



THE PAPUA NEW GUINEA UNIVERSITY OF TECHNOLOGY  
DEPARTMENT OF MATHEMATICS & COMPUTER SCIENCE

**FIRST SEMESTER EXAMINATIONS - 2022**

**FIRST YEAR BACHELOR OF SCIENCE IN COMPUTER SCIENCE  
& FIRST YEAR BACHELOR OF SCIENCE IN APPLIED MATHEMATICS**

**CS113A – INTRODUCTION TO ICT**

**TIME ALLOWED: 3 HOURS**

**INFORMATION FOR CANDIDATES**

1. Write your name and student number clearly on the front of the answer booklet.
2. You have 10 minutes to read this paper. You must not begin writing during this time.
3. There are **five** questions, you should answer all questions.
4. All answers must be written in answer booklets only. No other written material will be accepted.
5. Start the answer for each question on a **new** page. Do **not** use red ink.
6. Notes and textbooks are not allowed in the examination room. All mobile phones and electronic/recording devices must be switched off during the examination.
7. Scientific and business calculators are allowed in the examination room.

**MARKING SCHEME**

Marks are indicated at the beginning of each question. They total 100.

**QUESTION 1 [2 Marks Each = 30 Marks]**

*Please provide short answers to the following questions*

- (a) \_\_\_\_\_ is processed or manipulated data that we can use.
- (b) List two types of storage/secondary memory.
- (c) \_\_\_\_\_ is the activity in which a computer works on more than one process at a time.
- (d) \_\_\_\_\_ are specialized software programs that allow input and output devices to communicate with the rest of the computer system.
- (e) \_\_\_\_\_ is the simulation of movement created by displaying a series of still pictures or frames very quickly in sequence?
- (f) Name a function performed by an operating system.
- (g) \_\_\_\_\_ refers to the sending of forged email that directs recipients to a replica of an existing web page, both of which pretend to belong to a legitimate company.
- (h) Name a type of wired communication media that uses light.
- (i) Name a form of broadcast radio.
- (j) Name a type of wired communication that is affected by random electrical interference.
- (k) The supervisor in an Operating System is also known as the \_\_\_\_\_.
- (l) The productivity software \_\_\_\_\_ saves files with the file extension *.docx*
- (m) A programmable, multiuse machine that accepts data and processes it into information we can use is called a \_\_\_\_\_.
- (n) \_\_\_\_\_ is the process of loading an operating system into a computer's main memory.
- (o) Operating systems allow users to control access to their personal computers via use of a \_\_\_\_\_ and a \_\_\_\_\_.

**QUESTION 2. [4 + 12 + 4 = 20 Marks]**

*Please provide brief answers to the following questions.*

- (a) With regard to Information and Communication Technology, what is data and what is information?
  
- (b) Name the 4 basic operations of all computers and briefly describe each one.
  
- (c) What are expansion slots and what are they used for?

**QUESTION 3 [(2+2) + (2+2) + (2 +2) + 4 = 16 Marks]**

*Please provide brief answers to the following questions.*

- (a) (i) What is an operating system?  
(ii) Why is it important?
  
- (b) Utility programs exist in many operating systems.  
(i) What are utility programs?  
(ii) Why are they important?
  
- (c) This question is about web browsers.  
(i) What is a web browser?  
(ii) Name 2 web browsers.
  
- (d) Briefly explain what URL stands for and what it does.

**QUESTION 4 [(3+3) + (3+3) + (2+4) + 4 = 22 Marks]**

*Please provide brief answers to the following questions.*

- (a) With regard to computer communication,  
(i) What is a protocol?  
(ii) Name two protocols used in Internet communication.
  
- (b) (i) Briefly describe what cloud computing is.  
(ii) Name the acronyms for 3 cloud computing services.
  
- (c) (i) What is network topology?  
(ii) Name and draw a diagram of two types of network topologies.
  
- (d) Two types of wireless digital standards are bluetooth and wi-fi. Briefly describe each one.

**QUESTION 5 [8 + 4 = 12 Marks]**

The table (Table A) below represents hours worked over several days for 4 weeks.

	A	B	C	D	E	F	G	H
1								
2		Day 1	Day 2	Day 3	Day 4	Day 5	Day 6	<b>TOTAL</b>
3	Week 1		2		2		2	6
4	Week 2	3	3	3			3	
5	Week 3		2	2	2		2	
6	Week 4	3	3			2	2	10
7								
8							<b>GRANDTOTAL</b>	
9								

**TABLE - A**

- a) Write down Excel formulas that should be entered for cells H4 and H5 to calculate the total hours for each respective week (H4 for Week2 and H5 for Week3).
  
- b) Write down the formula to calculate the sum of all totals (across all 4 weeks) into H8.

**END OF EXAM**