

# PAPUA NEW GUINEA UNIVERSITY OF TECHNOLOGY

DEPARTMENT OF MATHEMATICS & COMPUTER SCIENCE

SEMESTER 1 EXAMINATION - 2021

CS113 INTRODUCTION TO ICT

SECOND YEAR BACHELOR OF APPLIED CHEMISTRY AND FIRST  
YEAR FORESTRY

**TIME ALLOWED: 3 HOURS**

## INFORMATION FOR CANDIDATES

1. Write your student number and name 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 two sections to this paper. Section A and Section B. Section A consists of Multiple Choice questions and Section B consists of Short Answer questions. You should attempt all the questions.**
4. All the answers must be written in the answer booklet. No other written materials will be accepted.
5. Do **not** use pencil or red pen to write your answers.
6. **MOBILE PHONES MUST BE SWITCHED OFF** for the entire duration of the examination. Students failing to do so will be penalised.
7. Scientific calculators are permitted.

## MARKING SCHEME

Marks are indicated at the beginning of each question. The total is **95 marks**.

**SECTION A – Questions 1 to 20 are multiple choice questions. Choose only one answer or more than one where required. You must answer all questions.**

**[1 MARK EACH = 20 MARKS]**

1. Which of the earlier inventors was called the father of modern computer?
  - (a) Charles Babbage.
  - (b) Lady Augusta Ada Byron.
  - (c) Herman Hollerith.
  - (d) Howard. H. Aiken.
  
2. Which mathematician invented the first machine that was used to multiply and divide numbers and also uses decimal point?
  - (a) William Oughtred.
  - (b) John Napier.
  - (c) Blaise Pascal.
  - (d) Gottfried Wilhem Leibnitz.
  
3. Which of these ladies was known as one of the primary programmers and referred to as “Amazing Grace”?
  - (a) Grace Hopper.
  - (b) Lady Augusta Ada Byron.
  - (c) Grace Bytes.
  - (d) Grace Pascal.
  
4. What is data?
  - (a) Unprocessed information.
  - (b) Processed information.
  - (c) Raw information.
  - (d) Both (a) and (c) are correct.
  
5. What is information?
  - (a) It is the processed data.
  - (b) It is some information that is raw and yet to be processed.
  - (c) It is a device that is used to process the data.
  - (d) None of the above.
  
6. Which of these ladies was one of the world’s first programmers and referred to as “Enchantress of Numbers”?
  - (a) Grace Hopper.
  - (b) Lady Augusta Ada Byron.
  - (c) Lady Napier.
  - (d) Grace Pascal.
  
7. What is hardware?
  - (a) Tells the computer what to do.
  - (b) Peripheral device used to input data into and get information out of the computer.
  - (c) Supports the hardware to output the information.
  - (d) Piece of information.

8. What is software?
  - (a) Is a piece of information about a person.
  - (b) Anything that can be touched.
  - (c) Visible components of a computer system.
  - (d) Is a collection of data or computer instructions that tells the computer how to work.
  
9. Which of these are hardware?
  - (a) MS Word and Keyboard.
  - (b) PDF editor and Google chrome.
  - (c) Keyboard and Mouse.
  - (d) CPU and Excel.
  
10. Which of these are software?
  - (a) Keyboard and mouse.
  - (b) Mac OS and Google Chrome.
  - (c) CPU and processor.
  - (d) Ubuntu and fan.
  
11. Which of these are application software?
  - (a) Mac OS and MS Office Word.
  - (b) Microsoft Office Word and Google Chrome.
  - (c) Windows XP and external drive.
  - (d) Windows XP and Ubuntu.
  
12. Which of these are system software?
  - (a) Windows XP and Ubuntu.
  - (b) Windows XP and external drive.
  - (c) MS Office Excel and MS Office Word.
  - (d) CLI and GUI.
  
13. Which of these are classical examples of storage devices?
  - (a) HDD, CD and CPU.
  - (b) SD card, HDD and mouse.
  - (c) External drive, CD and flash drive.
  - (d) SD card, RAM and RUN.
  
14. What does **volatile** storage mean?
  - (a) It retains the data even when the computer is switched off.
  - (b) It only stores the data whilst the computer is switched on.
  - (c) It retains and stores the data when the computer is switched off.
  - (d) All of the above.
  
15. What does **non-volatile** storage mean?
  - (a) It only stores the data whilst the computer is switched on.
  - (b) It retains the data even when the computer is switched off.
  - (c) It does not retain nor store data when the computer is switched on.
  - (d) None of the above.

16. Computer memory is measured in
- (a) Kilobytes.
  - (b) Binary codes.
  - (c) Bits.
  - (d) Bytes.
17. Which of these describes Internet?
- (a) No one owns it.
  - (b) It has no formal management organization.
  - (c) Global system of computer networks that use the IP suite (TCP/IP) to link devices worldwide.
  - (d) All of the above is correct.
18. Which network is the largest in the world?
- (a) Wireless Local Area Network (WLAN).
  - (b) Internet.
  - (c) Metropolitan Area Network (MAN).
  - (d) Local Area Network (LAN).
19. Which of these popular terms refer to Internet?
- (a) The Enchantress of Numbers.
  - (b) Information Highway.
  - (c) Data flatform.
  - (d) International gateway.
20. What is ISP?
- (a) Internet Server Protocol.
  - (b) Internet Service Provider.
  - (c) Internet Service Protocol.
  - (d) All of the above are correct.

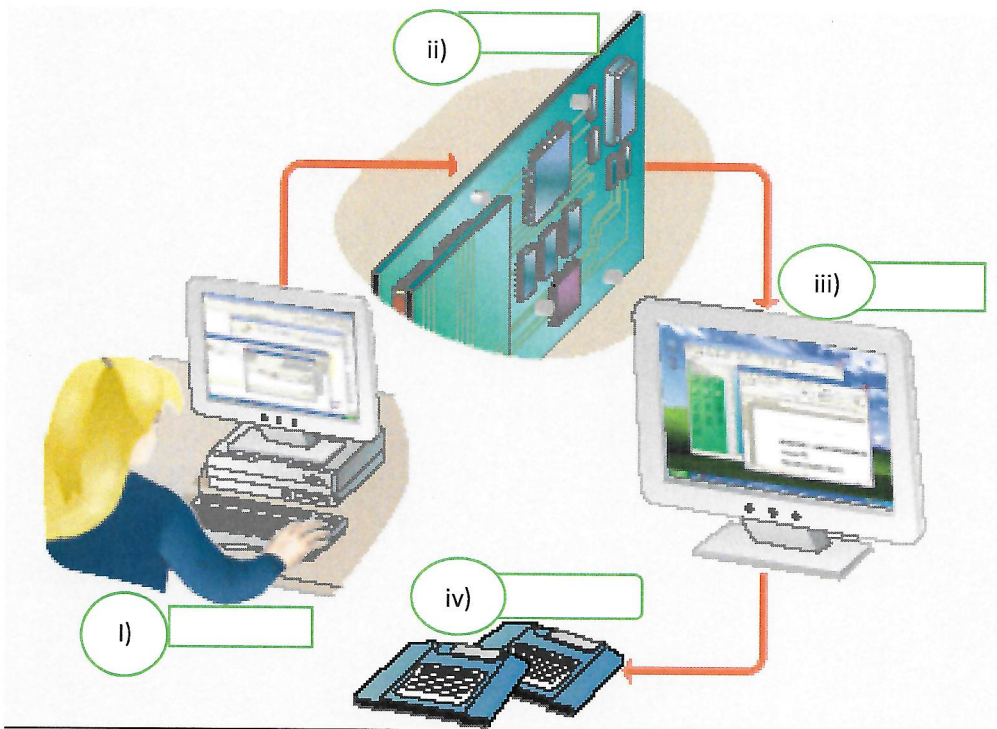
## SECTION B – Short Answer Questions

Attempt all the questions on your answer booklet provided.

### QUESTION 21.

[(1+1+1+1) + 4 + 1 + 1 + 2 = 12 Marks]

- (a) When information is being processed, it goes through a cycle. The illustration below shows that process cycle. By looking at the picture, name the correct process at each stage identified by the letters.



- (b) Name the four basic types of computers.  
(c) What is software piracy?  
(d) What is a computer network?  
(e) Name the two benefits of having a network.

QUESTION 22.

[(1+1+1+1) + 2 + 5 + 4 + 5 =20 Marks]

(a) Letters (i) – (iv) in the table below represents the four *types of operating systems*. Write the most appropriate type of operating system that matches the descriptions on the right.

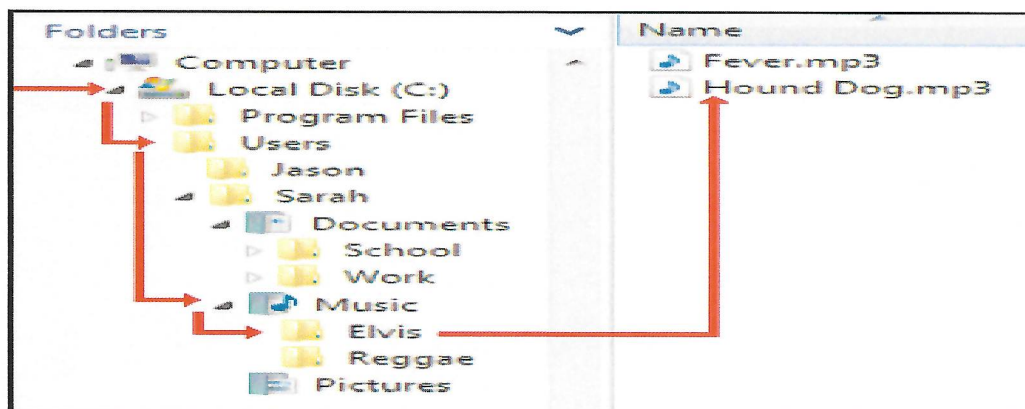
(i)	<ul style="list-style-type: none"> <li>- One user works on the system.</li> <li>- Performs one task at a time.</li> <li>- Run on inexpensive computers.</li> </ul>
(ii)	<ul style="list-style-type: none"> <li>- Very fast, small OS.</li> <li>- Built into a Device.</li> <li>- Responds quickly to user input.</li> <li>- MP3 players, Medical devices.</li> </ul>
(iii)	<ul style="list-style-type: none"> <li>- User performs many tasks at once.</li> <li>- Most common type of OS.</li> <li>- Windows 7 &amp; 8.</li> </ul>
(iv)	<ul style="list-style-type: none"> <li>- Many users connect to one computer.</li> <li>- Each user has a unique session.</li> <li>- Requires a powerful computer.</li> </ul>

(b) Name the volatile and non-volatile storage devices.

(c) A computer's file location is defined by a file specification, or path. A work file (assignment) was saved in Assignment Folder in 2021 Assessments Folder and saved under the root directory C: drive. The work file name is *2021 Assignment 1*. Write out the correct file specification or path.

(d) Name the four standard file and folder attributes.

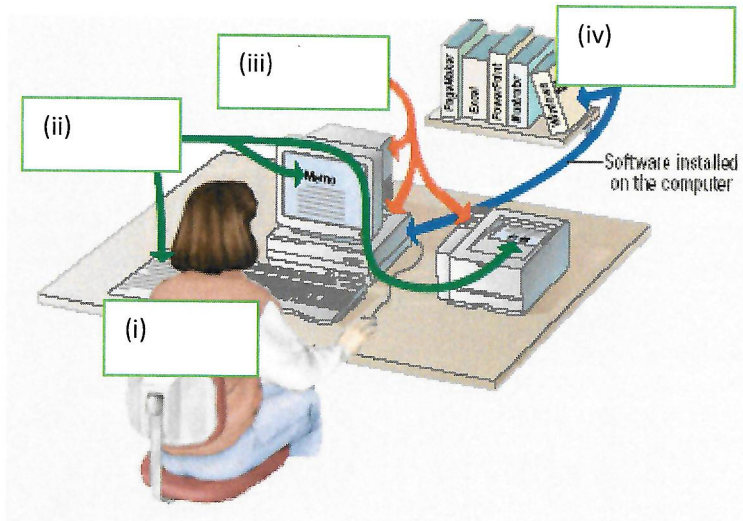
(e) From the File Management Metaphors image below, clearly outline the **file specification or path** using the Logical Storage Model as shown below.



**QUESTION 23.**

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

- (a) Parts of the Computer System. There are four components that make up the computer system. Under each of the labelled boxes, name the appropriate component of a computer system.



- (b) Name the two types of user interfaces.  
 (c) Name the two types of software and list two examples for each of them.  
 (d) Given the file extensions, name the appropriate associated application for these extensions.

File Extensions	Application(s)
(i) .doc/.docx	
(ii) .ppt/.pptx	
(iii) .mdb/.mdbx	
(iv) .xls/.xlsx	

**QUESTION 24.****[3+2+3 = 8 Marks]**

Look at the database table below carefully and answer the questions that follow.

<b>Student Records Table</b>					
<b>Soc Sec #</b>	<b>First Name</b>	<b>Last Name</b>	<b>BirthDate</b>	<b>Address</b>	<b>City</b>
123456789	Todd	Jones	1/1/78	312 Wenona Rd	Bay City
315465866	Alan	Craig	2/8/80	123 N Union	Bay City
968585471	Stacy	Evans	3/8/81	RR 5 Box 880	Auburn
848131523	John	Anderson	4/5/80	83 Washington Dr.	Midland

- From the above table, retrieve the second, third and the fourth records as single lines.
- Which two students are from Bay City?
- Which records do these social security numbers represent **123456789, 848131523 and 315465866**?

**QUESTION 25.****[3 + (7+7) + 1 + 1 = 19 Marks]**

- Name the three types of **relationships** found in a relational database.
- From the Excel spreadsheet below:
  - Calculate the *Amount Paid* for each of the items in the table.
  - Write the formula used to calculate the amount paid for each item under the column D under Amount Paid.

	<b>A</b>	<b>B</b>	<b>C</b>	<b>D</b>
<b>1</b>	<b>Lomban Trading LTD</b>			
<b>2</b>				
<b>3</b>	<b>ITEM</b>	<b>UNIT PRICE</b>	<b>QUANTITY</b>	<b>Amount Paid</b>
<b>4</b>	<b>Tin Fish</b>	\$3.50	10	
<b>5</b>	<b>Rice</b>	\$5.50	20	
<b>6</b>	<b>Snax Biscuit</b>	\$1.00	50	
<b>7</b>	<b>Navy Biscuit</b>	\$1.50	30	
<b>8</b>	<b>Ox&amp;Palm</b>	\$8.00	20	
<b>9</b>	<b>Globe Beef</b>	\$9.00	15	
<b>10</b>	<b>Lamb Flaps</b>	\$15.00	20	
<b>11</b>				

- What is a field in database terminologies?
- What is a cell in Excel spreadsheets?

**END OF EXAM**