

MARKER CODE



Student Enrolment Number									

TONGA FORM SIX CERTIFICATES

2016

COMPUTING AND ICT

QUESTION AND ANSWER BOOKLET

Time allowed: 2 Hours

INSTRUCTIONS

1. Write your **Student Enrolment Number (SEN)** on the top right-hand corner of this page.
2. Additional sheets of paper can be obtained from your supervisor if necessary. Write your **Student Enrolment Number (SEN)** on each addition sheet number the questions clearly and insert them in the appropriate part of your booklet and tie securely.

Sections/Topics	Pages	Time (mins)	Total
Section 1: Computer Systems	2-5	44	26%
Section 2: Using PC Applications	6	7	4%
Section 3: Computation thinking and Programming	7-8	24	14%
Section 4: Safe Practices in ICT	9	14	8%
Section 5: Careers and Concerns in ICT	10-12	31	18%
TOTAL	15	120	70%

3. Check that this booklet contains pages 2-15 in the correct order and that pages 14-15 has been deliberately left blank.

YOU MUST HAND THIS BOOKLET TO THE SUPERVISOR BEFORE YOU LEAVE THE EXAMINATION ROOM.

SECTION 1: COMPUTER SYSTEMS

Part A: Important Trends in ICT

1. Identify an existing trend in the use of ICT in the area of education.

Skill level 1	
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2. Identify an existing trend in the use of computing in the area of health.

Skill level 1	
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3. Outline the importance of the trend identified in 1. above to the improvement of Education.

Skill level 2	
2	
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4. Discuss key challenges or weaknesses that Tonga is facing in using existing development in ICT.

Skill level 4	
4	
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Part B: Information Systems

1. Define **Information System**.

Skill level 1	
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2. Identify **ONE** (1) of the major components of an Information System.

Skill level 1	
1	
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3. Outline with examples the different types of Information System.

Skill level 2	
2	
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4. Name **ONE** (1) Information System application in a school environment.

Skill level 1	
1	
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5. Explain the major issues facing IS development.

Skill level 3	
3	
2	
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Part C: Information Communication Technology (ICT) Infrastructure

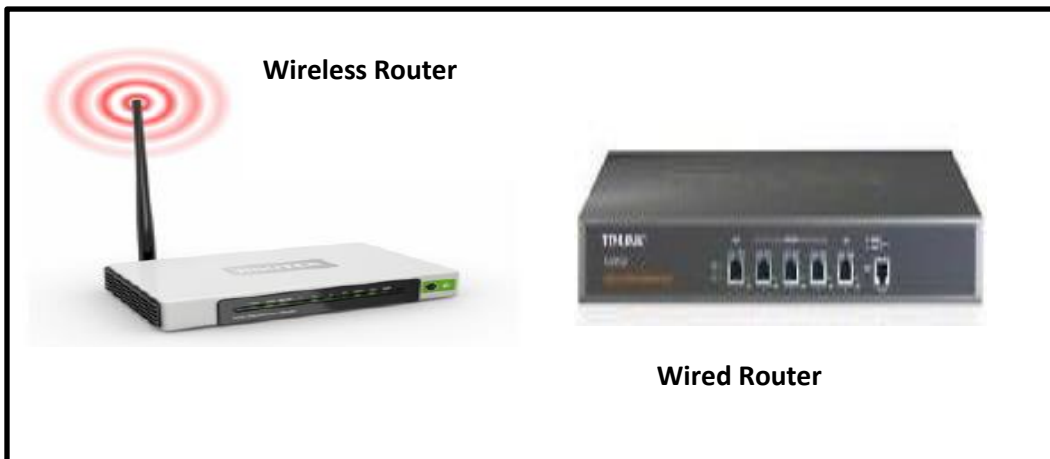
1. Define **Information System (IS) Infrastructure**.

Skill level 1	
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2. Software can be classified as Open Source and Proprietary Software. Define **Proprietary software**.

Skill level 1	
1	
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3. Given below are pictures of the two types of routers. (i.e. a wireless router and a wired router). Describe a key feature of a router.



Skill level 2	
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4. The use of wireless technology is very common nowadays here in Tonga.

Explain clearly the technology behind the use of wireless technology. Use examples to clarify your explanation.

Skill level 3	
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5. You can get a lot of software from the Internet.

However, explain the main difficulties that can happen in downloading or installing of software from the Internet.

Skill level 3	
3	
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SECTION 2: Digital Design

1. Identify a common media production requirement in schools.

Skill level 1	
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2. Identify a common web design requirement in schools.

Skill level 1	
1	
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3. Describe **ONE** (1) of the elements of good graphic design.

Skill level 2	
2	
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SECTION 3: Computation thinking and Programming

Part A: Computer Programming

1. Define **programming**.

Skill level 1	
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2. Name a common problem solving technique used in programming.

Skill level 1	
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3. One of the 5 basic concepts of programming is **control structures**.
Use a simple example to describe the concept.

Skill level 2	
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4. Explain the process involved in providing a program solution to a given problem.

Skill level 3	
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Part B: Microprocessor Programming

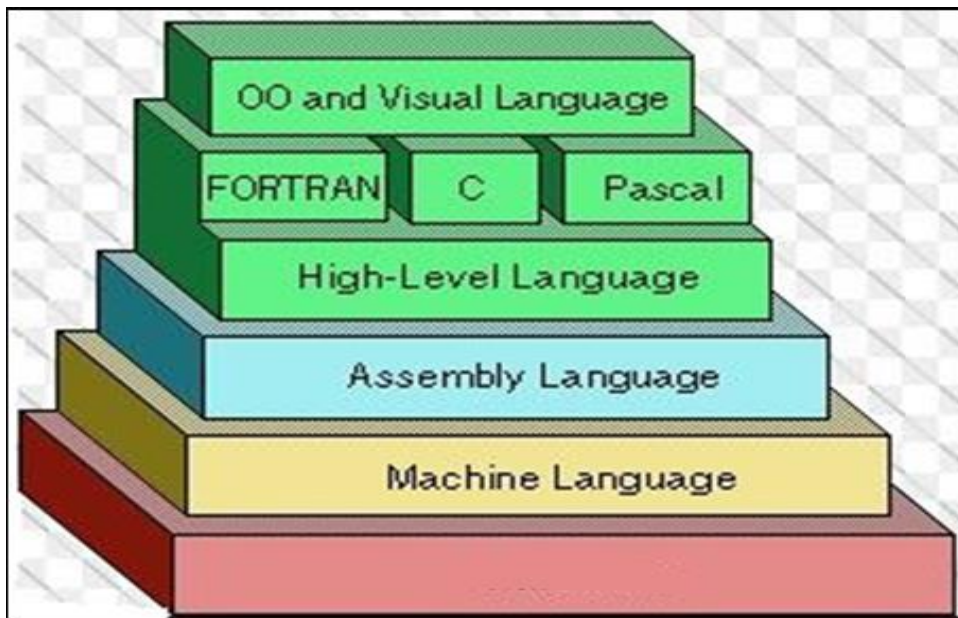
1. Define **microprocessor**.

Skill level 1	
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2. Beside from a computer, name another device that uses a microprocessor.

Skill level 1	
1	
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3. Shown below are different types of computer languages existed in today's computers.



- i. Describe the purpose of a High-Level Language.

Skill level 2	
2	
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- ii. Explain the link between a high level language and a machine language.

	Skill level 3	
	3	
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SECTION 4 : SAFE PRACTICES IN ICT

1. Define **Cyber Security**.

Skill level 1	
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2. Identify a type of ICT security system that can be used to protect PCs.

Skill level 1	
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3. Explain the basic security measures to protect ICT users and their environment.

Skill level 3	
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4. Suggest an effective safety standard to be used in ICT.

Skill level 3	
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SECTION 5: Careers and Concerns in ICT

Part A: Careers in ICT

1. Define **ethics** as used in ICT.

Skill level 1	
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2. Identify a common ethical issue in ICT.

Skill level 1	
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3. Outline the growing social issues in ICT regarding plagiarism.

Skill level 2	
2	
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4. Explain the negative effects of unethical behavior in ICT on computer users.

Skill level 3	
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Part B: Environmental Issues

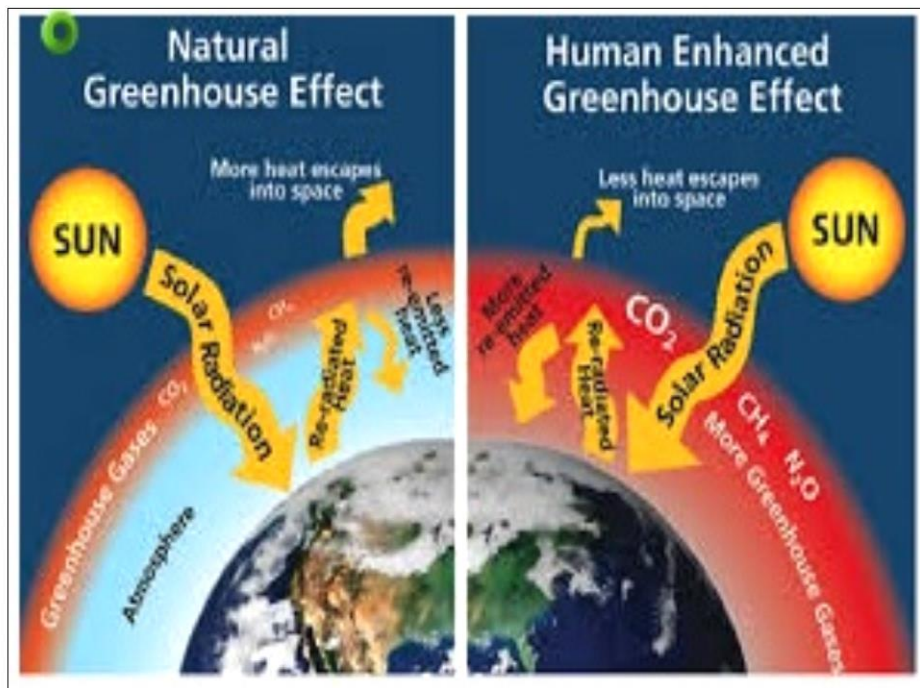
1. State the major impact of ICT on the physical environment.

Skill level 1	
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2. State the main effective measure for managing e-waste.

Skill level 1	
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4. Outline the major impact of the growing use of ICT in relations to climate change.



Skill level 2	
2	
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4. Assess the effective measures being implemented globally to address the concerns with the growing use of ICT on the environment.

[illegible]

Skill level 3	
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- Discuss a sustainable plan that can be used (or has been used) by Tonga to lessen the concerns with the negative effects of ICT on the environment.

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Skill level 4	
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