

MARKER CODE				



STUDENT ENROLMENT NUMBER (SEN)									

TONGA FORM SIX CERTIFICATE 2018 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. This paper consists of **NINE QUESTIONS** and is out of 70 Skill Level.

QUESTIONS	TOPICS	TOTAL SKILL LEVEL
ONE	IMPORTANT TRENDS IN ICT	6
TWO	INFORMATION SYSTEMS (IS)	10
THREE	ICT INFRASTRUCTURE	11
FOUR	DIGITAL DESIGN	8
FIVE	COMPUTER PROGRAMMING	6
SIX	MICROPROCESSOR PROGRAMMING	8
SEVEN	SAFE PRACTICES IN ICT	9
EIGHT	SOCIAL ISSUES	7
NINE	ENVIRONMENTAL ISSUES	5
	TOTAL	70

3. Answer ALL QUESTIONS. Write your answers in the spaces provided in this booklet.
4. Use a **BLUE** or **BLACK** ball point pen only for writing. Use a pencil for drawing if required.
5. If you need more spaces for answers, ask the supervisor for extra paper. Write your **Student Enrolment Number (SEN)** on each additional sheet, number the questions clearly and insert them in the appropriate places in this booklet.
6. Check that this booklet contains pages **2-19** in the correct order and that pages 17-19 has been deliberately left blank.

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

QUESTION ONE: IMPORTANT TRENDS IN ICT

Showing below is a list of the top existing ICT trends that are available here in Tonga. Use the list to help you answer the questions that follow.

Top Current ICT Trends
Cloud services
e-learning
e-government
Enterprise IT
Mobile and Wifi services
Consumer IT

1. Give the meaning of ICT.

Skill level 1	
1	
0	
NR	

2. Name **ONE** (1) of the major concerns in promoting existing ICT trends here in Tonga.

Skill level 1	
1	
0	
NR	

3. Analyse the contributions made by the Government of Tonga in promoting existing ICT trends and other technological developments.

Skill level 4	
4	
3	
2	
1	
0	
NR	

QUESTION TWO: INFORMATION SYSTEMS (IS)

Ha'afeva High School is hoping to introduce the use of Information Systems that will allow the school management to improve its daily operations. You have been asked to advise the school management about Information Systems by answering the following questions.

1. Name **ONE** (1) known type of IS.

Skill level 1	
1	
0	
NR	

2. State a known feature of an IS.

Skill level 1	
1	
0	
NR	

3. Outline possible uses of IS for Ha'afeva High School.

Skill level 2	
2	
1	
0	
NR	

4. Explain the major benefits of IS development for the school management.

Skill level 3	
3	
2	
1	
0	
NR	

5. Organise the requirements for an IS implementation at Ha'afeva High School.

Skill level 3	
3	
2	
1	
0	
NR	

QUESTION THREE: ICT INFRASTRUCTURE

1. State a type of data transmission medium in ICT.

Skill level 1	
1	
0	
NR	

Software whether commercial or open source can be downloaded and installed from the Internet.

2. State **ONE** (1) issue with downloading and installing software from the Internet.

Skill level 1	
1	
0	
NR	

3. Outline the key features of a Network Interface Cards (NIC).

Skill level 2	
2	
1	
0	
NR	

4. Distinguish between cable and wireless technologies when using within an ICT infrastructure

Skill level 3	
3	
2	
1	
0	
NR	

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Skill level 4	
4	
3	
2	
1	
0	
NR	

QUESTION FOUR: DIGITAL DESIGN

Leading a digital media development team for a local media design company requires a good understanding of the concepts for processing graphics, audio, video and web design. Show that you can lead the design team by answering the following questions.



1. Define Digital Media.

Skill level 1	
1	
0	
NR	

2. Identify a type of Digital Media.

Skill level 1	
1	
0	
NR	

3. State **ONE** (1) of the main functions of an audio device (e.g. audio adapter).

Skill level 1	
1	
0	
NR	

4. State a key feature of a Video Processing application (software).

Skill level 1	
1	
0	
NR	

5. State a key feature of a graphic design application.

Skill level 1	
1	
0	
NR	

6. Creating a website is a process that includes designing of page layouts and graphics. State another major part of the process.

Skill level 1	
1	
0	
NR	

7. A close friend is publishing a book and is asking for your help to design the cover of his book. Describe the graphic design requirements for your friend's book cover.

Skill level 2	
2	
1	
0	
NR	

QUESTION FIVE: COMPUTER PROGRAMMING

1. State the purpose of 'variables' in programming.

Skill level 1	
1	
0	
NR	

2. Convert the hexadecimal number **F6** to binary and from binary to decimal.
(Show your working)

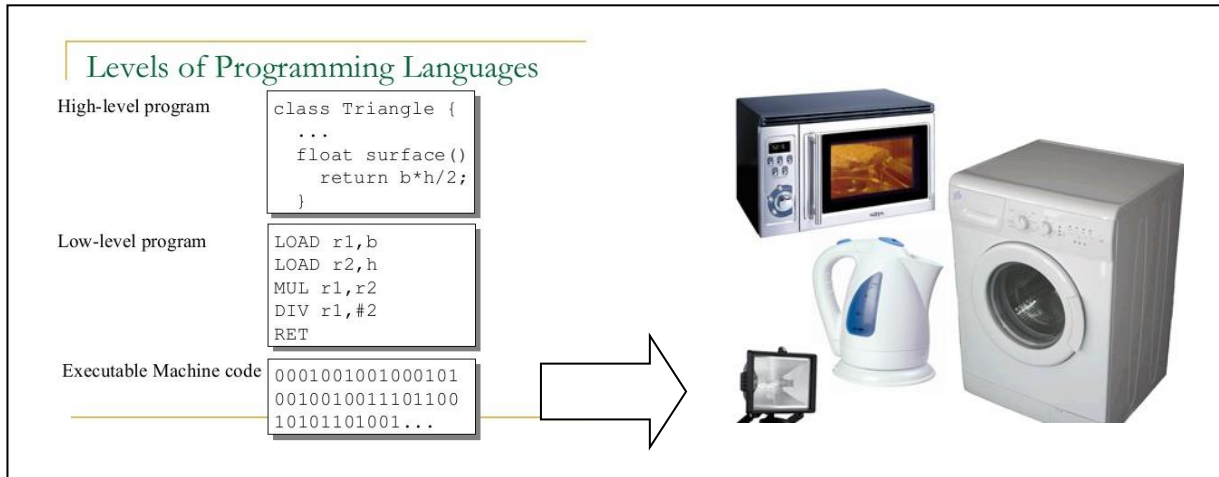
Skill level 2	
2	
1	
0	
NR	

3. Explain the process of computer programming.

Skill level 3	
3	
2	
1	
0	
NR	

QUESTION SIX: MICROPROCESSOR PROGRAMMING

Study the diagram below to help you answer the questions that follow.



1. Define 'Machine Code'.

Skill level 1	
1	
0	
NR	

2. State the purpose of a high level language.

Skill level 1	
1	
0	
NR	

3. Describe the purpose of a machine language.

Skill level 2	
2	
1	
0	
NR	

Skill level 4	
4	
3	
2	
1	
0	
NR	

QUESTION SEVEN:

SAFE PRACTICES IN ICT

*You have been asked to prepare a news article about the newly established national Computer Emergency Response Team (CERT). The team will be guiding the country in ICT and Cyber security matters. Prepare your article regarding the work of CERT by **EXPLAINING** the following:*

1. Main features of ICT security systems.

[illegible]

Skill level 3	
3	
2	
1	
0	
NR	

2. Major concerns with Cyber security.

[illegible]

Skill level 3	
3	
2	
1	
0	
NR	

3. Known Security standards used in ICT.

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Skill level 3	
3	
2	
1	
0	
NR	

“As much as information technology is important to our lives, it is facing some serious ethical challenges and it is up to the IT experts and users of information technology to be ready for these challenges.”

Answer the following questions to show that you support the statement.

- | Skill level 1 | |
|---------------|--|
| 1 | |
| 0 | |
| NR | |

- | Skill level 3 | |
|---------------|--|
| 3 | |
| 2 | |
| 1 | |
| 0 | |
| NR | |

3. Explain key measures that are used locally and globally to minimize the impact of ethical concerns in ICT.

Skill level 3	
3	
2	
1	
0	
NR	

QUESTION NINE: ENVIRONMENTAL ISSUES

ICT can help us in our daily lives, can improve our economy and productivity, but can also harm our environment. To help the Tonga Government in assessing the impact of ICT in our environment, you have to develop a sustainable plan of action by responding correctly to the following;

1. State a known impact of the growing use of ICT in relation to climate change.

Skill level 1	
1	
0	
NR	

2. State an effective way to manage e-waste here in Tonga.

Skill level 1	
1	
0	
NR	

3. Explain the major parts of your plan (sustainable plan) that can address the environmental effects of ICT.

Skill level 3	
3	
2	
1	
0	
NR	

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