



For Performance Measurement

Zimbabwe School Examinations Council
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Your Ref:

Our Ref:

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EXAMINATIONS POLICY CIRCULAR
NUMBER 3 OF 2020

DISTRIBUTION:

- Permanent Secretary-Ministry of Primary and Secondary Education
- All ZIMSEC Regional Managers
- All Provincial Education Directors-Ministry of Primary and Secondary Education
- All District Education Officers-Ministry of Primary and Secondary Education
- Heads of Ordinary Level Examination Centres

ASSESSMENT OF CANDIDATES IN COMPUTER SCIENCE SYLLABUS (4021)

This circular brings to your attention procedures for the assessment of Ordinary Level Computer Science (4021) candidates.

1. The Practical Coursework

Candidates will be expected to present a project. The expectations of the project were sent out in 2017 (see Appendix 1) and copies will be kept at Regional Offices for centres to photocopy if they find that to be more convenient.

A contents page should be prepared to indicate the location of sections of the project. The candidate's project should contain the individual assessment mark sheet (See Appendix 2) with all the teacher's marks indicated.

The project document should contain the project assessment form (See Appendix 3) with all candidates' marks recorded. In addition, the teacher should submit a soft copy of the candidates' work in the form of a CD. Each candidate should have a folder on the CD, where his/her project has been saved. The folder should have the candidate's name and number.

The project should be completed by 02 October 2020 and the projects should be submitted to ZIMSEC Regional Offices or ZIMSEC Cluster Collection Centres by 23 October 2020.

2. The Practical Examination

Each registered candidate will sit for a practical examination as indicated in the syllabus. The duration of the Practical Examination is 3 hours. Please note that the 3 hours does not include printing time. Therefore, candidates will be allowed to print their work after 3 hours of writing.

Directors, Prof F. (Eddie) Mwenje (*Chairperson*), Mrs M F Masiye – Moyo (*Vice-Chairperson*), Mr W.C Chanakira, Prof M. Furusa, Dr C A T Katsvanga, Ms F. Mokwena, Mr W. T Mutlaka, Mr A M Mukuvisi, Mr F. Mhlanga, Mr N. Nhapi, Prof L M Nyagura, Mrs L. Ross, Ms B. Sigauke, Prof D J Simbi, Prof K. Wekwete, Dr Nembaware (*Executive*)

In the case where the number of candidates exceeds the number of computers/machines the centre has, the centre will be allowed to have two sessions. A maximum of 1 hour is allowable for the change over to the second session. The Computer Science teacher and other invigilators should make sure that all the machines have been cleared of documents before the second group starts writing. The two sessions would require that the Computer Science teacher creates candidate accounts for them to log in and save their documents.

Each candidate will be expected to submit a hard copy and a soft copy on CD. The CD should bear the School Name, Candidate Name and the full Candidate Number. Candidates should not use passwords on CDs. **Soft copies without hard copies will not be marked.**

2.1 Preparations Before the Practical Examination

Heads of Centres should make sure that adequate preparations have been made for the practical examination. Preparations should include the following:

- Servicing of machines
- Ordering enough stationery; bond paper and printer cartridges
- Ordering enough CDs
- Having a standby power source e.g generator
- Clearing machines of saved documents
- Creating candidate accounts in the case of two sessions
- Removing papers on the walls of the computer laboratory
- Cleaning the laboratory in general.

2.2 During the Examination

There is need for thorough supervision when the examination is written. The Computer Science teacher should be available for consultation but not in the examination room. Other invigilators will supervise the candidates as usual.

2.3 After the Examination

After the examination, candidates should be allowed to print their work. Printing time is outside the 3 hours. Candidates should tie their printouts together and submit both the hard copy and soft copy. The work is treated as examination material and should therefore be submitted in the normal way as the other scripts.

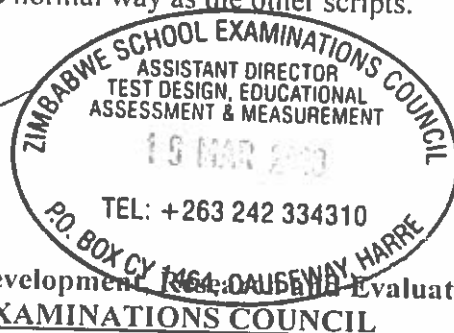
Yours Faithfully



Timothy Chiwiye (Dr)

Assistant Director: Test Development and Evaluation

ZIMBABWE SCHOOL EXAMINATIONS COUNCIL



APPENDIX I

ZIMBABWE SCHOOL EXAMINATIONS COUNCIL

COMPUTER SCIENCE 4021

PROJECT GUIDE 2020

The learner is required to develop a computer-based project to solve a specific problem using a high level programming language for example Visual Basic or Python. The project is to be carried out from Form 3 end of Term 2 up to Form 4 Term 2. This will enable the learners to use their skills and experience gained during the course to analyse, design, implement, test and evaluate the solution to a problem. Learners are advised to document every activity undertaken as they carry out the project.

The mark a candidate achieves is linked to the problem definition. Guidance from the teacher is needed in the choice of a problem. Teachers must provide on-going support, guidance and supervision while learners carry out the project.

Project Guide

The project must include the following layout

1. Cover page
2. Table of contents
3. Appendices
 - Sample of completed questionnaires
 - Sample of interview questions with respondent answers
 - Sample documents

SECTION A

Selection, Investigation and Analysis

- Problem Definition/Identification
- Investigation of the current system
 - Research instruments e.g. questionnaire, record inspection, interviews and observation.
- Broad description of existing system
- Evaluation of existing solution
 - weaknesses
 - strengths
- Requirements specifications
 - Software
 - Hardware.

- Aims and objectives
- Evidence that the research has been carried out.
 - Examples are filled in questionnaires, interviews with respondent answers, sample documents and write up on observation.

SECTION B

Design

- Consideration of alternative method.
 - Justification of method of solution
- Input design
 - Appropriate data capture forms and screen layouts
- Output Design
 - Specification and design of the required output
- Test Plan
 - design and document a test plan

SECTION C

Software Development

- Technical documentation
 - Algorithms related to system requirements
 - pseudo codes
 - flowcharts for modules
 - codes/program listings
- User documentation
 - Installation
 - Starting the systems
 - Exiting the system

SECTION D

Testing and Evaluation

- User Testing
 - Test for standard, extreme and abnormal/invalid data
 - Evidence of testing to be shown through sample runs and error messages
- Evaluation of the system
 - Achievements
 - Limitations
 - Opportunities for future development

v.	Requirements specification		[2]
	• Software requirements	[1]	
	• Hardware requirements	[1]	
vi.	Aims and objectives		[4]
	• Aims [Any two aim]	[2]	
	• 2 Objectives [1 mark per 1 objective]	[2]	
vii.	Evidence of research		[2]
	• Any two from the following [one mark each]		
	○ Filled in questionnaire		
	○ Interview session (Question and answer)		
	○ Sample documents		
	○ Description of observations		

Section B: Design [11]

(i)	Consideration of alternative methods		[2]
	• At least 2 methods		
(ii)	Justification of method of solution		[2]
(iii)	Input design		[2]
	• Data capture forms	[1]	
	• Screen layouts	[1]	
(iv)	Output design		[2]
	• Specification of required output [max 2]	[2]	
(v)	Test plan		[3]
	• Name and describe a test plan including test data and expected outcome in your description		
	○ name	[1]	
	○ description	[1]	
	○ outcome	[1]	

Section C: System Development [7]

(i)	Technical documentation		[4]
	• At least 2 Pseudocodes of any major modules.	[2]	
	• At least 1 flow charts for any major modules.	[1]	
	• Code/Program listing	[1]	
(ii)	User documentation		[3]
	• Installation	[1]	
	• Running the system	[1]	
	• Exiting the system	[1]	

Section D: Testing and evaluation /5/

- | | | | |
|------|---|-----|-----|
| (i) | User testing (any two) | | [2] |
| | • Test for standard data. | [1] | |
| | • Test for extreme data | [1] | |
| | • Test for invalid/abnormal data | [1] | |
| | • Error messages | [1] | |
| (ii) | Evaluation of the system | | [3] |
| | • Achievements | [1] | |
| | • Weaknesses/Limitations | [1] | |
| | • Opportunities for future developments | [1] | |

Section E: General expectations /5/

- | | | |
|---|--|-----|
| • | Depth of knowledge and understanding | [1] |
| • | Degree of originality | [1] |
| • | Ease of use (user documentation) | [1] |
| • | Quality [Defined sections, page number and contents) | [2] |

TOTAL: 50 marks


APPENDIX 2

ZIMBABWE SCHOOL EXAMINATIONS COUNCIL
 PROJECT ASSESSMENT FORM
 COMPUTER SCIENCE 4021/4
 INDIVIDUAL MARK SHEET
 EXAMINATION PERIOD: NOV 20



CANDIDATE NUMBER: _____
 CANDIDATE NAME: _____
 CENTRE NUMBER: _____
 CENTRE NAME: _____

	SECTION A: SELECTION, INVESTIGATION & ANALYSIS					SECTION B: DESIGN			SECTION C	SECTION D	SECTION E	TOTAL			
	22					11							7	5	5
EXPECTED MARK	4	4	4	2	2	4	2	2	2	4	3	2	3	5	50
CANDIDATE MARK															50
MODERATED MARK [FOR EXAMINER USE ONLY]															

TEACHER: _____ HOD: _____
 SIGNATURE: _____ SCHOOL STAMP: 
 DATE: _____
 MODERATOR: _____
 SIGNATURE: _____
 EXAMINER NUMBER: _____
 (FOR EXAMINER USE ONLY)

APPENDIX 3

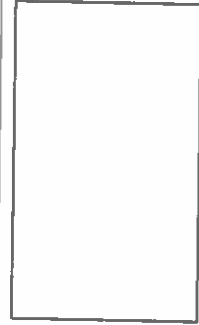
ZIMBABWE SCHOOL EXAMINATIONS COUNCIL
 PROJECT ASSESSMENT FORM
 COMPUTER SCIENCE 4021/4
 EXAMINATION PERIOD: NOV 20 _____



CENTRE NAME:		CENTRE NUMBER:																		
EXPECTED MARK		SECTION A: SELECTION, INVESTIGATION & ANALYSIS				SECTION B: DESIGN			SECTION C				SECTION D	SECTION E	TOTAL					
Candidate No.	Candidate Name	4	4	4	2	2	4	2	2	2	2	2	2	3	4	7	5	5	50	

TEACHER: _____
 SIGNATURE: _____
 DATE _____

SCHOOL STAMP



HOD: _____

MODERATOR: _____
 SIGNATURE: _____
 EXAMINER NUMBER: _____
 (FOR EXAMINER USE ONLY)