

MARKER CODE				



STUDENT ENROLMENT NUMBER (SEN)									

TONGA NATIONAL FORM SEVEN 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 booklet.
2. This paper consists of **NINE QUESTIONS** and is out of 70 Skill Level.

QUESTIONS	TOPICS	TOTAL SKILL LEVEL
ONE	FUTURE TRENDS IN ICT	5
TWO	INFORMATION SYSTEMS (IS)	10
THREE	ICT INFRASTRUCTURE	9
FOUR	DIGITAL DESIGN	12
FIVE	COMPUTER PROGRAMMING	6
SIX	MICROPROCESSOR PROGRAMMING	6
SEVEN	SAFE PRACTICES IN ICT	8
EIGHT	SOCIAL ISSUES	6
NINE	ENVIRONMENTAL ISSUES	8
	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 space for answers, ask the Supervisor for extra paper. Write your **Student Enrolment Number (SEN)** on all extra sheets used and clearly number the questions. Attach the extra sheets at the appropriate places in this booklet.
6. Check that this booklet contains pages **2-15** in the correct order and that none of the pages is blank.

YOU MUST HAND IN THIS BOOKLET TO THE SUPERVISOR AT THE END OF THE EXAMINATION.

QUESTION ONE: FUTURE TRENDS IN ICT

The future changes in the ICT industry will be a challenge for many countries including Tonga. Demonstrate your understanding of how Tonga can be ready for these changes by answering the questions that follow.



1. Outline some of the important factors that are required for Tonga to be ready for future ICT trends.

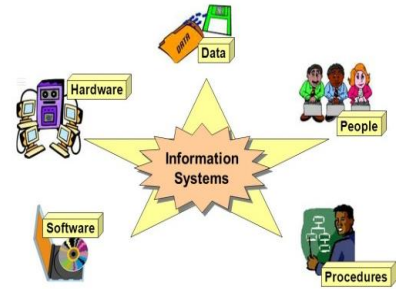
Skill level 2	
2	
1	
0	
NR	

2. Explain the importance of future ICT trends to the development of Tonga.

Skill level 3	
3	
2	
1	
0	
NR	

QUESTION TWO: INFORMATION SYSTEMS (IS)

Failing to implement Information Systems (IS) properly is a major concern for many organisations in the world. Provide some important points that can be used as part of an IS implementation plan for Pacific Island Countries (PIC) by answering the following questions.



1. Name an IS application that you know that is used by a local organisation.

Skill level 1	
1	
0	
NR	

2. Outline the common characteristics of the IS application named in question 1. above.

Skill level 2	
2	
1	
0	
NR	

3. Explain the main concerns in implementing IS applications in Pacific Island Countries (PICs).

Skill level 3	
3	
2	
1	
0	
NR	

Skill level 4	
4	
3	
2	
1	
0	
NR	

QUESTION THREE: ICT INFRASTRUCTURE

Assess the requirements for implementing and installing of a new Information and Communication Technology (ICT) Infrastructure for a local organisation by completing the following questions.

1. State a key feature of a Wide Area Network (WAN).

Skill level 1	
1	
0	
NR	

2. Outline the features of a Wireless Network.

Skill level 2	
2	
1	
0	
NR	

3. Explain the major issues that can affect the implementation of this new ICT infrastructure.

Skill level 3	
3	
2	
1	
0	
NR	

4. Provide a brief explanation of your preferred choice of software for the local organisation, between open-source and proprietary software.

Skill level 3	
3	
2	
1	
0	
NR	

QUESTION FOUR:**DIGITAL DESIGN**

TCC wants a media advisor regarding the launching (official opening) of their new 4G network. You need to show TCC that you can be their media advisor by completing the following questions.



1. Name **ONE** (1) of the common audio devices that can be used for the launch.

Skill level 1	
1	
0	
NR	

2. Outline key functions of the audio device named in 1. above.

Skill level 2	
2	
1	
0	
NR	

3. Outline key graphic design requirements that you may need for promoting TCC's 4G official opening.

Skill level 2	
2	
1	
0	
NR	

- [illegible]

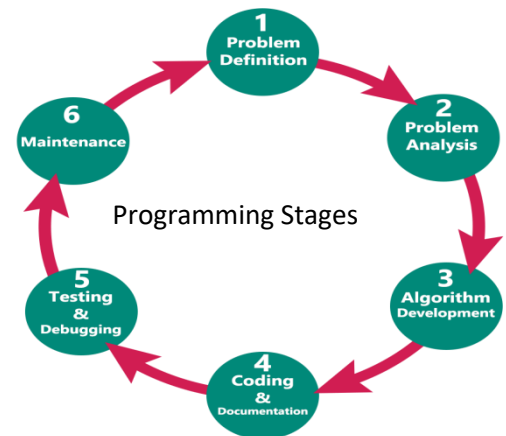
Skill level 3	
3	
2	
1	
0	
NR	

- [illegible]

Skill level 4	
4	
3	
2	
1	
0	
NR	

QUESTION FIVE: COMPUTER PROGRAMMING

Use your understanding of the computer programming stages shown on the diagram to help you answer the questions that follow.



1. State the purpose of Programming.

Skill level 1	
1	
0	
NR	

2. Outline the key components in the **designing stage** of a computer program.

Skill level 2	
2	
1	
0	
NR	

3. Explain the different types of programming errors during the **testing stage**.

Skill level 3	
3	
2	
1	
0	
NR	

QUESTION SIX: MICROPROCESSOR PROGRAMMING

From air conditioning units to airplanes, microprocessors are being used in almost every electronic device today. You have been short listed for a position at INTEL; a company that develops different types of microprocessors for computers and other digital devices. You can prepare for your job interview by answering the following questions.

1. Define embedded microprocessor.

Skill level 1	
1	
0	
NR	

2. Outline the process involved in changing a high level code to a low level code in microprocessor programming.

Skill level 2	
2	
1	
0	
NR	

3. Explain the impact of error free programs when used in devices with embedded microprocessors.

Skill level 3	
3	
2	
1	
0	
NR	

QUESTION SEVEN: SAFE PRACTICES IN ICT

Use the passage below to answer the questions that follow;

As of January 2008, the internet connected an estimated 541.7 million computers in more than 250 countries on every continent. The internet is not a single network, but a worldwide collection of loosely connected networks that are accessible by individual computer hosts, in a variety of ways, to anyone with a computer and a network connection. Thus, **organisations** can reach any point on the internet without regard to national or geographic boundaries or time of day. However, along with the convenience and easy access to information come **security threats**.

1. State a security threat to an organization's ICT systems posed by employees.

Skill level 1	
1	
0	
NR	

2. Outline the common Cyber security threats that the passage is talking about.

Skill level 2	
2	
1	
0	
NR	

3. Outline key Cyber security guidelines or measures that can be used to address the threats.

Skill level 2	
2	
1	
0	
NR	

Facebook is one of the fastest growing online services in the world.



4. Explain the issues with regard to having an online identity when using Facebook.

Skill level 3	
3	
2	
1	
0	
NR	

QUESTION EIGHT:**SOCIAL ISSUES**

Study the concept below and answer the questions that follow.

Cyber Crime Concept

After building a home, it comes with a door and lock. You always ensure that the door is locked and working properly. You may purchase a security system for your home.

Likewise, your ICT system is your home, and you need security tools to keep your home safe and secure.

1. Describe any known cases of cyber-crimes in Pacific Island Countries (PICs).

Skill level 2	
2	
1	
0	
NR	

2. Explain the key efforts being implemented in PICs to minimize or stop cyber-crimes.

Skill level 3	
3	
2	
1	
0	
NR	

3. Identify a known issue that affects PICs in their effort to minimize or stop cyber-crimes.

Skill level 1	
1	
0	
NR	

QUESTION NINE: ENVIRONMENTAL ISSUES

You have been asked to speak at a “GREEN ICT” convention about ICT and the Environment using the poster below.



Develop the key points for your speech by completing the questions that follow;

1. State a known environmental concern with dumping ICT waste in landfills.

Skill level 1	
1	
0	
NR	

2. Outline the various options for managing ICT waste.

Skill level 2	
2	
1	
0	
NR	

3. Outline effective ways that technology can be used to address environmental problems associated with the use of ICT.

Skill level 2	
2	
1	
0	
NR	

4. Explain the important measures that can be used to develop a sustainable ICT industry.

Skill level 3	
3	
2	
1	
0	
NR	