

MARKER CODE				



STUDENT ENROLMENT NUMBER (SEN)									

TONGA SCHOOL CERTIFICATE

2018

COMPUTING AND ICT

QUESTION AND ANSWER BOOKLET

Time Allowed: 2 Hours + 10 minutes reading

INSTRUCTIONS:

1. Write your **Student Enrolment Number (SEN)** on the top right hand corner of this page.
2. This paper consists of **10 QUESTIONS** and is out of 70 Skill Level.

QUESTIONS	TOPICS	TOTAL SKILL LEVEL
ONE	DIGITAL TECHNOLOGIES	5
TWO	COMPUTER SYSTEMS	15
THREE	ONLINE RESOURCES	10
FOUR	PC APPLICATIONS	6
FIVE	DESIGN APPLICATIONS	7
SIX	PROGRAMMING	8
SEVEN	SAFE HANDLING OF PC'S	6
EIGHT	CAREERS IN ICT	3
NINE	ETHICAL ISSUES	5
TEN	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 addition sheet, number the questions clearly and insert them in the appropriate part of your booklet.
6. Check that this booklet contains pages **2-19** in the correct order and that page 17-19 has been deliberately left blank.

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

QUESTION ONE: DIGITAL TECHNOLOGIES

The diagrams below show examples of the change from the early years of digital technologies to new innovations in digital technologies such as tablets and the internet. Study the diagrams and answer the questions that follow.



Early years of Digital Technologies.



Current Digital Technologies

1. Define Digital Technologies.

Skill level 1	
1	
0	
NR	

2. Name **ONE** (1) of the key inventions in the early years of the internet.

Skill level 1	
1	
0	
NR	

3. Explain the impact of digital technologies in the work place in Tonga.

Skill level 3	
3	
2	
1	
0	
NR	

QUESTION TWO: COMPUTER SYSTEMS

A Personal Computer (PC) is made up of different components. Use your understanding of these components and how a PC works to answer the questions that follow.

1. Name **ONE** (1) major internal hardware component.

Skill level 1	
1	
0	
NR	

2. Name **ONE** (1) common processing device.

Skill level 1	
1	
0	
NR	

3. State a common problem when booting up a PC.

Skill level 1	
1	
0	
NR	

4. Outline the PC boot-up sequence

Skill level 1	
2	
1	
0	
NR	

Printers and computer mice are common but very important peripheral devices.

5. Briefly explain the basic technologies behind;

a. Laser printers.

This image shows a single sheet of white paper with horizontal blue or grey ruling lines. The lines are evenly spaced and run across the width of the page. There is no handwriting or other markings on the paper.

Skill level 3	
3	
2	
1	
0	
NR	

b. Optical mice.

This image shows a blank sheet of white paper with horizontal blue or grey ruling lines, typical of notebook paper. The lines are evenly spaced and run across the width of the page. There is no handwriting or other markings on the paper.

Skill level 3	
3	
2	
1	
0	
NR	

Windows is an example of an Operating System (OS) which is used by a working PC to manage its resources.



6. Discuss the core OS functions for managing PC resources.

This image shows a blank sheet of white paper with horizontal ruling lines. The lines are evenly spaced and run across the width of the page. There are no margins, text, or other markings on the paper.

Skill level 4	
4	
3	
2	
1	
0	
NR	

QUESTION THREE: ONLINE RESOURCES

There are big and small data networks but they all provide the platform for people to stay connected and to be able to communicate and to access the World-Wide-Web for using electronic services (e-services) or resources (e-resources).

1. In Data Networking or Data Communication;

a. State a component of Data Communication.

Skill level 1	
1	
0	
NR	

b. Distinguish key features of different network topologies.

Skill level 3	
3	
2	
1	
0	
NR	

c. Describe the functions of a “Router”.

Skill level 2	
2	
1	
0	
NR	

- d. Use the space below to provide a sketch (draw) to show the Internetworking concept.



Skill level 2	
2	
1	
0	
NR	

2. Regarding Network services;

- a. Name an example (type) of e-resources.

Skill level 1	
1	
0	
NR	

- b. State **ONE** (1) of the main benefits of e-resources.

Skill level 1	
1	
0	
NR	

QUESTION FOUR:**PC APPLICATIONS**

You have been asked to assist with your school's PC application support team. To be part of the team depends on your good understanding of key concepts of common PC applications. Answer the following questions to show that you can be part of the support team.

1. Identify a specific database requirement for an organization.

Skill level 1	
1	
0	
NR	

2. Write a basic SQL command to show all records on a Database table named "STUDENT".

Skill level 1	
1	
0	
NR	

3. Outline the benefits of using a spreadsheet application.

Skill level 2	
2	
1	
0	
NR	

4. Outline the purpose of a basic SQL command.

Skill level 2	
2	
1	
0	
NR	

QUESTION FIVE: DESIGN APPLICATIONS

A good understanding of HTML, the World-Wide-Web and graphic design are very important in developing web sites. Show that you can be able to develop a website by answering the questions that follow.

1. Define World - Wide -Web (www).

Skill level 1	
1	
0	
NR	

2. Outline key concepts of Graphic Designs.

Skill level 2	
2	
1	
0	
NR	

3. Outline key web-design requirements.

Skill level 2	
2	
1	
0	
NR	

4. Outline the required components for accessing Online Services on the World Wide Web.

Skill level 2	
2	
1	
0	
NR	

QUESTION SIX:**PROGRAMMING**

Knowing how to develop good computer programs is very important for finding a good job in ICT. Show that you can be able to find a good job in ICT by answering questions 1, 2 and 3 regarding computer programming.

1. Define Algorithm.

Skill level 1	
1	
0	
NR	

2. Outline the main stages of computer programming.

Skill level 2	
2	
1	
0	
NR	

3. Outline the benefits of using the major stages of programming.

Skill level 2	
2	
1	
0	
NR	

4. Use the space below to draw a basic flow diagram for a program that can ADD **TWO** (2) numbers.



Skill level 3	
3	
2	
1	
0	
NR	

QUESTION SEVEN: SAFE HANDLING OF PC'S

Computer Safety and Security is now a priority (very important) for the Tonga Government and they are looking to hire a security advisor. As a potential computer security advisor for the Tonga Government, please respond to the following questions to confirm your appointment.

1. Define data security.

Skill level 1	
1	
0	
NR	

2. Assess and report on security measures that can be used to protect Government PCs.

Skill level 2	
2	
1	
0	
NR	

3. Explain the effect of common safety conditions on Government PCs.

Skill level 3	
3	
2	
1	
0	
NR	

QUESTION EIGHT:**CAREERS IN ICT**

ICT jobs are on high demand around the world. To find an ICT job, you must know what you're looking for. Show your understanding of the ICT Job market by answering the following questions.

1. Name a type of ICT Job.

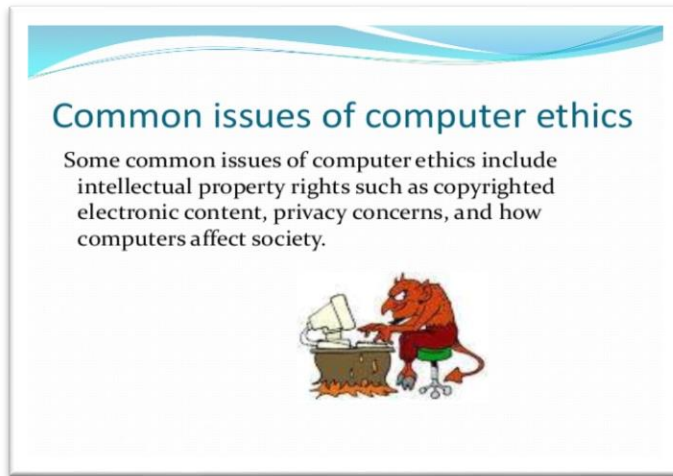
Skill level 1	
1	
0	
NR	

2. Outline the main responsibilities of the type of job that you identified in question 1. above.

Skill level 2	
2	
1	
0	
NR	

QUESTION NINE: ETHICAL ISSUES

Study the information provided below regarding computer ethics to answer questions 1 and 2.



1. State an effect of unethical behaviour in ICT.

Skill level 1	
1	
0	
NR	

2. Explain the issues faced by Tonga in trying to address ethical issues in ICT.

Skill level 3	
3	
2	
1	
0	
NR	

3. State an example of a rule or an ethical principal that can be part of a code of ethics to be followed by ICT professionals.

Skill level 1	
1	
0	
NR	

QUESTION TEN:**ENVIRONMENTAL ISSUES**

The growing problems in Tonga with our increasing use of digital technologies are electronic waste (e-waste) and high use of electricity. Unfortunately, the public are not well informed about the problems. Prepare an information pack for a local newspaper regarding the problems, by answering the following questions.

1. State a major concern with e-waste.

Skill level 1	
1	
0	
NR	

2. Identify a key point that can be part of a sustainable proposal to reduce the impact of e-waste.

Skill level 1	
1	
0	
NR	

3. Explain the common measures that can help reduce the impact of ICT on the environment.

Skill level 3	
3	
2	
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