

FOREWORD

The Botswana Examinations Council is pleased to authorise the publication of the revised assessment procedures for the Junior Certificate Examination programme. According to the Revised National Policy on Education, the main intentions of the three year Junior Secondary programme are to provide the learners with opportunities for pre-vocational preparation and to enable the learners to take advantage of further education and training. These goals are reflected in the current Junior Secondary curriculum and accordingly, were taken into account when the assessment procedures were revised.

The range of ability of the learners has also influenced the design and revision of the assessment procedures. As a result of the ten year basic education policy, the ability range of the learners in Junior Secondary schools is much greater than previously. The revised assessment procedures are designed to ensure that all learners, regardless of their ability, have the opportunity of demonstrating what they know, understand and can do.

Another important aspect of assessment meant to be fostered through this revision is the alignment of assessment with the specific requirements of the teaching programme. This has been addressed through the restructuring of the scheme of assessment for individual subjects, whilst ensuring the reliability of the outcomes. The revised procedures use a standardised format across all subjects, whilst meeting the specific requirements of each subject.

The revised procedures are not intended to replace the existing teaching syllabuses. Rather, they provide a specification of the knowledge and skills which are to be assessed in each subject. Through the scheme of assessment, the procedures provide information on: the number of question papers in each subject, the marks allocated to each paper, paper and section weightings, etc.

These procedures are the outcome of the efforts of many professionals in the education system, and I wish to extend my thanks to all those who made their contribution. I would also like to encourage a continuation of this valuable collaboration.



Executive Secretary

1. INTRODUCTION

As part of the Botswana Junior Secondary Education Programme, the Design and Technology Assessment Procedures are designed to provide a framework for assessing candidates who have completed a three-year course based on the Junior Secondary Design and Technology Teaching Syllabus.

The Design and Technology examination aims to assess the knowledge and skills acquired through instruction in the content prescribed for the Junior Secondary Design and Technology programme. The assessment will be designed in a way that encourages candidates to show what they know and can do, and their level of understanding. Furthermore, the procedures offer a general framework for syllabus content representation in examination papers and assure comparability of sampled content from year to year.

The outcome of instruction in the content prescribed by the Design and Technology Teaching Syllabus will be assessed through **three** papers.

2. DIMENSIONS

For purposes of assessment, the behavioural outcomes of instruction in the prescribed content have been classified into three broad skill areas called dimensions. Brief descriptions of the dimensions are given below.

Dimension 1: Knowledge and Understanding

Candidates will be assessed on their ability to recall and understand:

- technological concepts and technical terms;
- design process;
- graphical communication;
- systems and control;
- materials and techniques;
- tools and equipment;
- safety;
- demonstrate a range of positive values and attitudes.

Dimension 2: Application of Knowledge and Skills

Candidates will be assessed on their ability to:

- use technology to solve real life problems in the community;
- communicate ideas clearly in verbal, written and graphical form;

- produce drawings according to the standards set by International Standard Organisation (ISO);
- interpret drawings according to ISO;
- apply acquired knowledge and skills to new situations;
- design quality products suitable for the community;
- make good quality products.

Dimension 3: Solving Problems

Candidates will be assessed on their ability to:

- identify real life problems in the community;
- solve real life problems in the community;
- argue and justify one’s solution to a problem;
- demonstrate creativity in their work;
- advertise and market a product.

3. STRUCTURE OF THE EXAMINATION

The syllabus is assessed by three papers. Subject grades will be reported on a five-point scale of **A** to **E**.

Paper 1	Multiple-Choice	Marks	40
Time	1 Hour 15 Minutes	Weighting	20%
<p>This is a forty-item multiple-choice paper assessing knowledge, understanding and application of skills and concepts.</p>			

Paper 2	Short-Answer and Structured	Marks	60
Time	2 Hours 30 Minutes	Weighting	40%

There will be two sections in this paper and candidates must attempt **ALL** questions.

Section A

The section will assess candidates' ability to express themselves while demonstrating in-depth knowledge of particular concepts of the subject.

The section will consist of ten short-answer questions assessing knowledge, understanding and application worth 20 marks.

Section B

The section will assess candidates' ability to present their thoughts in a constructive, logical and consistent manner while drawing on knowledge of Design and Technology and applying it to real life situations.

This section will have four compulsory structured questions worth 40 marks.

Paper 3	Major Project	Marks	80
Time	Terms 1 and 2 of 3rd year	Weighting	40%

This will consist of a project done in Terms 1 and 2 of year 3. The project will require application of technological knowledge and concepts as well as problem – solving skills.

Candidates will be required to design and make suitable products, which conform to a given theme to be provided by Botswana Examinations Council at the end of year 2.

Each candidate will be required to produce a **portfolio** and a **product**. The two components for the paper must be submitted for a grade to be awarded. Partial submissions will not be marked.

4. ASSESSMENT GRID

The table below shows percentage representation of the examined major content areas by paper.

COMPONENT	CONTENT AREAS					TOTAL
	Design	Communication	Materials	Skills and Processes	Technology	
PAPER 1	10%	15%	25%	30%	20%	100%
PAPER 2	40%	10%	10%	30%	10%	100%
PAPER 3	45%	15%	10%	20%	10%	100%

5. WEIGHTING OF PAPERS BY DIMENSIONS

The table below shows percentage representation of dimensions by paper.

COMPONENT	DIMENSIONS			TOTAL
	KNOWLEDGE AND UNDERSTANDING	APPLICATION OF KNOWLEDGE AND SKILLS	PROBLEM SOLVING	
PAPER 1	15%	5%	–	20%
PAPER 2	10%	20%	10%	40%
PAPER 3	–	15%	25%	40%
TOTAL	25%	40%	35%	100%

6. CONTINUOUS ASSESSMENT

Paper 3 covers the different aspects of practical work assessed by teachers continuously.

Internal marking of the final project must be done in teams. Standardisation prior to marking should be carried out under the supervision of a senior member of staff (D&T).

Moderation

Teams of moderators will visit schools after internal marking has been completed. Moderators will mark a sample of candidates' work and the school marks together with the moderators' marks will be used to derive agreed marks for the centres.

N.B. Individual marking of the final project will be penalised by asking the school to remark.

7. GRADE DESCRIPTIONS

Grade descriptions are provided to give a general indication of the skill acquisition expected of candidates for the award of particular grades.

GRADE A

The candidate should be able to:

- identify general safety precautions in order to minimize potential work hazards in the workshop;
- describe First Aid techniques in treating minor injuries;
- justify the selection and use of appropriate materials and finish;
- identify and describe the use of tools and equipment in the workshop;
- identify a problem from a situation and use a variety of design ideas to arrive at a solution;
- solve a design problem using a wide range of creative and innovative design ideas;
- communicate ideas in a concise and detailed manner using a wide range of presentation techniques;
- use appropriate construction techniques and good making skills with safety considerations.

GRADE C

The candidate should be able to:

- identify general safety precautions and possible work hazards in the workshop;
- state First Aid techniques in treating minor injuries;
- make appropriate selection and use of materials and finish;
- identify tools and equipment in the workshop;
- solve a design problem using a range of design ideas;
- communicate ideas with some aspects of presentation techniques;
- use acceptable construction techniques and making skills;
- show some safety considerations.

GRADE D

The candidate should be able to:

- list general safety precautions in the workshop;
- list some First Aid techniques;
- show basic knowledge in selection and use of materials and finish;
- state tools and equipment used in the workshop;
- identify a problem from a given situation and use simple forms of communication to arrive at a solution;
- solve a design problem using limited design ideas;
- communicate ideas using limited presentation techniques;
- use limited construction techniques and making skills;
- show little safety considerations.