Depreciation and disposal of fixed assets
- 5.14 Manufacturing accounts.

- 5.15 Control accounts
- 5.16 Single entry and incomplete records5.17 Accounts for non-profit making organization
- 5.18 Bills of exchange
- 5.19 Joint venture accounts
- 5.20 Consignment accounts
- 5.21 Partnership account
- 5.22 Elements of auditing
- 5.23 Departmental accounts

	Skills to be tested								
S/n	Topic	Knowledge	Comprehension	Application	Analysis	Synthesis	Evaluation	No. Of questions	Percentage weighting per topic
1	Subject matter of book-keeping		1					1	4
2	Principle of double entry				1			1	4
3	Classification of accounts					1		1	4
4	Trial balance			1				1	4
5	Final accounts with adjustments		1					1	4
6	Books of prime entry	1						1	4
7	Petty cash and imprest system					1		1	4
8	Bank reconciliation				1			1	4
9	Government accounting and financial procedures	1						1	4
10	General journal		1					1	4
11	Correction of errors			1				1	4
12	Capital expenditure and revenue expenditure	1						1	4
13	Depreciation and disposal of fixed assets			1				1	4
14	Manufacturing accounts				1			1	4
15	Control accounts			1				1	4
16	Single entry and incomplete records			1		1		2	8
17	Accounts for non-profit making organization				1		1	2	8
18	Bills of exchange	1						1	4
19	Joint venture accounts			1				1	4
20	Consignment accounts		1					1	4
21	Partnership accounts		1					1	4
22	Elements of auditing	1						1	4
23	Departmental accounts				1			1	4
Num	ber of questions	5	5	6	5	3	1	25	
Perc	entage weighting per skill	20	20	24	20	12	4	-	100

#### 071 BUILDING CONSTRUCTION

(For Both School and Private Candidates)

# 1.0 INTRODUCTION

This Examination format has been prepared to replace the one issued in 2001. The new format has been prepared to include multiple-choice, matching and short answer items, which were not included in the former format. These new features will ensure a wider coverage of syllabus content.

#### 2.0 GENERAL OBJECTIVES

The examination will test candidate's abilities in the construction of building up to a single storey.

# 3.0 SPECIFIC OBJECTIVES

The examination will test candidate's ability to

- 3.1 apply basic construction principles in the erection of domestic buildings up to a single storey.
- 3.2 select suitable construction materials for construction domestic buildings up to a single storey.
- 3.3 maintain the required quality of constructed building up to a single storey
- 3.4 prepare cost estimate for various building materials.

# 4.0 EXAMINATION RUBRIC

There will be ONE theoretical paper with 15 questions in sections A, B and C. The duration for this paper will be THREE (3) hours. All questions in section A, and B will be compulsory. Section A will comprise TWO questions of multiple-choice items (i) – (x) and matching items (i) – (x) each carrying ONE (1) mark, (total of 20 marks).

Section B will comprise ten (10) short-answer questions each carrying FOUR (4) marks (total 40 marks).

Section C will comprise THREE (3) structured type of questions. The questions will be derived from the whole syllabus excluding the topic Introduction. Each of the three questions will comprise items from at least any four different topics. Each candidate will be required to answer any TWO (2) questions from this section. Each question will carry 20 marks.

#### 5.0 EXAMINATION CONTENT

The examination will be set from the following topics

- 5.1 Introduction
- 5.2 Construction materials
- 5.3 Site preparation
- 5.4 Foundation
- 5.5 Scaffolding and shoring
- 5.6 Walls
- 5.7 Columns and beams
- 5.8 Floors
- 5.9 Roofs
- 5.10 Doors
- 5.11 Windows
- 5.12 Iron-mongery

- 5.13 Stairs
- Fireplaces and flues and chimneys Water supply Drainage 5.14
- 5.15
- 5.16

			Sk	ills to	be tes	ted			per
S/n	Торіс	Knowledge	Comprehension	Application	Analysis	Synthesis	Evaluation	No. Of questions	Percentage weighting per topic
1	Introduction	1		2				3	9.09
2	Construction materials	1		2				3	7.07
3	Site preparation	1	1					2	6.06
4	Foundation	1	1	2				4	6.06
5	Scaffolding and shoring		1	1				2	6.06
6	Walls		1	1				2	6.06
7	Columns and beams		1	1				2	6.06
8	Floors		1	1				2	6.06
9	Proofs		1	1				2	6.06
10	Doors	1		1				2	6.06
11	Windows		1	1				2	6.06
12	Iron-mongery	1	1					2	6.06
13	Stairs	1		1				2	6.06
14	Fireplaces, Flues And Chimneys		1	1				2	6.06
15	Water Supply		1	1				2	6.06
16	Drainage	1		1				2	6.06
	nber of questions	7	11	15				33	
Perc	entage weighting per skill	24.	33. 3	45.5					100

### 072 ARCHITECTURAL DRAUGHTING

(For Both School and Private Candidates)

### 1.0 **INTRODUCTION**

This examination format has been prepared to replace the one issued in 2001. The new format has been prepared to include multiple-choice, matching and short answer items, which were not included in the former format. These new features will ensure a wider coverage of syllabus content.

# 2.0 **GENERAL OBJECTIVES**

The examination will test candidate's abilities in the preparation, interpretation and use of architectural drawing for Civil Engineering works.

#### 3.0 **SPECIFIC OBJECTIVES**

The examination will test candidate's abilities to

- 3.1 identify and interpret drawings for civil engineering works,
- 3.2 prepare drawings of objects and architectural structures from given information e.g sketches or designs
- 3.3 prepare building schedules (e.g doors, windows, finishes) and specifications
- 3.4 reproduce architectural drawings.

### 4.0 THE EXAMINATION RUBRIC

There will be one theoretical paper with 15 questions in sections A, B and C. The duration for this paper will be three (3) hours. All questions in section A and B will be compulsory. Section A will comprise of two questions. Question 1 with ten (10) multiple-choice items and Question 2 with ten (10) matching items each carrying one (1) mark, (total 20 marks). Section B will comprise ten (10) short-answer questions each carrying four (4) marks, (total 40 marks). Section C will comprise three (3) structured questions. The candidates will be required to answer any two (2) questions. Each the three questions will comprise items from at least any four different topics. Each question will carry 20 marks, (total 40 marks).

## 5.0 EXAMINATION CONTENT

The following topics will be examined.

- 5.1 Drawing instruments and equipment
- 5.2 Architectural lettering
- 5.3 Architectural scales
- 5.4 Site plan
- 5.5 Residential house planning
- 5.6 Development of floor plans
- 5.7 Foundation plan
- 5.8 Section
- 5.9 Elevations
- 5.10 Roofs
- 5.11 Doors
- 5.12 Windows
- 5.13 Stairs and staircases
- 5.14 Fireplaces and flues
- 5.15 Water supply
- 5.16 Drainage system
- 5.17 Electrical supply
- 5.18 Perspective drawings

- 5.19 Schedules
- 5.20 Building specification5.21 Reproduction and storage of drawings

#### TABLE OF SPECIFICATION 6.0

			Skills to	be te	sted				
6.0  TA BL E OF SP EC IFI CA TI O N	Topic/subtopic	Knowledge	Comprehension	Application	Analysis	Synthesis	Evaluation	No. Of questions	Percentage weighting per topic
1	Introduction, drawing instruments and	1	1					2	6.06
	equipment	_							
2	Architectural lettering	1	1						- 0 -
3	Architectural scales		_					2	6.06
4	Site plan	1						_	
5	Residential house planning		1					2	6.06
6	Development of Floor Plans		1	2				3	9.09
7	Foundation plan		1	1				2	6.06
8	Sections	1	1	2				4	12.12
9	Elevations		1	2				3	9.09
10	Roofs			1				1	6.7
11	Doors	1		1				2	6.06
12	Windows								
13	Stairs and Staircases		1	1				2	6.06
14	Fireplaces and flues		1	1				2	6.06
15	Water supply								
16	Drainage system		1	1				2	6.06
17	Electrical supply	1		1				2	6.06
18	Perspective drawings								
19	Schedules	1		1				2	6.06
20	Building specification		1						
21	Reproduction and storage of drawings	1						2	6.06
	ber of questions	7	11	15				33	
Perc	entage weighting per skill	24.2	33.3	45.5					100

### 073 SURVEYING

(For Both School and Private Candidates)

#### 1.0 INTRODUCTION

This Examination format has been prepared to replace the one issued in 2001. The new format has been prepared to include multiple-choice, matching and short answer items, which were not included in the former format. These new features will ensure a wider coverage of syllabus content.

#### 2.0 GENERAL OBJECTIVES

The examination will test candidate's abilities to

- 2.1 use surveying tools and equipment for Civil Engineering works
- 2.2 apply surveying concepts for designing simple structures.

# 3.0 SPECIFIC OBJECTIVES

The examination will test candidate's abilities to

- 3.1 handle and use surveying equipment and tools in the field.
- 3.2 process surveying data and use the data to prepare maps, profiles and sections
- 3.3 determine areas of maps and sections of roads for calculation of earthworks
- 3.4 determine volumes for parts of roads for calculation of earthworks.

# 4.0 EXAMINATION RUBRIC

There will be ONE theoretical paper with 15 questions in sections A, B and C. The duration for this paper will be THREE (3) hours. All questions in section A and B will be compulsory. Section A will comprise two questions. Question 1 will consist ten (10) multiple-choice items and of ten (10) matching items each carrying ONE (1) mark, (total 20 marks). Section B will comprise ten (10) short-answer questions each carrying FOUR (4) marks. (Total 40 marks).

Section C will comprise THREE (3) structured questions. Candidates will be required to answer any TWO (2) questions. Each question will carry 20 marks. (total 40 marks). Each of the three questions will comprise items from at least any four different topics.

# 5.0 THE EXAMINATION CONTENT

The following topics will be tested.

- 5.1 Introduction
- 5.2 Safety
- 5.3 Surveying instruments
- 5.4 Chain surveying
- 5.5 Chain and compass traversing
- 5.6 Levelling
- 5.7 Contouring
- 5.8 Areas and volumes
- 5.9 Theodolite

			SKIL	LS TO	BE TE	STED			
	Topic/subtopic	Knowledge	Comprehension	Application	Analysis	Synthesis	Evaluation	No. Of questions	Percentage weighting per topic
1	Introduction	1	1					2	6.06
2	Safety		1					2	6.7
3	Surveying instruments	1	2	3				6	18.18
4	Chain surveying	1	3	4				8	24.24
5	Chain and compass	1	1	2				4	12.12
6	Levelling	1	1	2				4	12.12
7	Contouring	1	1	2				4	12.12
8	Areas and volumes	1		1				2	6.06
9	Theodolite		1	1				2	6.06
Nui	mber of questions	7	11	15				33	
Per	centage weighting per skill	21.2	33.3	45.5					100

#### 074 CARPENTRY AND JOINERY

(For Both School and Private Candidates)

#### 1.0 **INTRODUCTION**

This Examination format has been prepared to replace the one issued in 2001. The new format has been prepared to include multiple-choice, matching and short answer items, which were not included in the former format. These new features will ensure a wider coverage of syllabus content.

# 2.0 GENERAL OBJECTIVES

The examination will test candidate's abilities to

- 2.1 understand material properties for carpentry and joinery facilities
- 2.2 use the appropriate working facilities for woodworking projects.

#### 3.0 SPECIFIC OBJECTIVES

The examination will test candidate's abilities to:

- 3.1 Select and use timber in making furniture and construction works in general
- 3.2 construct house components and fittings made of timber
- 3.3 use hand tools and woodworking machines for different woodworks
- 3.4 service woodworking machines
- 3.5 prepare cost for various woodworking projects

# 7.0 EXAMINATION RUBRIC

There will be ONE theoretical paper with 15 questions in sections A, B and C. The duration for this paper will be THREE (3) hours. All questions in section A and B will be compulsory. Section A will comprise two questions. Question 1 will consist ten (10) multiple-choice items and Question 2 will consist ten (10) matching items each carrying ONE (1) mark, (total 20 marks). Section B will comprise ten (10) short-answer questions each carrying four (4) marks. (Total 40 marks).

Section C will comprise THREE (3) structured questions. The questions will be derived from the whole syllabus excluding the topic Tools, equipment and machine. Each of the three questions will comprise items from at least any four different topics. Candidates will be required to answer any TWO (2) questions. Each question will carry 20 marks. (Total 40 marks).

#### **5.0 EXAMINATION CONTENT**

Questions will be drawn from the following topics:

- Tools, equipment and machines 5.1
- 5.2 Timber
- 5.3 Joints
- 5.4 Glues and adhesives
- 5.5 Iron-mongery
- Cabinet making 5.6
- 5.7 Finishes and Finishing
- Scaffolds and Scaffolding 5.8
- 5.9 Timbering to trenches
- 5.10 Cantering
- 5.11 Formwork
- 5.12 Shoring
- 5.13 Partitions
- 5.14 Doors, windows and roofs
- 5.15 Ceiling5.16 Wooden floors
- 5.17 Wooden stairs and staircases
- 5.18 Costing

			S	kills to	be test	ed			ing
S/n	Topic/subtopic	Knowledge	Comprehension	Application	Analysis	Synthesis	Evaluation	No. Of questions	Percentange weighting per topic
1	Tools, equipment and machines	1	1					2	6.06
2	Timber	1	1	2				4	12.12
3	Joints, glues and adhesives	1	1	1				2	6.06
4	Iron-mongery	1	1					2	6.06
5	Cabinet making								
6.	Finishes and finishing	1		1				2	6.06
7	Scaffolds and scaffolding		1	1				2	6.06
8	Timbering to trenches								
9	Centering		1	1				2	6.06
10	Formwork		1	1				2	6.06
11	Shoring								
12	Partitions		1	1				2	6.06
13	Doors		1	1				2	6.06
14	Windows		1	1				2	6.06
15	Roofs		1	2				3	9.09
16	Ceiling		1	2				3	9.09
17	Wooden floors		1	1				2	6.06
18.	Wooden Stairs and		1	1				2	6.06
	Staircases		1	1					0.00
19.	Costing	1		1				2	6.06
Num	ber of questions	5	13	15				33	
Perce	entage weighting per skill	15.1	39.4	45.5					100

#### 075 BRICKWORK AND MASONRY

(For Both School and Private Candidates)

### 1.0 INTRODUCTION

This Examination format has been prepared to replace the one issued in 2001. The new format has been prepared to include multiple-choice, matching and short answer items, which were not included in the former format. These new features will ensure a wider coverage of syllabus content.

# 2.0 **GENERAL OBJECTIVES**

The examination will test candidate's ability in the construction of building up to a single storey by using Brick-works and Mansonry.

#### 3.0 **SPECIFIC OBJECTIVES**

The examination will test candidate's abilities to

- 3.1 construct single storey buildings by using blocks, bricks, stones and concrete
- 3.2 install sanitary fittings and drainage works
- 3.3 interpret working drawings
- 3.4 estimate amount of building materials
- 3.5 prepare costs of brick-works and masonry.

# 4.0 EXAMINATION RUBRIC

There will be ONE theoretical paper with 15 questions in sections A, B and C. The duration for this paper will be THREE (3) hours. All questions in section A and B will be compulsory.

Section A will comprise two questions. Question one (1) will consist ten (10) multiple-choice items and question two (2) will consist ten (10) matching items each carrying ONE (1) mark, (total 20 marks). Section B will comprise ten (10) short-answer questions each carrying FOUR (4) marks. (Total 40 marks). Section C will comprise THREE (3) structured questions. The questions will be derived from the whole syllabus excluding the topic Tools, equipment and machine. Each of the three questions will comprise items from at least any four different topics. Candidates will be required to answer any TWO (2) questions. Each question will carry 20 marks, (total 40 marks).

### 5.0 EXAMINATION CONTENT

The following topics will be tested.

- 5.1 Introduction
- 5.2 Safety
- 5.3 Tools, plant and equipment
- 5.4 Bricks and block making
- 5.5 Mortar
- 5.6 Bonding
- 5.7 Foundation
- 5.8 Concrete
- 5.9 Walls
- 5.10 Columns and beams
- 5.11 Scaffolding
- 5.12 Floors
- 5.13 Fire place
- 5.14 Drainage
- 5.15 Stone work
- 5.16 Stairs and staircase
- 5.17 Costing

0.	TABLE OF SPECIFICATIO		Skill	s to be t	este	d		_	50
S/n	Topic/subtopic	Knowledge	Comprehension	Application	Analysis	Synthesis	Evaluation	Number of questions	Percentage weighting per topic
1	Introduction and safety	1	1					2	6.06
2	Tools, plant and equipment	1	1					2	6.06
3	Brick and blockmaking	1		1				2	6.06
4	Mortar and bonding		1	2				3	9.09
5	Foundation		1	2				3	9.09
6	Concrete		1	2				3	9.09
7	Walls	1		1				2	6.06
8	Columns and beams		1	1				2	6.06
9.	Scaffolding	1	1					2	6.06
10	Floor	1		1				2	6.06
11	Fire places		1	1				2	6.06
12	Drainage	1		1				3	9.09
13	Stonework			1				1	3.03
14	Stairs and staircases	1		1				2	6.06
15	Costing		1	1				2	6.06
Num	nber of questions	8	9	16				33	
Perc	entage weighting per skill	24.2	27.3	48.5					100

#### 076 PAINTING AND SIGN-WRITING

(For Both School and Private Candidates)

### 1.0 INTRODUCTION

This Examination format has been prepared to replace the one issued in 2001. The new format has been prepared to include multiple-choice, matching and short answer items, which were not included in the former format. These new features will ensure a wider coverage of syllabus content.

# 2.0 GENERAL OBJECTIVES

The examination will test candidate's ability to:

- 2.1 select, use paints and stencils for painting and sign-writing
- 2.2 estimate costs for painting and sigh-writing

# 3.0 **SPECIFIC OBJECTIVES**

The examination will test candidate's abilities to

- 3.1 select, mix and use various types of paints,
- 3.2 paint different surfaces
- 3.3 design various decorative effects on different surface,
- 3.4 design and sign-write decorative marking sign boards, lettering and patterns
- 3.5 cost estimate or various paints and stencils for painting and sign-writing.

#### 4.0 EXAMINATION RUBRIC

There will be ONE theoretical paper with 15 questions in sections A, B and C. The duration for this paper will be THREE (3) hours. All questions in section A and B will be compulsory

Section A will comprise two questions. Question one (1) will consist ten (10) multiple-choice items and question number 2 will have ten (10) matching items each carrying one (1) mark (Total 20 marks). Section B will comprise ten (10) short-answer questions each carrying FOUR (4) marks. (Total 40 marks). Section C will comprise three (3) structured questions. The questions will be derived from the whole syllabus excluding the topics: Introduction, safety, tools, equipment and plants. Each questions will comprise items from at least any four different topics. Candidate will be required to answer any two (2). Each question will carry 20 marks, (total 40 marks).

### 5.0 EXAMINATION CONTENT

The following topics will be tested.

- 5.1 Introduction
- 5.2 Safety
- 5.3 Tools equipment and plants
- 5.4 Paints and paint materials
- 5.5 Painting techniques
- 5.6 Paints and textured finishes
- 5.7 Colour
- 5.8 Tie and dying
- 5.9 Sign-writing and stencilling
- 5.10 Spraying and spray equipment
- 5.11 Glazing
- 5.12 Paint defects
- 5.13 Drawing design and decorative art
- 5.14 Costing

			Skill	s to be	teste	d			
Sn	Topic/subtopic	Knowledge	Comprehension	Application	Analysis	Synthesis	Evaluation	Number of questions	Percentage per topic
1	Introduction	1	1					2	6.06
2	Safety	1	1					2	6.06
3	Tools, Equipment And Plants		1	1				2	6.06
4	Paints and Paint Materials		1	1				2	6.06
5	Painting Techniques		1	2				3	9.09
6	Paints and Textured Finishes		1	2				3	9.09
7	Colour	1	1					2	6.06
8	Tie And Dying	1		1				2	6.06
9.	Sign Writing and Stencilling	1							
10.	Spraying and Sprays	1		1				2	6.06
11	Glazing		1	1				2	6.06
12	Paint Defects	1	1					2	6.06
13	Drawing Design and Decorative Art	1		2				3	9.09
14	Colour	1		2				3	9.09
Numb	er of questions	9						33	
Percer	ntage weighting per skill	27.3	27.3	45.4					100

### 077 PLUMBING

(For Both School and Private Candidates)

### 1.0 INTRODUCTION

This examination format has been prepared to replace the one issued in 2001. The new format has been prepared to include multiple-choice, matching and short answer items, which were not included in the former format. These new features will ensure a wider coverage of syllabus content.

# 2.0 GENERAL OBJECTIVES

The examination will test the candidate's ability to

- 2.1 install sanitary fittings
- 2.2 install and maintain drainage works.

#### 3.0 SPECIFIC OBJECTIVES

The examination will test the candidate's ability to

- 3.1 lay and repair pipe works (cold and hot water as well as drainage works) and sanitary works.
- 3.2 Join metals by welding and soldering.
- 3.3 Install pumps and mains.
- 3.4 make hand tools and
- 3.5 prepare cost estimate for plumbing projects.

#### 4.0 EXAMINATION RUBRIC

- 4.1 There will be ONE theoretical paper with 15 questions in sections A, B and C.
- 4.2 The duration for this paper will be THREE (3) hours
- 4.3 All questions in section A, B and C will be compulsory
- 4.4 Section A will comprise two questions. Question one (1) will consist ten (10) multiplechoice items and question 2 will consist ten (10) matching items each carrying one (1) mark. (Total 20 marks).
- 4.5 Section B will comprise ten (10) short-answer questions each carrying FOUR (4) marks. (Total 40 marks)
- 4.6 Section C will comprise THREE (3) structured questions. The questions will be derived from the whole syllabus excluding the topics of workshop safety, tools equipment, plants and materials. Each of the questions will comprise items from at least any three different topics. Candidate will be required to answer any TWO (2) questions from this section. Each question will carry 20 marks. (Total 40 marks).

# 5.0 EXAMINATION CONTENT

The following topics will be tested.

- 5.1 Introduction and workshop safety
- 5.2 Tools, equipment and plants
- 5.3 Materials
- 5.4 Protective coatings
- 5.5 Pipe-work
- 5.6 Water supply
- 5.7 Water mains
- 5.8 Plumbing science, calculations and hydraulics
- 5.9 Flow measurements
- 5.10 Domestic water supply
- 5.11 Domestic hot water supply
- 5.12 Water heaters
- 5.13 Taps, Valves and ball valves

- 5.14
- 5.15
- 5.16
- Soldering
  Sanitary appliances
  Traps
  Drainage, septic tank and cess-pools 5.17
- Pumps 5.18
- Welding Costing 5.19
- 5.20

#### TABLE OF SPECIFICATION 6.0

			Skil	ls to b	e tes	sted			
Sn	Topic/subtopic	Knowledge	Comprehensio	Application	Analysis	Synthesis	Evaluation	Number of questions	Percentage per topic
1	Workshop safely							2	6.06
	Tools, equipment and plants	1	1						0.00
	Materials								
2	Protective coating		1	1				2	6.06
3	Pipe work	1		1				2	6.06
4	Water supply	1		2				3	9.09
	Water mains								
5	Plumbing Science, calculations and	1		2				3	9.09
	Hydraulics								
6.	Flow measurements	1		1				2	6.06
7	Domestic cold water supply		1	1				2	6.06
8	Domestic hot water supply	1		1					9.09
	Water heaters	1	1	1				3	9.09
9	Taps, valves and ball valves		1	1				2	6.06
10	Soldering	1		1				2	6.06
11	(a) Sanitary appliances			2				2	6.06
	(b) Traps			2					0.00
12	Drainage		1	1				2	6.06
13	Pumps	1	1					2	6.06
14	Welding		1	1		-		2	6.06
15	Costing	1		1				2	6.06
	(a) Measurement								
	questions	9	8	16				33	
Percer	tage weighting per skill	27.3	24.2	48.5					100

# 081 ELECTRICAL INSTALLATION

(For Both School and Private Candidates)

### 1.0 INTRODUCTION

This examination format replaces the one issued in 2001. Multiple choice and short answer questions have been introduced in addition to structured type of questions that used to be in the old format.

#### 2.0 GENERAL OBJECTIVE

The examination will test candidate's ability to:

- 2.1 perform domestic and industrial installations.
- 2.2 use tariffs governing electrical installations.

# 3.0 SPECIFIC OBJECTIVES

The examination will test candidates' ability to;

- 3.1 identify all kinds of electricity and their sources.
- 3.2 use different laws governing electric behaviour.
- 3.3 calculate electrical parameters.
- 3.4 distinguish types of motors and generators for both D.C. and A.C. supply.
- 3.5 calculate domestic and industrial power consumptions cost of a given tariff.
- 3.6 read and interprate circuit/wiring diagrams.
- 3.7 be conversant with all relevant regulations governing electrical installations.
- 3.8 design and execute different types of electric installations.

#### 4.0 EXAMINATION RUBRIC

There will be one paper consisting of sections A, B and C with a total of sixteen (16) questions. Candidates will be required to answer only fourteen (14) questions. Candidates are required to answer all questions in sections A and B and any three (3) questions from section C. Time allocated for this paper is three (3) hours.

Section A will comprise one (1) question of ten (10) multiple choice items each carrying one (1) mark (total 10 marks). Section B will consist ten (10) short answer questions, each question carrying three (3) marks, (total 30 marks). Section C will comprise five (5) structure questions. Each question will carry twenty (20) marks. Candidates are required to attempt three (3) questions only. (Total 60 marks).

#### 5.0 EXAMINATION CONTENT

The following topics will be tested.

- 5.1 Safety
- 5.2 Tools
- 5.3 Electrical accessories
- 5.4 Electrical symbols (150)
- 5.5 Conductors, insulators and cables
- 5.6 Power Supply
- 5.7 Wiring systems
- 5.8 Types of busbar system
- 5.9 Protective Devices
- 5.10 Earthing
- 5.11 Measuring instruments
- 5.12 Inspection and testing of insulations
- 5.13 Domestic wiring
- 5.14 Lighting system
- 5.15 Electric heating
- 5.16 Electric signalling
- 5.17 Tariffs

- 5.18 Transformers
- D.C. generators and D.C motors A.C. generators and motor 5.19
- 5.20

			Sl	xills to	be test	ed			50
S/n	Торіс	Knowledge	Comprehension	Application	Analysis	Synthesis	Evaluation	Number of questions	Percentage weighting per topic
1.	Safety		1					1	6.3
2.	Conductors and insulators			1				1	6.3
3.	Power supply		1		1			2	12.5
4.	Wiring systems			1				1	6.3
5.	Consumer circuits				1	1			
6.	Protective devices						1	1	6.3
7.	Measuring instruments					1		1	6.3
8.	Inspection and testing						1	1	6.3
9.	Lighting system						1	1	6.3
10.	Electric heating				1			1	6.3
11.	Tariffs		1					1	6.3
12.	Transformers				1			1	6.3
13.	D.C generators and motors			1				1	6.3
14.	A.C generators and motors			1				1	6.3
Numb	er of questions	3	4	4	2	3	16		
Percer	ntage weighting per skills	18.8	25	25	12.5	18.8			100

### ELECTRICAL ENGINEERING SCIENCE

(For Both School and Private Candidates)

#### 1.0 INTRODUCTION

082

This examination format replaces the one issued in 2001. The novel feature in this new format is the inclusion of multiple choice and short answer question in addition to structure questions. The main reason for the change is to encourage more self expression from the candidates.

#### 2.0 GENERAL OBJECTIVE

The examination will test candidate's ability to:

- 2.1 solve problems related to electrical science
- 2.2 explain types of instruments and machines related to this science.

## 3.0 SPECIFIC OBJECTIVES

The examination will test candidates' ability to;

- 3.1 explain the nature of electricity
- 3.2 identify and use laws for different operations and behaviours
- 3.3 define different terminologies used in this field.
- 3.4 solve simple problems involving electric circuits
- 3.5 calculate electric machine parameters
- 3.6 describe different operations and application of electrical machines
- 3.7 describe construction of different instruments and machine
- 3.8 calculate the changed circuit parameters due to change in temperature.

# 4.0 EXAMINATION RUBRIC

There will be one paper consisting of sections A, B and C with a total of sixteen (16) questions. Candidates will be required to answer only fourteen (14) questions. Candidates are required to answer all questions in sections A and B and any three (3) questions from section C. Time allocated for this paper is three (3) hours.

Section A will comprise one (1) question of ten (10) multiple choice items each carrying one (1) mark, (total 10 marks). Section B will consist ten (10) short answer questions, each question carrying three (3) marks, (total 30 marks). Section C will comprise five (5) structure questions. Each question will carry twenty (20) marks. Candidates are required to attempt three (3) questions only. (Total 60 marks).

## 5.0 EXAMINATION CONTENT

The following topics will be tested:

- 5.1 Units and their conversion
- 5.2 Atomic structure and source of electricity
- 5.3 Application of ohm's law
- 5.4 Effects of electric current
- 5.5 Quantity of heat gained by bodies with respect to temperature changes and specific capacities
- 5.6 Magnet induction
- 5.7 Types of measuring instruments
- 5.8 Transformers
- 5.9 Batteries and cells
- 5.10 Conductors and cables
- 5.11 D.C. circuit
- 5.12 A.C. circuit
- 5.13 D.C. machines
- 5.14 A.C. machines
- 5.15 Three phase circuits

- 5.16 Illumination
- 5.17 Rectifiers
- 5.18 Cathode ray tube

			S	kills to	be teste	ed			er
S/n	Торіс	Knowledge	Comprehension	Application	Analysis	Synthesis	Evaluation	Number of questions	Percentage weighting per topic
1.	Atomic Structure			1				1	6.3
2.	Ohm's Law			1				1	6.3
3.	Effects of Electric Current, electrical power and energy		1					1	6.3
4.	Quantity of heat						1	1	6.3
5.	Magnetic Induction		1					1	6.3
6.	Measuring Instruments			1				1	6.3
7.	Transformers					1		1	6.3
8.	Batteries and cells			1				1	6.3
9.	Conductors and cables			1				2	6.3
10.	D.C. circuits					1		1	6.3
11.	A.C. circuits				1			1	6.3
12.	D.C. machines		1					1	6.3
13.	A.C. machine		1					1	6.3
14.	Three phase circuits				1			1	6.3
15.	Illuminations						1	1	6.3
16.	Rectifiers								
17.	Cathode ray tube								
	ber of questions		4	5	2	2	3	16	
Perc	entage weighting per skill		25	31.3	12.5	12.5	18.8		100

#### 083 RADIO AND TELEVISION SERVICING

(For Both School and Private Candidates)

### 1.0 INTRODUCTION

This examination format replaces the one issued in 2001. Multiple choice and short answer questions have been introduced in addition to structured questions that used to be in the old format.

#### 2.0 GENERAL OBJECTIVE

The examination will test candidates' ability to:

- 2.1 explain construction of radio and TV sets
- 2.2 analyse different parameters dealing with radio and TV sets
- 2.3 diagnose and repair radio and television receivers
- 2.4 mention service precautions.

# 3.0 SPECIFIC OBJECTIVES

The examination will test candidates' ability to:

- 3.1 use electronic components symbols
- 3.2 draw circuit diagrams
- 3.3 read circuit diagrams
- 3.4 calculate electrical parameters used in radio and TV receivers
- 3.5 diagnose faults
- 3.6 do preventive maintenance
- 3.7 repair radio and TV sets.

# 4.0 EXAMINATION RUBRIC

There will be one paper consisting of sections A, B and C with a total of sixteen (16) questions. Candidates will be required to answer fourteen (14) questions. Candidates are required to answer ALL questions in sections A and B and three (3) questions from section C. Time allocated for this paper will be three ((3) hours.

Section A will consist of one (1) question divided into ten (10) multiple choice items each carrying one (1) mark, (total 10 marks). Section B will consist of ten (10) short answer questions each question carrying three (3) marks, (total 30 marks). Section C will comprise five (5) structured questions each carrying twenty (20) marks. Candidates are required to attempt three (3) questions only. (Total 60 marks).

## 5.0 EXAMINATION CONTENT

The examination will be set from the following topics:

- 5.1 Transistor amplifiers
- 5.2 Oscillators
- 5.3 Tuned Circuits
- 5.4 Transducers
- 5.5 RF Signals and Modulation
- 5.6 Radio receivers
- 5.7 Servicing techniques
- 5.8 Television receivers.

			S	kills to	be teste	ed			
S/n	Topic	Knowledge	Comprehension	Application	Analysis	Synthesis	Evaluation	Number of questions	Percentage weighting per topic
1.	Transistor amplifiers					1	1	2	12.5
2.	Oscillators				1			1	6.3
3.	Tuned circuits		1		1			2	12.5
4.	Transducers			1				1	6.3
5.	RF Signals and modulation	1		1				2	12.5
6.	Radio receivers					1	1	2	12.5
7.	Servicing techniques	1					1	2	12.5
8.	Television receivers						1	1	6.3
9.	TV receiver servicing					1	1	2	12.5
10.	Video tape recorders		1					1	6.3
Number	r of questions	2	2	2	2	3	5	16	100
Percent	age weighting per skill	12.5	12.5	12.5	12.5	18.8	31.3	100	

# 084 ELECTRICAL DRAUGHTING

(For Both School and Private Candidates)

# 1.0 INTRODUCTION

This examination format replaces the one issued in 2001. The number of questions that used to be set has been reduced from seven to six questions. Leaving one mechanical drawing question and five electrical drawing questions.

#### 2.0 GENERAL OBJECTIVE

The examination will test candidates' ability to:

- 2.1 read and interpret simple mechanical drawings
- 2.2 draw electrical diagrams
- 2.3 draw wiring diagrams.

## 3.0 SPECIFIC OBJECTIVES

The examination will test candidate's ability to:

- 3.1 draw simple pictorial diagrams
- 3.2 identify electrical symbols
- 3.3 use electronic components symbols in drawings
- 3.4 draw circuit diagrams from wiring diagrams.

# 4.0 EXAMINATION RUBRIC

There will be **ONE** (1) paper for this examination. This paper will consist **SIX** (6) questions. In question I candidates will be required to draw an oblique drawing in orthographic projections, and will carry 40 marks. The other five (5) questions will be on electrical drawings and each will carry 20 marks.

Candidates will be required to attempt question 1 and any other **THREE** (3) questions. Time allocated for this paper will be three (3) hours.

## 5.0 EXAMINATION CONTENT

The examination will be set from the following topics:

- 5.1 Block diagrams
- 5.2 Pictorial diagrams
- 5.3 Schematic diagrams
- 5.4 Electrical symbols
- 5.5 Electronic component symbols
- 5.6 Electrical sketches
- 5.7 Circuit diagrams
- 5.8 Wiring diagrams.

			Sl	kills to	be teste	ed			
S/n	Торіс	Knowledge	Comprehension	Application	Analysis	Synthesis	Evaluation	Number of questions	Percentage weighting per topic
1.	Block Diagrams						1	1	6.3
2.	Pictorial Diagrams	1		1				2	12.5
3.	Schematic Diagrams		1	1				2	12.5
4.	Electrical Symbols			1			1	2	12.5
5.	Electronic Component Symbols				1	1		2	12.5
6.	Electrical Sketches				1	1	1	3	18.8
7.	Circuit Diagrams			1	1			2	12.5
8.	Wiring Diagrams		1			1		2	12.5
Num	ber of questions	1	2	4	3	3	3	16	
Perc	entage weighting per skill	6.3	12.5	25	18.8	18.8	18.8		100

#### 085 REFRIGERATION AND AIR CONDITIONING

(For Both School and Private Candidates)

# 1.0 INTRODUCTION

This examination format replaces the one issued in 2001. Multiple choice and short answer questions have been introduced in addition to structured type of questions that used to be in the old format.

# 2.0 GENERAL OBJECTIVE

The examination will test candidates' ability to:

- 2.1 analyse refrigeration cycles
- 2.2 use psychrometric chart
- 2.3 do preventive maintenance
- 2.4 repair refrigeration and air conditioning units

# 3.0 SPECIFIC OBJECTIVES

The examination will test candidates ability to:

- 3.1 draw power production cycles
- 3.2 do calculations related to power cycles
- 3.3 use steam tables as well as psychrometric charts
- 3.4 do calculations on refrigeration cycles
- 3.5 identify different refrigerants and their advantages
- 3.6 describe dry and wet bulb temperatures
- 3.7 describe air conditioning principles
- 3.8 do maintenance on refrigeration and air conditioning units
- 3.9 diagnose and repair refrigeration and air conditioning units.

# 4.0 EXAMINATION RUBRIC

There will be one paper consisting of sections A, B and C with a total of sixteen (16) questions. Candidates will be required to answer fourteen (14) questions. Candidates are required to answer all questions in section A and B and three (3) questions from Section C. Time allocated for this paper will be three (3) hours.

Section A will comprise one (1) question of ten (10) multiple choice items each carrying one (1) mark (total 10 marks). Section B will consist of ten (10) short answer questions each carrying three (3) marks (total 30 marks). Section C will comprise five (5) structured questions. Each question will carry twenty (20) marks and candidates will be required to attempt three (3) questions from this section. (Total 60 marks).

# 5.0 EXAMINATION CONTENT

The examination will be set from the following topics:

- 5.1 Refrigeration
- 5.2 Air conditioning
- 5.3 Cycle associated components
- 5.4 Domestic appliances
- 5.5 Tools and equipment
- 5.6 Brazing
- 5.7 Heat
- 5.8 Refrigerants
- 5.9 Basic cycle components
- 5.10 Compressors
- 5.11 Condenser
- 5.12 Expansion values

- Evaporators Electricity 5.13
- 5.14
- Commercial and industrial refrigeration Principles of air condition Trouble shooting. 5.15
- 5.16
- 5.17

			SI						
S/n	Торіс	Knowledge	Comprehension	Application	Analysis	Synthesis	Evaluation	Number of questions	Percentage weighting per topic
1.	Refrigeration		1					1	6.3
2.	Air Conditioning		1					1	6.3
3.	Tools		1					1	6.3
4.	Brazing			1				1	6.3
5.	Heat And Pressure				1			1	6.3
6.	Refrigeration			1				1	6.3
7.	Refrigeration Cycles				1			1	6.3
8.	Compressors	1						1	6.3
9.	Condenser		1					1	6.3
10.	Expansion Valves						1	1	6.3
11.	Evaporators			1				1	6.3
12.	Electricity				1			1	6.3
13.	Cycle Associated Components			1				1	6.3
14.	Domestic Appliances					1		1	6.3
15.	Commercial And Industrial Refrigeration		1					1	6.3
16.	Trouble Shooting						1	1	6.3
17.	Number of questions	1	5	4	3	1	2	16	
18.	Percentage weighting per skill	6.3	31.3	25	18.8	6.3	12.5		100

# 086 PLANT AND EQUIPMENT MAINTENANCE

(For Both School and Private Candidates)

#### 1.0 INTRODUCTION

This examination format replaces the one issued in 2001. Multiple choice and short answer questions have been introduced in addition to structured type of questions that used to be in the old format.

#### 2.0 GENERAL OBJECTIVES

The examination will test candidates' ability to:

- 2.1 read and interpret layout of plants
- 2.2 use maintenance equipment
- 2.3 do repair work on plants
- 2.4 work out cost estimates for repair

# 3.0 Specific objectives

The examination will test candidates' ability to:

- 3.1 explain workshop safety precautions
- 3.2 identify the location of plant and equipment in different workshop departments
- 3.3 draw and effect workshop arrangements according to design layout
- 3.4 draw service and maintenance schedule for plant and equipment
- 3.5 carry out maintenance plans
- 3.6 diagnose shop apparatus and equipment for repair
- 3.7 plant and equipment repair
- 3.8 Make cost estimates for maintenance and repair.

# 4.0 EXAMINATION RUBRIC

There will be one paper consisting of sections A, B and C with a total of sixteen (16) questions out of which candidates will be required to answer fourteen questions. Candidates will be required to answer all questions in section A and B and three (3) questions from section C. Time allocated for this paper will be three (3) hours.

Section A will comprise one (1) question of ten (10) multiple choice items each carrying one (1) mark (total 10 marks). Section B will consist of ten (10) short answer questions each carrying three (3) marks (total 30 marks). Section C will consist of five (5) structured questions each carrying twenty (20) marks. Candidates will be required to attempt three (3) questions from this section. (total 60 marks).

# 5.0 EXAMINATION CONTENT

The examination will be set from the following topics:

- 5.1 Maintenance
- 5.2 Preventive maintenance
- 5.3 Corrective maintenance
- 5.4 Instruments and other aids for condition checking
- 5.5 Practical condition checks
- 5.6 The implementation of maintenance work.
- 5.7 Maintenance systems
- 5.8 Repair tools and repair methods
- 5.9 Machine guards.

			S	kills to	be teste	d			per
S/n	Торіс	Knowledge	Comprehension	Application	Analysis	Synthesis	Evaluation	Number of questions	Percentage weighting per topic
1.	Preventive Maintenance						1	1	6.3
2.	Corrective Maintenance					1	1	2	12.5
3.	Instruments		1	1				2	12.5
4.	Checking						1	1	6.3
5.	Implementation Maintenance				1	1	1	2	18.8
6.	Maintenance Systems				1	1	1	3	18.8
7.	Tools and Methods			1	1				12.5
8.	Machine Guards		1			1		2	12.5
<b>Number of questions</b>			2	2	3	4	5	16	
Percentage weighting per skill			12.5	12.5	18.8	25	31.3		100

### 092 WORKSHOP TECHNOLOGY

(For Both School and Private Candidates)

### 1.0 INTRODUCTION

This examination format replaces the one issued in 2001. Multiple choice and short answer questions have been introduced in addition to structured type of questions that used to be in the old format.

#### 2.0 GENERAL OBJECTIVES

The examination will test candidates' ability to:

- 2.1 choose materials for persecution of different workshop jobs
- 2.2 describe production of engineering materials
- 2.3 point out bench and machine work activities.

#### 3.0 SPECIFIC OBJECTIVES

The examination will test candidates' ability to:

- 3.1 select and use various engineering materials such as metals in different mechanical engineering trades
- 3.2 practise workshop safety precautions and regulations
- 3.3 use first aid kit
- 3.4 describe the processes of metal production by hot and cold rolling
- 3.5 explain properties of metals before and after treatment
- 3.6 use common workshop hand tools marking out measuring tools
- 3.7 use common workshop machines e.g. power hacksaw, drilling machine, bench and pedestal grinding machine.
- 3.8 Identify the location of plant and equipment in different workshop departments.

# 4.0. EXAMINATION RUBRIC

There will be one paper comprising of sections A, B and C with a total of sixteen (16) questions out of which candidates will be required to answer fourteen (14) questions. Candidates will be required to answer All questions in sections A and B and **THREE** (3) questions from section C. Time allocation for this paper will be three (3) hours.

Section A will consist of one (1) question of ten (10) multiple choice items each carrying one (1) mark (total 10 marks). Section B will consist of ten (10) short answers questions each carrying three (3) marks (total 30 marks). Section C will comprise five (5) structured questions each carrying twenty (20) marks. Candidates will be required to attempt three (3) questions. (Total 60 marks)

# 5.0 EXAMINATION CONTENT

The following topics will be tested:

- 5.1 Production of engineering materials
- 5.2 Selection of Lubricant
- 5.3 Heat treatment
- 5.4 Physical identification of metals
- 5.5 Mechanical properties of metals
- 5.6 Limits, fits and their uses

			Sk	tills to	be test	ed		er	
S/n	Topic	Knowledge	Comprehension	Application	Analysis	Synthesis	Evaluation	Number of questions	Percentage weighting per topic
1.	Production of Engineering Materials	1		1			1	1	18.8
2.	Selection of Lubricants		1				1	2	12.5
3.	Heat Treatment	1		1			1	3	18.8
4.	Physical Identification on Metals	1			1		1	3	18.8
5.	Mechanical Properties of Metals				1			1	12.5
6.	Limits, Fits and Their Uses	1		1		1	1	4	25
	Number of question		1	3	2	1	5	16	100
Percentage weighting per skill		25	6.25	18.8	12. 5	6.3	31. 3	100	

### 093 MOTOR VEHICLE MECHANICS

(For Both School and Private Candidates)

#### 1.0 INTRODUCTION

This examination format replaces the one issued in 2001. Multiple choice and short answer questions have been introduced in addition to structured type of questions that used to be in the old format.

#### 2.0 GENERAL OBJECTIVES

The examination will test candidates' ability to:

- 2.1 describe construction of motor vehicles, both petrol and diesel engines
- 2.2 explain construction and functions of automobile parts and components
- 2.3 evaluate car road worthiness.

# 3.0 SPECIFIC OBJECTIVES

The examination will test candidates' ability to:

- 3.1 explain workshop safety and precaution
- 3.2 use hand tools and other equipment
- 3.3 measure and relate mathematics and science
- 3.4 interpret test results
- 3.5 diagnose faults
- 3.6 repair vehicles
- 3.7 repair related equipment.

# 4.0 EXAMINATION RUBRIC

There will be one (1) paper comprising of sections A, B and C with a total of sixteen (16) questions out of which candidates will be required to answer fourteen (14) questions. Candidates will be required to answer all questions in section A and B and three (3) questions from section C. Time allocated for this paper will be three (3) hours.

Section A will consist of one (1) question of ten (10) multiple choice items each carrying one (1) mark (total 10 marks). Section B will consist of ten (10) short answer questions each carrying three (3) marks (total 30 marks). Section C will comprise five (5) structure questions each carrying twenty (20) marks. Candidates will be required to attempt three (3) questions. (Total 60 marks).

# 5.0 EXAMINATION CONTENT

The examination will be set from the following topics.

- 5.1 General safety regulations
- 5.2 Common hand tools and equipment
- 5.3 Vehicle layout and parts
- 5.4 Fasteners and locking devices
- 5.5 Engine (Power unit)
- 5.6 Fuel system for petrol and diesel engines
- 5.7 Engine (Power unit)
- 5.8 Lubricating system
- 5.9 Cooling system
- 5.10 Carburetion
- 5.11 Engine and vehicle testing
- 5.12 Transmission system
- 5.13 Braking system
- 5.14 Suspension system
- 5.15 Bodywork and fitments (body, doors and locks)
- 5.16 Compression ignition engine (diesel engine)

			S	Skills to	be teste	d			er
S/n	Торіс	Knowledge	Comprehension	Application	Analysis	Synthesis	Evaluation	Number of questions	Percentage weighting per topic
1.	Safety and regulations	1						1	6.3
2.	Tools and equipment						1	1	6.3
3.	Vehicle layout		1					1	6.3
4.	Locking devices			1				1	6.3
5.	Engine				1			1	6.3
6.	Petrol and diesel engines						1	1	6.3
7.	Ignition system						1	1	6.3
8.	Lubrication			1				1	6.3
9.	Cooling system		1					1	6.3
10.	Carburetion						1	1	6.3
11.	Vehicle testing	1						1	6.3
12.	Transmission		1					1	6.3
13.	Brakes						1	1	6.3
14.	Suspension system				1			1	6.3
15.	Steering system		1					1	6.3
16.	Wheels and types			1				1	6.3
	Number of questions		1	3	2	1	5	16	
Perc	Percentage weighting per skill		6.3	18.8	12.5	6.3	31.3		100

#### 094 WELDING AND METAL FABRICATION

(For Both School and Private Candidates)

#### 1.0 INTRODUCTION

This examination format replaces the one issued in 2001. Multiple choice and short answer questions have been introduced in addition to structured type of questions that used to be in the old format.

# 2.0 GENERAL OBJECTIVES

The examination will test candidates' ability to:

- 2.1 explain different welding equipment
- 2.2 describe welding rods
- 2.3 weld different metals in different positions

#### 3.0 SPECIFIC OBJECTIVES

The examination will test candidates' ability to:

- 3.1 select and use rods for welding different metals
- 3.2 use various plants and equipment safety
- 3.3 cut, bend, fold and fabricate various jobs
- 3.4 use various plants and equipment in welding
- 3.5 perform soft and hard brazing

# 4.0 EXAMINATION RUBRIC

There will be one paper comprising of sections A, B and C with a total of sixteen (16) questions out of which candidates will be required to answer fourteen (14) questions. Candidates will be required to answer all questions in sections A and B and three (3) questions from section C. Time allocated for this paper will be three (3) hours.

Section A will consist of one (1) question of ten (10) multiple choice items each carrying one (1) mark (total 10 marks). Section B will consist of ten (10) short answer questions each question carrying three (3) marks (total 30 marks). Section C will comprise five (5) structured questions each carrying twenty (20) marks. Candidates will be required to attempt three (3) questions. (Total 60 marks).

### 5.0 EXAMINATION CONTENT

The following topics will be tested:

- 5.1 Production of Welding Gases
- 5.2 Gas welding equipment and accessories
- 5.3 Gas welding operation
- 5.4 Manual metal are welding equipment and accessories
- 5.5 Arc welding
- 5.6 Welding consumables
- 5.7 Welding processes
- 5.8 Welding techniques
- 5.9 Welding joints
- 5.10 Welding positions
- 5.11 Soldering
- 5.12 Gas welding hazards
- 5.13 Sheet metal
- 5.14 Sheet metal operations
- 5.15 Pipe joints

- 5.16 Welding defects
- 5.17 Distortions
- 5.18 Arc welding hazards
- 5.19 Gas plant set up
- 5.20 Gas welding plants
- 5.21 Welding systems
- 5.22 Welding, healing and cutting tanks and containers
- 5.23 Gas shielded welding
- 5.24 Weld tests
- 5.25 Arc welding machines

			S	kills to	be teste	d			
S/n	Торіс	Knowledge	Comprehension	Application	Analysis	Synthesis	Evaluation	Number of questions	Percentage weighting per topic
1.	Production of welding gases		1					1	6.3
2.	Gas welding equipment			1				1	6.3
3.	Arc welding equipment			1				1	6.3
4.	Welding consumables		1					1	6.3
5.	Welding techniques		1					1	6.3
6.	Welding joints	1						1	6.3
7.	Welding position			1				1	6.3
8.	Soldering		1					1	6.3
9.	Sheet metal operation					1		1	6.3
10.	Pipe joints					1		1	6.3
11.	Weld defects						1	1	6.3
12.	Gas plant set up				1			1	6.3
13.	Welding, heating and cutting				1			1	6.3
14.	Gas shielded welding			1				1	6.3
15.	Weld tests			1				1	6.3
16.	Arc welding machines				1			1	6.3
	Number of questions		4	4	3	2	2	16	
Percentage weighting per skill		6.3	25	25	18.8	12.5	12.5		100

### 095 FITTING AND TURNING

(For Both School and Private Candidates)

### 1.0 INTRODUCTION

This examination format replaces the one issued in 2001. Multiple choice and short answer questions have been introduced in addition to structured type of questions that used to be in the old format.

#### 2.0 GENERAL OBJECTIVES

The examination will test candidates' ability to:

- 2.1 explain different machines used for fitting and turning
- 2.2 describe construction of lathe machines
- 2.3 describe tools used in different machines
- 2.4 explain jobs done in different machines

#### 3.0 SPECIFIC OBJECTIVES

The examination will test candidates' ability to:

- 3.1 select and use various hand tools and equipment in fitting and turning
- 3.2 service and maintain tools and equipment
- 3.3 explain jobs done in different machines
- 3.4 describe how to use machines and plants for working out metals e.g. cutting, drilling, grinding, tapering, shaping and finishing up.
- 3.5 make spares by using workshop machines
- 3.6 use various techniques in joining metal.

# 4.0 EXAMINATION RUBRIC

There will be one paper comprising of sections A, B and C with a total of sixteen (16) questions out of which candidates will be required to answer fourteen (14) questions. Candidates will be required to answer all questions in sections A and B and three (3) questions from section C. Time allocated for this paper will be three (3) hours.

Section A will consist of one (1) question of ten (10) multiple choice items each carrying one (1) mark (total 10 marks). Section B will consist of ten (10) short answer questions each question carrying three (3) marks (total 30 marks). Section C will comprise five (5) structured questions each carrying twenty (20) marks. Candidates will be required to attempt three (3) questions. (Total 60 marks).

# 5.0 EXAMINATION CONTENT

The following topics will be tested:

- 5.1 Workshop safety, precautions and regulations
- 5.2 Common tools
- 5.3 Drilling
- 5.4 Lathe Machines
- 5.5 Metal working
- 5.6 Lathe accessories
- 5.7 Milling machines
- 5.8 Power backsaw
- 5.9 Grinding machines
- 5.10 Shaping machine
- 5.11 Precision tools
- 5.12 Quality of surface finish

## 5.13 Metal joining

		Skills to be tested							)er
S/n	Topic	Knowledge	Comprehension	Application	Analysis	Synthesis	Evaluation	Number of questions	Percentage weighting per topic
1.	Workshop safety	1						1	6.3
2.	Common tools			1				1	6.3
3.	Drilling			1				1	6.3
4.	Lathe machines		1	1				2	12.5
5.	Lathe accessories			1				2	12.5
6.	Metal working		1					1	6.3
7.	Shaping machines		1	1				2	12.5
8.	Precision tools		1	1	1			3	18.8
9.	Quality of surface finish				1			1	6.3
10.	10. Metal joining		1	1				2	12.5
Numb	1	5	7	2		1	16		
Perce	ntage weighting per skill	6.3	31.3	43.7	12.5		6.3		100

#### 096 AUTO ELECTRIC

(For Both School and Private Candidates)

#### 1.0 INTRODUCTION

This examination format replaces the one issued in 2001. Multiple choice and short answer questions have been introduced in addition to structured type of questions that used to be in the old format.

#### 2.0 GENERAL OBJECTIVES

The examination will test candidates' ability to:

- 2.1 explain construction and function of electrical components of automobiles
- 2.2 describe different electrical systems in a car
- 2.3 do electrical systems repair.

#### 3.0 SPECIFIC OBJECTIVES

The examination will test candidates' ability to:

- 3.1 practice workshop regulations
- 3.2 use common auto electric hand tools and equipment
- 3.3 use basic concepts of electricity
- 3.4 explain magnetism as related to electricity
- 3.5 explain functions of electrical components in a motor vehicle
- 3.6 narrate repair techniques of electrical systems in a car.

#### 4.0 EXAMINATION RUBRIC

There will be one (1) paper comprising of sections A, B and C with a total of sixteen (16) questions out of which candidates will be required to answer fourteen (14) questions. Candidates will be required to answer all questions in sections A and B and three (3) questions from section C. Time allocated for this paper will be three (3) hours.

Section A will consist of one (1) question of ten (10) multiple choice items each carrying one (1) mark (total 10 marks). Section B will consist of ten (10) short answer questions each question carrying three (3) marks (total 30 marks). Section C will comprise five (5) structured questions each carrying twenty (20) marks. Candidates will be required to attempt three (3) questions. (Total 60 marks).

#### 5.0 EXAMINATION CONTENT

The following topics will be tested:

- 5.1 Workshop safety, precautions and regulations
- 5.2 Hand and power tools
- 5.3 Batteries
- 5.4 Accessories
- 5.5 Lighting systems
- 5.6 Gauges and meters
- 5.7 Charging system
- 5.8 Starting systems
- 5.9 Ignition system

			S		er				
S/n	Topic	Knowledge	Comprehension	Application	Analysis	Synthesis	Evaluation	Number of questions	Percentage weighting per topic
1.	Workshop safety	1						1	6.3
2.	Tools			1				1	6.3
3.	Batteries		1	1				2	12.5
4.	Accessories			1			1	2	12.5
5.	Lighting systems		1				1	2	12.5
6.	Gauges and meters			1			1	2	12.5
7.	Charging system				1		1	2	12.5
8.	Starting system				1		1	2	12.5
9.	Ignition systems				1		1	2	12.5
Numb	Number of questions		2	4	3		6	16	
Percer skill	Percentage weighting per		12.5	25	18.8		31.5		100

#### 097 MECHANICAL DRAUGHTING

(For Both School and Private Candidates)

#### 1.0 INTRODUCTION

This examination format replaces the one issued in 2001. Multiple choice and short answer questions have been introduced in addition to structured type of questions that used to be in the old format.

#### 2.0 GENERAL OBJECTIVES

The examination will test candidates' ability to:

- 2.1 read and interpret mechanical drawings
- 2.2 read and make mechanical drawings
- 2.3 draw loci of mechanisms.

#### 3.0 SPECIFIC OBJECTIVES

The examination will test candidates' ability to:

- 3.1 identify drawing equipment
- 3.2 identify and use different drawing lines
- 3.3 use abbreviations for machine drawings
- 3.4 draw orthographic projections
- 3.5 make pictorial drawings
- 3.6 draw different joints
- 3.7 use limits, fits and tolerances in drawings
- 3.8 draw loci of different mechanisms.

#### 4.0 EXAMINATION RUBRIC

There will be **one** (1) paper examination with a total of **six** (6) questions. Question one (1) will be a machine drawing and will carry 40 marks. The other five (5) questions will be on mechanical drawing and each will carry 20 marks.

Candidates will be required to answer question one (1) and any other **three** (3) questions. Time allocated for this paper will be three (3) hours.

#### 5.0 EXAMINATION CONTENT

The following topics will be tested:

- 5.1 Draughting office/room
- 5.2 Draughting equipment
- 5.3 Locus of mechanisms
- 5.4 Conventional features and shapes in machine drawing
- 5.5 Abbreviations and terminologies in machine drawings
- 5.6 Symbols in machine drawings
- 5.7 Screw threads profiles
- 5.8 Screw thread joints
- 5.9 Keyed joints
- 5.10 Cotter joints
- 5.11 Rivets and riveted joints
- 5.12 Welds and welded joints
- 5.13 Limits, fits and tolerances

			SI		per				
S/n	Торіс	Knowledge	Comprehension	Application	Analysis	Synthesis	Evaluation	Number of questions	Percentage weighting per topic
1.	Draughting office/room	1						1	6.3
2.	Draughting equipment	1		1				2	12.5
3.	Loci			1				1	6.3
4.	Conventional features	1						1	6.3
5.	Abbreviations and terminologies	1		1				2	12.5
6.	Drawing symbols	1						1	6.3
7.	Thread profiles				1			1	6.3
8.	Joints		1	1	1		1	4	25
9.	Limits, fits, tolerances		1	1			1	3	18.8
Number of questions		5	2	5	2		2	16	
Perc	entage weighting per skill	31.3	12.5	31.3	12.5		12.5		100

#### 098 FOUNDRY AND BLACKSMITH

(For Both School and Private Candidates)

#### 1.0 INTRODUCTION

This examination format replaces the one issued in 2001. Multiple choice and short answer questions have been introduced in addition to structured type of questions that used to be in the old format.

#### 2.0 GENERAL OBJECTIVES

The examination will test candidates' ability to:

- 2.1 explain moulding techniques
- 2.2 describe tools and equipment used
- 2.3 give details of patterns.

#### 3.0 SPECIFIC OBJECTIVES

The examination will test candidates' ability to:

- 3.1 describe various tools used in foundry and blacksmith
- 3.2 explain plants and equipment used in foundry and blacksmith
- 3.3 classify patterns and their features
- 3.4 mould various shapes of casting using various moulding methods
- 3.5 select suitable binders to a chosen moulding method
- 3.6 forge various shapes
- 3.7 carry inspection and quality control

#### 4.0 EXAMINATION RUBRIC

There will be one paper comprising of sections A, B and C with a total of sixteen (16) questions out of which candidates will be required to answer fourteen (14) questions. Candidates will be required to answer all questions in sections A and B and three (3) questions from section C. Time allocated for this paper will be three (3) hours.

Section A will consist of one (1) question of ten (10) multiple choice items each carrying one (1) mark (total 10 marks). Section B will consist of ten (10) short answer questions each question carrying three (3) marks (total 30 marks). Section C will comprise five (5) structured questions each carrying twenty (20) marks. Candidates will be required to attempt three (3) questions.

#### 5.0 EXAMINATION CONTENT

The following topics will be tested:

- 5.1 Safety precautions and regulations
- 5.2 Foundry tools and equipment
- 5.3 Patterns and pattern making
- 5.4 Moulding and moulding processes
- 5.5 Gating systems
- 5.6 Moulding materials
- 5.7 Core making
- 5.8 Melting and molten metal pouring into mould cavities
- 5.9 Knocking out and finishing operations in castings
- 5.10 Pressure die casting
- 5.11 Centrifugal casting
- 5.12 Forging and forging tools
- 5.13 Forging equipment
- 5.14 Inspection and quality control
- 5.15 Forges, forging and forging tools

		Skills to be tested			ed			20	
S/n	Торіс	Knowledge	Comprehension	Application	Analysis	Synthesis	Evaluation	Number of questions	Percentage weighting per topic
1.	Safety precautions and regulations						1	1	6.3
2.	Tools and equipment	1						1	6.3
3.	Patterns and pattern making			1				1	6.3
4.	Moulding			1				1	6.3
5.	Gating system		1					1	6.3
6.	Mounding materials			1				1	6.3
7.	Core making		1					1	6.3
8.	Pouring			1				1	6.3
9.	Knocking out and finishing operations			1				1	6.3
10.	Pressure die casting			1				1	6.3
11.	Centrifugal casting			1			1	2	12.5
12.	Forging and forging tools				1			1	6.3
13.	Forging equipment				1			1	6.3
14.	Inspection and quality control				1		1	2	12.5
15.	Forges			1				1	6.3
	lber of questions	1 2 9 2 2				16			
Perc	entage weighting per skill	31.3	12.5	31.3	12.5		12.5		100

#### Annex 1

#### JAMUHURI YA MUUNGANO WA TANZANIA WIZARA YA ELIMU NA MAFUNZO YA UFUNDI

Anuani ya Simu: ELIMU DAR ES SALAAM. Simu: 2110146, 2120403, 2120412/5/7/8/9 Telex: 42741 Elimu Tz. Fax: 2113271 Elimu Tz



S. L. P. 9121, DAR ES SALAAM.

Kumb.Na. ED/OK/C.2/4/V/1

Unapojibu tafadhali taja:

Tarehe: 01/04/2006

Makatibu Tawala wa Mikoa Wakaguzi Wakuu wa Shule wa Kanda Wakuu wa Shule za Sekondari Wakuu wa Vyuo vya Ualimu Mkurugenzi Taasisi ya Elimu Tanzania Katibu Mtendaji Baraza la Mitihani Tanzania Mkurugenzi Taasisi ya Elimu ya Watu Wazima TANZANIA BARA

#### WARAKA WA ELIMU NA. 1 WA MWAKA 2006 MAREKEBISHO YA MTAALA WA ELIMU YA SEKONDARI

Waraka wa Elimu Na. 9 wa Mwaka 2004 ulitoa maelezo ya mabadiliko ya masomo katika Shule za Sekondari. Katika mabadiliko hayo, masomo ya Physics na Chemistry yaliunganishwa na kuwa somo moja la "Physics with Chemistry". Aidha, masomo ya michepuo ya Biashara, Kilimo, Ufundi na Sayansi Kimu yaliondolewa katika orodha ya masomo yanayofundishwa Sekondari.

Baada ya Wizara kutangaza mabadiliko hayo, baadhi ya wadau walionesha kutoridhika na uamuzi wa kuondolewa kwa masomo ya michepuo ya Biashara, Kilimo, Ufundi na Sayansi Kimu katika mtaala wa Elimu ya Sekondari na kutaka masomo ya michepuo yaendelee kufundishwa. Vile vile imeonekana kufundisha masomo ya Physics na Chemistry kama somo moja la "Physics with Chemistry" kusingetoa maarifa ya kutosheleza.

Kwa misingi hiyo imeonekana kuna haja kwa Serikali kuangalia ubora wa Elimu ya Sekondari kwa kuzingatia soko huria, dunia ya utandawazi, Mahitaji ya Sayansi na Teknolojia, Falsafa ya Elimu ya Kujitegemea, ajira katika sekta binafsi na sekta isiyo rasmi, mahitaji ya matakwa ya jamii kwa wakati huu na kuhuisha masomo ya taaluma na Mafunzo ya Ufundi. Aidha, Serikali pia imezingatia kuweka msingi bora wa taaluma unaounganisha kwa ufanisi zaidi masomo kuanzia ngazi ya Elimu ya Msingi, Sekondari na Elimu ya Juu ili kuweza kupata wataalamu waliobobea.

Kwa hiyo, Serikali imeamua kufanya marekebisho ya Waraka wa Elimu Na. 9 wa Mwaka 2004. Somo la "Physics with Chemistry" sasa litafundishwa kama masomo mawili tofauti yaani, somo la Physics na somo la Chemistry kwa kutumia mihtasari ya mwaka 1997 kuanzia Aprili 2006 kwa wanafunzi wa kidato cha I na kidato cha II.

Masomo mengine yataendelea kufundishwa kwa kutumia mihtasari ya mwaka 2005. Aidha, mosomo ya michepuo ya Biashara, Kilimo, Ufundi na Sayansi Kimu yanarudishwa na kufundishwa kwa kutumia mihtasari ya masomo hayo iliyotolewa mwaka 1997. Masomo hayo ya michepuo yataanza kufundishwa kwa wanafunzi wa kidato cha i kuanzia Aprili 2006. Kwa Misingi hiyo, wanafunzi wa kidato cha I na II watasoma masomo 9 ya msingi (Mathematics, English, Kiswahili, Biology, Civics, Physics, Chemistry, Geography na History) pamoja na masomo ya michepuo ya Shule hiyo na somo moja la uchaguzi wake (ambalo ni hiari kuchagua). Wanafunzi wa kidato cha III na IV watawajibika kusoma masomo 7 ya msingi na ya lazima (Mathematics, English, Kiswahili, History, Geography, Biology, na Civics). Wanafunzi watakaochagua mkondo wa Sayansi, pamoja na kusoma masomo 7 ya msingi, watalazimika kusoma Physics na Chemistry, pamoja na masomo ya michepuo ya shule husika na somo moja la hiari. Aidha, wanafunzi watakaosoma mkondo wa Sayansi Jamii, pamoja na masomo 7 ya msingi watalazimika kusoma masomo ya michepuo iliyopo shuleni. Vile vile mwanafunzi ana hiari ya kuchagua somo moja chaguzi. Wanafunzi wa kidato cha II 2006 wataendelea na masomo wanayosoma kwa kutumia mihtasari ya mwaka 2005 hadi wamalize kidato cha IV.

Kiambatisho Na. 1 kinaonesha masomo yatakayofundishwa kidato cha I — IV pamoja na idadi ya vipindi kwa kila somo kwa wiki. Kiambatisho Na. 2 kinaonesha masomo ya hiari Kidato 1 — IV na idadi ya vipindi kwa kila somo kwa wiki. Masomo katika makundi ya Sayansi na Sayansi Jamii yameoneshwa katika kiambatisho Na.3. Wanafunzi wa kidato cha V na VI watasoma mojawapo ya maunganisho ya masomo kama yalivyooneshwa katika kiambatisho Na. 4. Maunganisho ya masomo yataundwa kufuatana na mahitaji na kwa kibali cha Afisa Elimu Kiongozi. Aidha masomo ya michepuo na idadi ya vipindi kwa kila somo, yameoneshwa katika kiambatisho Na. 5.

Waraka huu unaaanza kutumika tarehe 1 Aprili 2006,na unafuta Waraka wa Elimu Na. 9

wa Mwaka 2004.

R A. Mpama

AFISA ELIMU KIONGOZI

Nakala: Maafisa Elimu Mkoa TANZANIA BARA

" Maafisa Elimu Wilaya TANZANIA BARA

" Wakaguzi Wakuu wa Shule wa Wilaya TANZANIA BARA

MASOMO YATAKAYOFUNDISHWA KATIKA KIDATO CHA I – IV PAMOJA NA IDADI YA YIPINDI VYA KILA SOMO KWA WIKI

#### KIDATO CHA III NA IV KIDATO CHA I NA II IDADI YA VIPINDI SOMO SOMO IDADI YA NA. ÑÁ. VIPINDI MATHEMATICS 6 MATHEMATICS 1. 6 1. 5 5 2. ENGLISH 2. ENGLISH 3 3. KISWAHILI 3 3. KISWAHILI BIOLOGY 4. BIOLOGY 3 4. 2 2 5. CIVICS 5. CIVICS 4/4 6. PHYSICS/ 3/3 6. PHYSICS/ ENGINEERING SCIENCE ENGINEERING SCIENCE CHEMISTRY 7. 7. CHEMISTRY 3 **GEOGRAPHY** 3 8. 8. GEOGRAPHY 2 2 HISTORY 9. 9. HISTORY 6 10. BIAS SUBJECT(s) 10. BIAS SUBJECT(S) ₿ 2 2 11. RELIGION RELIGION 11. 2 12. OPTION 2 OPTION 12. 42 40 JUMLA

<sup>\*</sup> Engineering Science înafundishwa katika Shule za Mchepuo wa Ufundi badala ya somo la Physics.

<sup>\*</sup> History haifundishwi katika Shule za Mchepuo wa Ufundi.

# MASOMO YA HIARI KIDATO CHA I -- IV NA IDADI YA VIPINDI KWA WIKI

NA.	SOMO	IDADI YA VIPINDI KWA WIKI
1.	ADDITIONAL MATHEMATICS	2
2.	ARABIC	2
3.	BIBLE KNOWLEDGE	2
4.	FINE ART	2
5.	FRENCH	2
6.	INFORMATION AND COMPUTER STUDIES	2
7.	ISLAMIC STUDIES	2
8.	MUSIC	2
9.	PHYSICAL EDUCATION	2
10.	THEATRE ARTS	2

#### Kiambatisho Na. 3

### MGAWANYO WA MASOMO KATIKA MAKUNDI YA SAYANSI NA SAYANSI JAMII

	KUNDI LA SAYANSI		KUNDI LA SAYANSI JAMII
1.	MATHEMATICS	<u> </u>	MATHEMATICS
2.	ENGLISH	2.	ENGLISH
3.	KISWAHILI	3.	KISWAHILI
4.	BIOLOGY	4.	BIOLOGY
5.	CIVICS	5.	CIVICS
6.	GEOGRAPHY	6.	GEOGRAPHY
7.	HISTORY	7.	HISTORY
8.	PHYSICS	8.	BIAS SUBJECTS(S)
9.	CHEMISTRY	9.	RELIGION
10.	BIAS SUBJECTS(S)	10.	OPTION
11.	RELIGION		
12.	OPTION		

#### MASOMO YATAKAYOFUNDISHWA NA MAUNGANISHO YA MASOMO KWA KIDATO CHA V - VI

NA.	MASOMO	IDADI YA VIPINDI KWA WIKI	NA.	MAUNGANISHO YA MASOMO
1.	MATHEMATICS	10	1.	HISTORY, GEOGRAPHY, ECONOMICS (HGE)
2.	PHYSICS	10	2.	HISTORY, GEOGRAPHY, ENGLISH (HGL)
3.	CHEMISTRY	10	3.	HISTORY, GEOGRAPHY, KISWAHILI (HGK)
4.	BIOLOGY	10	4.	HISTORY, KISWAHILI, ENGLISH (HKL)
5.	ENGLISH	10	5.	HISTORY, ENGLISH, FRENCH (KLF)
6.	KISWAHILI	10	€.	ECONOMICS, GEOGRPHY, MATHEMATICS (EGM)
7.	HISTORY	10	7.	PHYSICS, CHEMISTRY, MATHEMATICS (PCM)
8.	GEOGRAPHY	10	8.	PHYSICS, CHEMISTRY, BIOLOGY (PCB)
9.	ECONOMICS	10	9.	CHEMISTRY, BIOLOGY, GÉOGRAPHÝ. (CBG)
10.	DIVINITY	10	10.	PHYSICS, GEOGRAPHY, MATHEMATICS (PGM)
11.	ISLAMIC STUDIES	10	11.	ECONOMICS, COMMERCE, ACCOUNTS (ECA)
12.	FRENCH	10	12.	CHEMISTRY, BIOLOGY, AGRICULTURAL SCIENCES (CBA)
13.	ARABIC	10	13.	CHEMISTRY, BIOLOGY, NUTRITION (CBN)
14.	INFORMATION AND COMPUTE STUDIES	10		
15.	HOME ECONOMICS	10	1	
16.	MUSIC	10	]	
17.	FINE ART	10		
18.	PHYSICAL EDUCATION	10		
19.	BASIC APPLIED MATHEMATICS	4		
20.	GENERAL STUDIES	4	1	
21.	ENGLISH US AGE	4	1	
22.	RELIGION	2	]	

#### MASOMO YA MICHEPUO

	MCHEPÚO	MASOMO	VIPINDI KIDATO CHA I NA II	VIPINDI KIDATO CHA III NA IV
	KILIMO	AGRICULTURAL SCIENCE	6	6
$\Box$	BIASHARA	COMMERCE	3	3
		<ul> <li>BOOKKEEPING</li> </ul>	3	3
	SAYANSI KIMU	<ul> <li>FOOD AND NUTRITION</li> </ul>	3	3
		<ul> <li>CLOTH AND TEXTILES</li> </ul>	3	3
	UFUNDI	<ul> <li>ENGINEERING SCIENCE</li> </ul>	3	3
		<ul> <li>TECHNICAL DRAWING</li> </ul>	3	3
		CIVIL ENGINEERING/		3
		ELECTRICAL ENGINEERING/		
		MECHANICAL ENGINEERING	. 4	