No. 111/2

EDUCATIONAL QUALITY AND
ASSESSMENT PROGRAMME

Assessment Schedule 2022

South Pacific Form Seven Certificate

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STRAND 1: DIGITAL MEDIA

Item No.	Skill Level	Evidence	Extended Abstract (Level 4)	Relational (Level 3)	Multistructural (Level 2)	Unistructural (Level 1)	Weak (Level 0)
1.1a	1	*Definition of Proprietary software.* Software that needs to be purchased and the source code are not available for the user to change. (simplified or any definition acceptable)				*A correct definition (must include propriety software – stick to definition*	*Incorrect, irrelevant*
1.1b	1	*State a key strength of a Propriety software.* • Copyrighted • only available under license (are purchased with user licenses) • regular upgrades, technical support are available				*One of the strengths given*	*Incorrect, irrelevant*
1.1c	1	*Definition of Digital media* • Any form of media that uses electronic devices for distribution. • This form of media can be created, viewed, modified and distributed via electronic devices. • Commonly used software, video games, videos, websites, social media, and online advertising. (simplified or any definition acceptable)				*A correct definition (must include digital media – stick to definition*	*Incorrect, irrelevant*
1.1d	1	*Name a type of digital media.* The 3 types of Digital Media: • Graphics design, • Audio and video processing design, • Web design (also included are Paid media, Owned Media & Earned Media)				*One type given*	*Incorrect, irrelevant*
1.2a	2	*List two significance of using appropriate graphics cards* - help process and display images, especially 3D graphics - take the processing strain off the main processor and can contain their memory to take the strain off the PC memory.)			*At least two of the given significance*	*One of the significances given*	*Incorrect, irrelevant*

1.2b	3	**Explain the requirements for developing a video output.** Find the video equipment (video camera and PC), it's better to use a proper video camera for high quality output. Find a video processing or editing software with proper functionality such as movie maker. (For Level 2) Include a link of the above responses for Level 3. A good plan is important before starting the video project such as having an aim for the project to ensure that the video output fulfils the aim. Or Do consider what information is most important to your viewer before starting the video processing project. (also included are video peripherals, video processing & combine both)		*Use the given requirements and the link (can use one of the proposed links)* *(2 or more correct ideas/relationships with linkages)*	*At least two of the given requirements*	*One of the requirements given*	*Incorrect, irrelevant*
1.3	3	**Explain the importance of the key features of audio processing software for developing audio files** • Record live audio, or upload prerecorded files. • Save and output audio as a variety of file types. • Simultaneously record multiple tracks for large complex productions. • Virtual mixing device for live instruments or microphone. • Virtual instrument rack. [At least TWO ideas like the above for Level 2] *It removes mistakes and awkward pauses. Without editing, unwanted sounds and repetitive sentences may draw away the listener's attention from where it is desired.* *It removes background noise eg. Hissing, normalize or remove spikes and dips in volume, save or output audio in different file formats and at different quality settings.*		*States two or more features and explains its importance* *(2 or more correct ideas with linkages)*	*At least two of the given features/importance* *(2 or more correct ideas stated independently)*	*One of the features/importance given* *(1 correct idea)*	*Incorrect, irrelevant*

STRAND 2: WEBSITE DEVELOPMENT

Item No.	Skill Level	Evidence	Response Level				
			Extended Abstract	**Relational**	**Multistructural**	**Unistructural**	**Weak**
2.1	2	***Outline the principles of good website design.*** Consistency, Typography & Readability, Usability, Mobile Compatibility, Easy Loading, Easy Navigation, Communication & Clear Contact Information The 9 Principles of Good Web Design: - • Website purpose - website needs to accommodate the needs of the user. ... • Simplicity - Simplicity is the best way to go when considering the user experience and the usability of your website. ... • Navigation • F-Shaped Pattern Reading ... • Visual Hierarchy. ... • Required Content ... • Grid Based Layout. ... • Load Time			*At least two of the given principles*	*One of the principles given*	*Incorrect, irrelevant*
2.2	3	***Explain the importance of key web design requirements for the school*** • Purpose and Goals. Determine the purpose of your website. ... • Domain Name. ... • Priorities. ... • Site Pages and Features. ... • Website Builder. ... • Hosting. ... Connect Your Domain Name to Your Website. (These may be regarded as requirements but not the importance of the requirements)		*Use the given requirements and the link (can use one of the proposed links)* *(2 or more correct ideas with linkages)*	*At least two of the given requirements*	*One of the requirements given*	*Incorrect, irrelevant*

					At least two of the steps given	One of the steps given	Incorrect, irrelevant
		For Level 2 – Following the requirements ensures success and for websites to meet their purposes and attract target audiences. For Level 3 – a proper link can be "The most important requirement for any website development is proper planning to consider both technical and financial requirements such as hosting, branding, functionality, etc					
2.3	2	***Outline the steps involved in the validation process of websites.*** The steps involved in the validation process of websites are outlined below: • Validate HTML/XHTML. • Validate CSS. • Validate for Section 508 Standards (accessibility) • Validate for WAI standards (accessibility) • Validate Links (check for dead links) • Validate Feeds. • Check across different browsers (include handheld computers, Mac, PC, and cellphones, too) • Re-validate HTML and CSS. •			*At least two of the steps given*	*One of the steps given*	*Incorrect, irrelevant*
2.4	1	***State a key benefit of using a database-driven website*** - Dynamic sites enhances the performances of a website by providing online services. Advantages of a Database-Driven Website: It is easier and faster to update stored or dynamic content. A few clicks are all the webmaster needs to update the content. Changes are made almost in real-time. It is ideal for an ecommerce site (for example) where different products need to be added, prices change and offers introduced.				*One of the benefits given*	*Incorrect, irrelevant*

2.5	2	**Outline the required components in developing a database-driven website** All web-based database applications have three primary components which are outlined below: • A web browser (or client),…content, internet • a web application server, ….coding (html), CSS etc • a database server.			*At least two of the given requirements*	*One of the key requirements given*	*Incorrect, irrelevant*

STRAND 3: PROGRAMMING

Item No.	Skill Level	Evidence	Response Level				
			Extended Abstract	**Relational**	**Multistructural**	**Unistructural**	**Weak**
3.1 a	1	***Definition of Problem-solving*** Problem solving is the act of defining a problem; determining the cause of the problem; identifying, prioritizing, and selecting alternatives for a solution; and implementing a solution. Simplified or other definition is acceptable				*A correct definition (must include problem solving –*	*Incorrect, irrelevant*
3.1 b	1	***Definition of Programming Language*** *- set of grammatical rules for instructing a computer or computing device to perform specific tasks* Simplified or other definition is acceptable				*A correct definition (must include programming language –*	*Incorrect, irrelevant*
3.1 c	1	***Definition of a datatype*** A particular kind of data item, as defined by the values it can take, the programming language used, or the operations that can be performed on it. Simplified or other definition is acceptable				*A correct definition (must include a datatype –*	*Incorrect, irrelevant*
3.1 d	1	***Definition of a top-down design approach.*** A top-down design is **the decomposition of a system into smaller parts in order to comprehend its compositional sub-systems**. In top-down design, a system's overview is designed, specifying, yet not detailing any first-level subsystems. Simplified or other definition is acceptable				*A correct definition (must include a top-down design approach –*	*Incorrect, irrelevant*
3.2	1	***Identify a step of the problem-solving process*** Six step guides to help you solve problems: • Step 1: **Identify** and **define** the problem. State the problem as clearly as possible. ...				*One of the steps given*	*Incorrect, irrelevant*

		• Step 2: **Generate** possible solutions. ... • Step 3: **Evaluate** alternatives. ... • Step 4: **Decide** on a solution. ... • Step 5: **Implement** the solution. ... • Step 6: **Evaluate** the outcome.					
3.3	3	***Explain the use of logic structures in programming.*** For Level 1 – Logic structures basically analyze and choose in which direction a program flows based on certain parameters or conditions. *There are three basic types of logic, or flow of control, known as: Sequence logic, or sequential flow. Selection logic, or conditional flow. Iteration logic, or repetitive flow.* (For Level 2 - Logic structures are used in programming to determine the flow of instructions based on some defined parameters or conditions. For Level 3 - The most common logic structures are sequences, selection and loop.		*Explains the given usages, using the link (can use one of the proposed links)* *(2 or more correct uses of logic structures with linkages)*	*At least two of the given usages*	*One of the usages given* *Or* *Definition of logic structures*	*Incorrect, irrelevant*
3.4	4	***Discuss the benefits of program testing.*** • The benefits of testing include **preventing bugs, reducing development costs and improving performance**. • Testing **enables you to see what the software does and how well it does it so that the business can measure the quality of the software before it goes live**. There is no such thing as a defect-free system, and we all make mistakes especially developing a system that is complex. *Program testing is **the process of executing a program with the intent of finding errors*** For level 2 – ensures quality product by meeting the requirements and save costs. For Level 3 - Through the software testing, specific defects in a product can be pinpointed so that appropriate actions can be done to improve the quality of the software and save money for a company. For Level 4 - I suggest that any developed computer program, it must run through a series of tests using some checklists right from the beginning of the development.	*Use the full evidence as an acceptable response* 2 or more benefits that are linked and then suggest a new idea based on the link.	*Use the given benefits and the link (can use one of the proposed links)* *(2 or more correct ideas with linkages)*	*At least two of the given benefits*	*One of the benefits given* *Or* *Definition of program testing*	*Incorrect, irrelevant*

STRAND 4: MICROPROCESSOR CONTROL

Item No.	Skill Level	Evidence	Response Level				
			Extended Abstract	Relational	Multistructural	Unistructural	Weak
4.1	1	**Define embedded device** a highly specialized device meant for one or very few specific purposes and is usually embedded or included within another object or as part of a larger system. (simplified or any definition acceptable)				*A correct definition (must include microprocessor – stick to definition*	*Incorrect, irrelevant*
4.2	1	**State a part of the process involved in converting high-level language to machine language** Use of **A compiler**, a translator program, which is used to convert a high- level language program into machine language The **high-level** program is referred to as 'the source **code**.' A typical **computer** program **processes** some type of input data to produce output data.				*Correct process stated*	*Incorrect, irrelevant*
4.3	4	**Discuss the process involved in preparing a programmable microprocessor to control an embedded device to respond when a critical change in its environment occurs.** For Levels 1& 2 - Write the instruction/s in a higher-level language then translate to the machine code to be stored to the microprocessor. For Level 3 – Normally, a sensor is used to sense the change in the physical environment of the embedded device and then trigger a signal for the microprocessor to respond. For Level 4 - An example is an automated gate with a sensor that sense movement in its environment and then sends a signal to its embedded microprocessor to process the stored instructions for the gate to open or close. Or use the traffic light as another example for Level 4. *..security sensor, CCTV, fire alarms etc..*	*Use the full evidence as an acceptable response* *(Provides 2 or more steps of the process and then linked with the trigger mechanism for the required response and then an output example*	*Two or more (steps of the) process(es) explained* *Refer to the evidence for Level 3 response* *(2 or more correct ideas with linkages)*	*At least two processes given* *Refer to the evidence for Level 2 response*	*One process given*	*Incorrect, irrelevant*

STRAND 5: ISSUES IN ICT

Item No.	Skill Level	Evidence	Response Level				
			Extended Abstract	Relational	Multistructural	Unistructural	Weak
5.1	1	**Define sustainable technology** A simple definition is technologies that do not have any long-term adverse impact on the environment. (simplified or any definition acceptable)				*A correct definition (must include sustainable technology – stick to definition*	*Incorrect, irrelevant*
5.2	2	**List two examples of sustainable technologies** Any green technology – biodegradable devices Common examples of sustainable technology and innovations include: • Public and electric transport. • LED light technology. • Solar power. • Carbon capture and storage technologies. • Self-sufficient and LEED buildings and construction methods. Any green technologies included – biodegradable devices ..solar power, hydro power, wind mill…			*Two examples given*	*One of the examples given*	*Incorrect, irrelevant*
5.3	2	**Outline some components of an effective approach in creating a sustainable ICT industry.** (For Levels 1 - Invest on the green ICT development that focuses on the use of biodegradable (or eco-friendly) devices and energy conservation or use of renewable energy.			*At least two of the given approaches* *or* *Refer to the evidence column for Level 2*	*One of the approaches given* *or* *Refer to the evidence*	*Incorrect, irrelevant*

		For Level 2 – We must consider using more cloud services to reduce the use of hardware and use of power. OR countries can consider adopting Green ICT development policies and guideline.)				*column for Level 1*	
5.4	2	**Outline the impacts of the health issues associated with the use of ICT to an organization** For Level 1 – the impacts can be costs or lost revenue from loss of productive hours and poor business performances due to unattended workers or not meeting project deadlines. ….. **„include effects on users Ergonomics-eyes, headaches, stress, obesity….(level 1)** For Level 2 – a simple proof to support the points made such as the example from the student guide.) OR most organizations and businesses are not ready enough to deal with such problems because it may still require further costs to provide a healthier working environment for employees.) **…2 or more effects….(level 2)** A proof as an example from the student guide ……. "A 2003 report from the U.S. Bureau of Labor Statistics found that in 2001, private employers reported that workers lost more than 65,000 days from work as a result of repetitive motion injuries. The situation seems to be improving; that number had dropped to about 43,800 for private industry workers in 2005. But that still represents a serious amount of lost staff hours and productivity." https://www.computerworld.com/article/2545074/five-hidden-costs-of-computing.html?page=3			*At least two of the given impacts*	*One of the impacts given*	*Incorrect, irrelevant*
5.5	1	**State a cause of climate change resulting from the increasing demand for ICT.**				*One of the causes of climate change given*	*Incorrect, irrelevant*

						One of the issues given	Incorrect, irrelevant
		*Producing and using electricity more efficiently **reduces both the amount of fuel needed to generate electricity and the amount of greenhouse gases and other air pollution emitted** as a result* **Fossil fuels – coal, oil and gas** – are by far the largest contributor to global climate change, accounting for over 75 per cent of global greenhouse gas emissions and nearly 90 per cent of all carbon dioxide emissions. As greenhouse gas emissions blanket the Earth, they trap the sun's heat. ***(use of natural resources & production of IC equipments..)***					
5.6	1	***The growing ICT waste is a major concern. State an issue with the dumping of ICT waste in landfills*** *Issues with dumping electronic items into landfill (health issue)- electronic waste contains toxic components that are dangerous to human health, such as mercury, lead, cadmium, polybrominated flame retardants, barium and lithium. The negative health effects of these toxins on humans include **brain, heart, liver, kidney and skeletal system damage**.* ***..toxic materials, air, water, land…***				*One of the issues given*	*Incorrect, irrelevant*
5.7	1	***State a known issue of having an online identity in a social media context.*** *More time spent on social media can lead to **cyberbullying, social anxiety, depression, and exposure to content that is not age appropriate**. Social Media is addicting.* ***(..identity theft..)***				*One of the issues given*	*Incorrect, irrelevant*
5.8	1	***Name a type of physical security.*** *Physical security involves the use of multiple layers of interdependent systems that can include **CCTV surveillance, security guards, protective barriers, locks, access control, perimeter intrusion detection, deterrent systems, fire protection**, and other systems designed to protect persons and property.*				*One type of physical security given*	*Incorrect, irrelevant*
5.9	2	***List two types of cybersecurity.*** • *Critical infrastructure security.* • *Application security.* • *Network security.*			*One or more types of cybersecurity given*	*One type of cybersecurity given*	*Incorrect, irrelevant*

		• *Cloud security.* • *Internet of Things (IoT) security.* **(..include passwords..)**					
5.10	1	***Identify known legislation that is used by countries to minimise ethical concerns and cybercrimes*** *Cyber Crime Act. - an act of interception of any computer data to, from or within a computer system, includes listening to, recording or acquiring the substance, meaning or purpose of the computer data* Some countries have Cyber Crime Prevention Act and some have Cyber Law				*One of the legislations given*	*Incorrect, irrelevant*
5.11	3	***Explain the major goals of specific cyber legislation*** **Level 1 - Cyber law** acts as a shield over cyberspace, to prevent **cyber**crimes from happening. Although this is a difficult challenge for lawmakers and crime enforcement. *Require government agencies to implement cybersecurity training; to set up and follow formal security policies, standards and practices; to have incident response plans in place; to provide mandatory training for employees; and to report security incidents, including ransomware attacks* (A simple response: For Level 2 – Major goals are to ensure security and protection of users and their environment (data, devices, networks, work processes, etc.) and to prevent cybercrimes. For Level 3 – Growing efforts are being made in the Pacific region to enforce cyber legislation to combat cybercrimes despite the known challenges (lack of funds, poor law enforcements, lack ICT capabilities)		*Use the given goals and the link (can use one of the proposed links)* *(2 or more correct ideas with linkages)*	*At least two of the given goals*	*One of the goals given*	*Incorrect, irrelevant*

5.12	3	***Despite the strong support from Australia, Most Island Nations are still facing many challenges in their effort to combat cybercrimes. Explain these challenges faced by the Pacific Island countries in combatting cybercrimes.***
		
		 • Establishment on how to manage cybersecurity for critical infrastructure and systems (including government information systems);
		 • Process of upgrading existing criminal law legislation for cyber-crime offences to the standard similar modelled on the Budapest Convention.
		  • Legislative on building the capacity for effective investigation, enforcement, prosecution and adjudication of offences and also the front-line capacity for responding to cybercrime for improving cyber-security.
		  • Ineffective investigation, enforcement, prosecution and adjudication to address the risks of cyber bullying and child exploitation.
		
		 (For Levels 1 & 2 – lack of funds and expertise in the area. For Level 3 – Cybercrimes is not just a local concern but it's a global concern so this presents a higher level of complexity for smaller island nations of the Pacific. OR – lack of funds and expertise affects the development of cyber legislation framework, enforcement and prosecution.) Cybercrime makes everything harder for poorer nations.)
		
		 *Cybercrime is **criminal activity that either targets or uses a computer, a computer network or a networked device**. Most cybercrime is committed by cybercriminals or hackers who want to make money. However, occasionally cybercrime aims to damage computers or networks for reasons other than profit.*
				Use the given challenges and the link (can use one of the proposed links)
				
				 (2 or more correct challenges with linkages)
					At least two of the given challenges	*One of the challenges given*	*Incorrect, irrelevant*

The End