

MARKER CODE


 Pacific
Community
Communauté
du Pacifique


Student Personal Identification Number

South Pacific Form Seven Certificate

INFORMATION AND COMMUNICATIONS TECHNOLOGY

2022

QUESTION and ANSWER BOOKLET

Time allowed: Three hours

(An extra 10 minutes is allowed for reading this paper)

INSTRUCTIONS

1. Write your **Student Personal Identification Number (SPIN)** in the space provided on the top right-hand corner of this page.
2. Answer **ALL QUESTIONS**. Write your answers in the spaces provided in this booklet.
3. If you need more space for answers, ask the Supervisor for extra paper. Write your SPIN on all extra sheets used and clearly number the questions. Attach the extra sheets at the appropriate places in this booklet.

Major Learning Outcomes (Achievement Standards)	Skill Level & Number of Questions				Weight/ Time
	Level 1 <i>Uni- structural</i>	Level 2 <i>Multi- structural</i>	Level 3 <i>Relational</i>	Level 4 <i>Extended Abstract</i>	
Strand 1: Digital Media Understand the differences between open source and proprietary software and be able to use digital media concepts in ICT to design and develop a media product.	4	1	2	-	12% 36 min
Strand 2: Website Development Understand the key concepts of website development and the use of web-driven databases.	1	3	1	-	10% 30 min
Strand 3: Programming Understand programming concepts through the use of appropriate programming languages.	5	-	1	1	12% 36 min
Strand 4: Microprocessor Control Understand the principles of microprocessor control and the use of programmable microprocessors to control embedded devices.	2	-	-	1	6% 18 min
Strand 5: Issues in ICT Understand the major concerns with the use of ICT and the important measures that can be used to minimise the concerns or provide some level of safety and security.	6	4	2	-	20% 60 min
TOTAL	18	8	6	2	60% 180 min

Check that this booklet contains pages 2–15 in the correct order and that none of these pages are blank.

HAND THIS BOOKLET TO THE SUPERVISOR AT THE END OF THE EXAMINATION.

STRAND 1: DIGITAL MEDIA*Assessor's use only*

	<p>Use the information below to answer questions 1.1a–1.3.</p> <p>Provide your responses to the following questions to prepare you well for a job interview. The position is Digital Media Specialist with Fiji TV.</p>									
1.1a	<p>Define proprietary software.</p> <hr/> <hr/> <hr/>	<table border="1"> <tr> <th colspan="2">Unistructural</th> </tr> <tr> <td>1</td> <td></td> </tr> <tr> <td>0</td> <td></td> </tr> <tr> <td>NR</td> <td></td> </tr> </table>	Unistructural		1		0		NR	
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1.1b	<p>State a key strength of using a proprietary software.</p> <hr/> <hr/> <hr/>	<table border="1"> <tr> <th colspan="2">Unistructural</th> </tr> <tr> <td>1</td> <td></td> </tr> <tr> <td>0</td> <td></td> </tr> <tr> <td>NR</td> <td></td> </tr> </table>	Unistructural		1		0		NR	
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1.1c	<p>Define digital media.</p> <hr/> <hr/> <hr/>	<table border="1"> <tr> <th colspan="2">Unistructural</th> </tr> <tr> <td>1</td> <td></td> </tr> <tr> <td>0</td> <td></td> </tr> <tr> <td>NR</td> <td></td> </tr> </table>	Unistructural		1		0		NR	
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1.1d	<p>Name a type of digital media.</p> <hr/> <hr/> <hr/>	<table border="1"> <tr> <th colspan="2">Unistructural</th> </tr> <tr> <td>1</td> <td></td> </tr> <tr> <td>0</td> <td></td> </tr> <tr> <td>NR</td> <td></td> </tr> </table>	Unistructural		1		0		NR	
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1.2a	<p>You are to set up the video conferencing system for a business meeting. To ensure proper communication, there are a number of hardware and software requirements for video conferencing that must be met.</p> <p>List two significances of using appropriate graphics cards.</p> <hr/> <hr/> <hr/> <hr/> <hr/>	<table border="1"> <thead> <tr> <th colspan="2">Multistructural</th> </tr> </thead> <tbody> <tr> <td>2</td> <td></td> </tr> <tr> <td>1</td> <td></td> </tr> <tr> <td>0</td> <td></td> </tr> <tr> <td>NR</td> <td></td> </tr> </tbody> </table>	Multistructural		2		1		0		NR			
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1.2b	<p>Explain the requirements for developing a video output.</p> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/>	<table border="1"> <thead> <tr> <th colspan="2">Relational</th> </tr> </thead> <tbody> <tr> <td>3</td> <td></td> </tr> <tr> <td>2</td> <td></td> </tr> <tr> <td>1</td> <td></td> </tr> <tr> <td>0</td> <td></td> </tr> <tr> <td>NR</td> <td></td> </tr> </tbody> </table>	Relational		3		2		1		0		NR	
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STRAND 2: WEBSITE DEVELOPMENT*Assessor's use only*

	<p>Use the information below to answer questions 2.1–2.5.</p> <p>As a Form 7 ICT student, present to the school management that you are capable of re-designing the current school website by responding to the questions that follow.</p>													
2.1	<p>List two principles of a good website design.</p> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/>	<table border="1"> <tr> <th colspan="2">Multistructural</th> </tr> <tr> <td>2</td> <td></td> </tr> <tr> <td>1</td> <td></td> </tr> <tr> <td>0</td> <td></td> </tr> <tr> <td>NR</td> <td></td> </tr> </table>	Multistructural		2		1		0		NR			
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2.2	<p>Explain the importance of key web design requirements for the school.</p> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/>	<table border="1"> <tr> <th colspan="2">Relational</th> </tr> <tr> <td>3</td> <td></td> </tr> <tr> <td>2</td> <td></td> </tr> <tr> <td>1</td> <td></td> </tr> <tr> <td>0</td> <td></td> </tr> <tr> <td>NR</td> <td></td> </tr> </table>	Relational		3		2		1		0		NR	
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2.3	<p>Outline any two steps involved in the validation process of websites.</p> <hr/> <hr/> <hr/> <hr/> <hr/>	<table border="1"> <thead> <tr> <th colspan="2">Multistructural</th> </tr> </thead> <tbody> <tr> <td>2</td> <td></td> </tr> <tr> <td>1</td> <td></td> </tr> <tr> <td>0</td> <td></td> </tr> <tr> <td>NR</td> <td></td> </tr> </tbody> </table>	Multistructural		2		1		0		NR	
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2.4	<p>The school wants a database-driven website. State a key benefit of having a database-driven website.</p> <hr/> <hr/> <hr/>	<table border="1"> <thead> <tr> <th colspan="2">Unistructural</th> </tr> </thead> <tbody> <tr> <td>1</td> <td></td> </tr> <tr> <td>0</td> <td></td> </tr> <tr> <td>NR</td> <td></td> </tr> </tbody> </table>	Unistructural		1		0		NR			
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2.5	<p>Outline two required components in developing a database-driven website.</p> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/>	<table border="1"> <thead> <tr> <th colspan="2">Multistructural</th> </tr> </thead> <tbody> <tr> <td>2</td> <td></td> </tr> <tr> <td>1</td> <td></td> </tr> <tr> <td>0</td> <td></td> </tr> <tr> <td>NR</td> <td></td> </tr> </tbody> </table>	Multistructural		2		1		0		NR	
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STRAND 3: PROGRAMMING*Assessor's use only*

	<p>Use the information below to answer questions 3.1a–3.4.</p> <p>To join the programming team of a local ICT firm, new recruits who can answer the following questions correctly are required. Show that you can join the ICT firm.</p> <p>Define the following programming terms for questions 3.1a–3.1d.</p>									
3.1a	<p>Problem-solving.</p> <hr/> <hr/> <hr/>	<table border="1"> <thead> <tr> <th colspan="2">Unistructural</th> </tr> </thead> <tbody> <tr> <td>1</td> <td></td> </tr> <tr> <td>0</td> <td></td> </tr> <tr> <td>NR</td> <td></td> </tr> </tbody> </table>	Unistructural		1		0		NR	
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3.1b	<p>Programming language.</p> <hr/> <hr/> <hr/>	<table border="1"> <thead> <tr> <th colspan="2">Unistructural</th> </tr> </thead> <tbody> <tr> <td>1</td> <td></td> </tr> <tr> <td>0</td> <td></td> </tr> <tr> <td>NR</td> <td></td> </tr> </tbody> </table>	Unistructural		1		0		NR	
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3.1c	<p>A datatype.</p> <hr/> <hr/> <hr/>	<table border="1"> <thead> <tr> <th colspan="2">Unistructural</th> </tr> </thead> <tbody> <tr> <td>1</td> <td></td> </tr> <tr> <td>0</td> <td></td> </tr> <tr> <td>NR</td> <td></td> </tr> </tbody> </table>	Unistructural		1		0		NR	
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3.1d	<p>A top-down design approach.</p> <hr/> <hr/> <hr/>	<table border="1"> <thead> <tr> <th colspan="2">Unistructural</th> </tr> </thead> <tbody> <tr> <td>1</td> <td></td> </tr> <tr> <td>0</td> <td></td> </tr> <tr> <td>NR</td> <td></td> </tr> </tbody> </table>	Unistructural		1		0		NR	
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3.2	<p>Identify a step in the problem-solving process.</p> <hr/> <hr/> <hr/>	<table border="1"> <thead> <tr> <th colspan="2">Unistructural</th> </tr> </thead> <tbody> <tr> <td>1</td> <td></td> </tr> <tr> <td>0</td> <td></td> </tr> <tr> <td>NR</td> <td></td> </tr> </tbody> </table>	Unistructural		1		0		NR	
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STRAND 4: MICROPROCESSOR CONTROL*Assessor's use only*

	<p>Use the information below to answer questions 4.1–4.3.</p> <p>Today, the most commonly used devices are controlled by embedded systems including consumer, industrial, automotive and home appliances, commercial, medical, telecommunication, aerospace and military applications.</p> <p>Present your understanding of the concepts of embedded systems by answering the following questions.</p>									
4.1	<p>Define embedded device.</p> <hr/> <hr/> <hr/>	<table border="1"> <thead> <tr> <th colspan="2">Unistructural</th> </tr> </thead> <tbody> <tr> <td>1</td> <td></td> </tr> <tr> <td>0</td> <td></td> </tr> <tr> <td>NR</td> <td></td> </tr> </tbody> </table>	Unistructural		1		0		NR	
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4.2	<p>State a part of the process that is involved in converting high-level language to machine language.</p> <hr/> <hr/> <hr/>	<table border="1"> <thead> <tr> <th colspan="2">Unistructural</th> </tr> </thead> <tbody> <tr> <td>1</td> <td></td> </tr> <tr> <td>0</td> <td></td> </tr> <tr> <td>NR</td> <td></td> </tr> </tbody> </table>	Unistructural		1		0		NR	
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4.3

Discuss the **process** that is involved in preparing a programmable microprocessor to **control an embedded device** to respond when a **critical change** in its environment occurs.

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STRAND 5: ISSUES IN ICT

Assessor's use only

	<p>Use the information below to answer questions 5.1–5.6.</p> <p>The Pacific region suffers the same global concerns in relation to the use of ICT. Major concerns are with the development of sustainable technologies and the effect on human health and the environment.</p> <p>Show that you fully understand the concerns by answering the following questions.</p>											
<p>5.1</p>	<p>Define sustainable technology.</p> <hr/> <hr/> <hr/>	<table border="1"> <tr> <th colspan="2">Unistructural</th> </tr> <tr> <td>1</td> <td></td> </tr> <tr> <td>0</td> <td></td> </tr> <tr> <td>NR</td> <td></td> </tr> </table>	Unistructural		1		0		NR			
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<p>5.2</p>	<p>List two examples of sustainable technologies.</p> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/>	<table border="1"> <tr> <th colspan="2">Multistructural</th> </tr> <tr> <td>2</td> <td></td> </tr> <tr> <td>1</td> <td></td> </tr> <tr> <td>0</td> <td></td> </tr> <tr> <td>NR</td> <td></td> </tr> </table>	Multistructural		2		1		0		NR	
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<p>5.3</p>	<p>Outline two components of an effective approach in creating a sustainable ICT industry.</p> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/>	<table border="1"> <tr> <th colspan="2">Multistructural</th> </tr> <tr> <td>2</td> <td></td> </tr> <tr> <td>1</td> <td></td> </tr> <tr> <td>0</td> <td></td> </tr> <tr> <td>NR</td> <td></td> </tr> </table>	Multistructural		2		1		0		NR	
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<p>5.4</p>	<p>Outline the impacts of the health issues that are associated with the use of ICT to an organisation.</p> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/>	<table border="1"> <tr> <th colspan="2">Multistructural</th> </tr> <tr> <td>2</td> <td></td> </tr> <tr> <td>1</td> <td></td> </tr> <tr> <td>0</td> <td></td> </tr> <tr> <td>NR</td> <td></td> </tr> </table>	Multistructural		2		1		0		NR	
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<p>5.5</p>	<p>State a cause of climate change that results from the increasing demand for ICT.</p> <hr/> <hr/> <hr/>	<table border="1"> <tr> <th colspan="2">Unistructural</th> </tr> <tr> <td>1</td> <td></td> </tr> <tr> <td>0</td> <td></td> </tr> <tr> <td>NR</td> <td></td> </tr> </table>	Unistructural		1		0		NR			
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<p>5.6</p>	<p>The growing ICT waste is a major concern.</p> <p>State an issue with the dumping of ICT waste in landfills.</p> <hr/> <hr/> <hr/>	<table border="1"> <tr> <th colspan="2">Unistructural</th> </tr> <tr> <td>1</td> <td></td> </tr> <tr> <td>0</td> <td></td> </tr> <tr> <td>NR</td> <td></td> </tr> </table>	Unistructural		1		0		NR			
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	<p>Use the information below to answer 5.7–5.12</p> <p>Use your responses to the following questions to demonstrate your understanding of the current development in cybercrimes around the Pacific Island region.</p>											
5.7	<p>State a known issue of having an online identity in a social media context.</p> <hr/> <hr/> <hr/>	<table border="1"> <thead> <tr> <th colspan="2">Unistructural</th> </tr> </thead> <tbody> <tr> <td>1</td> <td></td> </tr> <tr> <td>0</td> <td></td> </tr> <tr> <td>NR</td> <td></td> </tr> </tbody> </table>	Unistructural		1		0		NR			
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5.8	<p>Name a type of physical security.</p> <hr/> <hr/> <hr/>	<table border="1"> <thead> <tr> <th colspan="2">Unistructural</th> </tr> </thead> <tbody> <tr> <td>1</td> <td></td> </tr> <tr> <td>0</td> <td></td> </tr> <tr> <td>NR</td> <td></td> </tr> </tbody> </table>	Unistructural		1		0		NR			
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5.9	<p>List two types of cybersecurity.</p> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/>	<table border="1"> <thead> <tr> <th colspan="2">Multistructural</th> </tr> </thead> <tbody> <tr> <td>2</td> <td></td> </tr> <tr> <td>1</td> <td></td> </tr> <tr> <td>0</td> <td></td> </tr> <tr> <td>NR</td> <td></td> </tr> </tbody> </table>	Multistructural		2		1		0		NR	
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5.10	<p>Identify one known legislation that is used by countries to minimise ethical concerns and cybercrimes.</p> <hr/> <hr/> <hr/>	<table border="1"> <thead> <tr> <th colspan="2">Unistructural</th> </tr> </thead> <tbody> <tr> <td>1</td> <td></td> </tr> <tr> <td>0</td> <td></td> </tr> <tr> <td>NR</td> <td></td> </tr> </tbody> </table>	Unistructural		1		0		NR			
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<p>5.11</p>	<p>Explain the major goals of any specific cyber legislation that is common in the Pacific Islands region such as the legislation identified in question 5.10.</p> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/>	<table border="1"> <thead> <tr> <th colspan="2">Relational</th> </tr> </thead> <tbody> <tr> <td>3</td> <td></td> </tr> <tr> <td>2</td> <td></td> </tr> <tr> <td>1</td> <td></td> </tr> <tr> <td>0</td> <td></td> </tr> <tr> <td>NR</td> <td></td> </tr> </tbody> </table>	Relational		3		2		1		0		NR	
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5.12	<p>Despite the strong support from Australia, most Pacific Island nations are still facing many challenges in their effort to combat cybercrimes.</p>													
	<p>Explain these challenges that are faced by the Pacific Island nations in combatting cybercrimes.</p>													
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