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.

<table>
<thead>
<tr>
<th>QUESTIONS</th>
<th>TOPICS</th>
<th>TOTAL SKILL LEVEL</th>
</tr>
</thead>
<tbody>
<tr>
<td>ONE</td>
<td>DIGITAL TECHNOLOGIES</td>
<td>5</td>
</tr>
<tr>
<td>TWO</td>
<td>COMPUTER SYSTEMS</td>
<td>15</td>
</tr>
<tr>
<td>THREE</td>
<td>ONLINE RESOURCES</td>
<td>10</td>
</tr>
<tr>
<td>FOUR</td>
<td>PC APPLICATIONS</td>
<td>6</td>
</tr>
<tr>
<td>FIVE</td>
<td>DESIGN APPLICATIONS</td>
<td>7</td>
</tr>
<tr>
<td>SIX</td>
<td>PROGRAMMING</td>
<td>8</td>
</tr>
<tr>
<td>SEVEN</td>
<td>SAFE HANDLING OF PC’S</td>
<td>6</td>
</tr>
<tr>
<td>EIGHT</td>
<td>CAREERS IN ICT</td>
<td>3</td>
</tr>
<tr>
<td>NINE</td>
<td>ETHICAL ISSUES</td>
<td>5</td>
</tr>
<tr>
<td>TEN</td>
<td>ENVIRONMENTAL ISSUES</td>
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<td><strong>TOTAL</strong></td>
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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.

1. Define Digital Technologies.

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

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

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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.

____________________________________________________________________

2. Name ONE (1) common processing device.

____________________________________________________________________

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

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____________________________________________________________________

4. Outline the PC boot-up sequence

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Skill level 1
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Skill level 1
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Printers and computer mice are common but very important peripheral devices.

5. Briefly explain the basic technologies behind:

a. Laser printers.

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b. Optical mice.

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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.

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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.

   __________________________________________________________
   __________________________________________________________
   __________________________________________________________

   b. Distinguish key features of different network topologies.

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   c. Describe the functions of a “Router”.

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

2. Regarding Network services;
   a. Name an example (type) of e-resources.

   ________________________________________________________________________

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

   ________________________________________________________________________
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.

__________________________________________________________________________

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

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3. Outline the benefits of using a spreadsheet application.

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4. Outline the purpose of a basic SQL command.

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Skill level 2

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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).

______________________________________________________________________
______________________________________________________________________

2. Outline key concepts of Graphic Designs.

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3. Outline key web-design requirements.

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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.

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2. Outline the main stages of computer programming.

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

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

______________________________________________________________________

______________________________________________________________________

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

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

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Skill level 1

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Skill level 3

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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.
   
   ____________________________________________________________

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

Skill level 1
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Skill level 2
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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.

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______________________________________________________________________

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

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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.
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.
______________________________________________________________________
______________________________________________________________________
______________________________________________________________________

2. Identify a key point that can be part of a sustainable proposal to reduce the impact of e-waste.
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3. Explain the common measures that can help reduce the impact of ICT on the environment.
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