



THE PAPUA NEW GUINEA UNIVERSITY OF TECHNOLOGY

DEPARTMENT OF MATHEMATICS & COMPUTER SCIENCE

FIRST SEMESTER EXAMINATIONS - 2023

FIRST YEAR BACHELOR OF SCIENCE IN COMPUTER SCIENCE AND FIRST YEAR
BACHELOR OF SCIENCE IN APPLIED MATHEMATICS

**CS113 A – INTRODUCTION TO INFORMATION AND
COMMUNICATION TECHNOLOGY**

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. Section A has 20 multiple choice questions, Section B has 20 matching questions and 20 true/false questions and Section C has five questions. You should answer all the questions.
4. All answers must be written in examination answer booklets only. No other written material will be accepted.
5. For Section A, write the answers on one page. For Section B, write the answers on one or two pages. For Section C, 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. The total is 80 marks.

SECTION A

[1 MARK EACH = 20 MARKS]

Instruction:

Write all the answers for this section on one page in your examination answer booklet.

Choose A or B or C or D from the alternatives given.

Question 1

A laptop charger is also called a/an

- A. Battery.
- B. Adapter.
- C. Power cable.
- D. Input device.

Question 2

You can conduct online meetings with Google Meet or Zoom using a laptop's

- A. Screen.
- B. Camera.
- C. Top panel.
- D. Visual display unit.

Question 3

Nested directories in a file system are referred to as

- A. Files.
- B. Folders.
- C. Subdirectories.
- D. Internal folders.

Question 4

The operating system locates an application and loads it into the _____ of the computer.

- A. CPU
- B. HDD
- C. ROM
- D. RAM

Question 5

Primary storage is located on the _____ of the computer.

- A. hard disk
- B. processor
- C. motherboard
- D. hard disk drive

Question 6

An example of a web browser is

- A. Yahoo.
- B. Inkscape.
- C. Microsoft Edge.
- D. Mozilla Thunderbird.

Question 7

An example of an email client is

- A. Yahoo.
- B. Chrome.
- C. Microsoft Edge.
- D. Mozilla Thunderbird.

Question 8

An example of a webmail provider is

- A. Yahoo.
- B. Chrome.
- C. Microsoft Edge.
- D. Mozilla Thunderbird.

Question 9

Pixels can be made up of more than one _____.

- A. Bit
- B. Dot
- C. Image
- D. Resolution

Question 10

_____ graphic is resolution dependent.

- A. Pixel
- B. Vector
- C. Bitmap
- D. Resolution

Question 11

_____ compresses the image file size by permanently discarding some of its information.

- A. Snip
- B. Lossy
- C. Zipping
- D. Lossless

Question 12

Paragraph spacing in word processing determines the amount of space _____ a paragraph.

- A. next to
- B. equal to
- C. in between
- D. above or below

Question 13

The Styles group in a word document is found in the

- A. File tab.
- B. Insert tab.
- C. Home tab.
- D. Design tab.

Question 14

The "Line Spacing" option in a word document is found in this group.

- A. Font.
- B. Styles.
- C. Clipboard.
- D. Paragraph.

Question 15

In the line spacing options, the amount of extra space varies depending on the _____ that is used.

- A. line
- B. font
- C. format
- D. character

Question 16

Excel files are called

- A. .xlsx.
- B. Sheets.
- C. Workbooks.
- D. Spreadsheets.

Question 17

Excel worksheets are also known as

- A. .xlsx.
- B. Sheets.
- C. Workbooks.
- D. Spreadsheets.

Question 18

Cells are the basic building blocks of

- A. an excel file.
- B. a workbook.
- C. a worksheet.
- D. a spreadsheet.

Question 19

The _____ of a selected cell appears in the name box.

- A. row name
- B. cell address
- C. column name
- D. formula name

Question 20

The content of a cell also appears in the

- A. name bar.
- B. name box.
- C. formula bar.
- D. formula box.

SECTION B:

[1 MARK EACH = 40 MARKS]

Write all answers to questions in this section on one page of your answer booklet.

Instruction:

For questions 21 to 40, choose the best term from the list below and write its letter (A, or B, or C, etc.) next to the matching question number on your answer booklet where the term matches the definition or description given in the question.

List of terms:

- | | | |
|---------------------------------|--|----------------------------|
| (A) Data. | (H) Global file system. | (O) Record. |
| (B) Network operating system. | (I) TrueType font. | (P) Field. |
| (C) Resolution. | (J) Joint Photographic Experts Group file. | (Q) Attribute. |
| (D) New technology file system. | (K) Portable Network Graphics file. | (R) Relation. |
| (E) Multitasking. | (L) Bitmap. | (S) Ctrl + Shift + S keys. |
| (F) Linux operating system. | (M) Lossy. | (T) Insert. |
| (G) Cardinality. | (N) University disk format. | (U) Home. |
| | | (V) Multiprocessing. |
| | | (W) Ctrl + S keys. |

Question 21

This file system has the ability to enable multiple computers to act as an integrated machine.

Question 22

An example of vector graphic formats.

Question 23

Digital photographers also use this format for image compression.

Question 24

An example of lossless compression formats.

Question 25

A rectangular grid of pixels.

Question 26

This compression is ideal for web-based platforms.

Question 27

This file system is used in packet writing.

Question 28

The total number of rows present in a database table.

Question 29

This refer to each column in a table.

Question 30

Another name for a 'table' in database.

Question 31

Another name for 'row' in database.

Question 32

Another name for 'column' in database.

Question 33

Press these keys on the keyboard to open the Apply Styles task pane in Word.

Question 34

The 'Pages group' is found in this tab in Microsoft Word 2010.

Question 35

Any raw material/fact that can be used as an object.

Question 36

This indicates the number of pixels that are displayed per inch for an image (or pixels per centimeter).

Question 37

This file system provides better methods of file recovery and data protection and offers a number of improvements in terms of extendibility, security, and performance.

Question 38

This operating system provides increased security.

Question 39

This operating system includes Redhat.

Question 40

The term used when a computer is capable of operating multiple applications at the same time.

For questions 41 to 60, write True or False beside each question in your answer booklet.

Question 41

Daisy wheel printer is a Line Printer.

Question 42

Random Access Memory is non-volatile memory.

Question 43

Active partition is the partition used by the operating system to boot the computer.

Question 44

A CPU that operates in virtual real mode has access to all the memory in the computer, including virtual memory.

Question 45

Cathode Ray Tube monitor involves high power consumption.

Question 46

Light-Emitting Diodes is an example of Non-Emissive displays.

Question 47

Dot Matrix Printer has a drawback of high speed.

Question 48

Daisy wheel printer is more reliable than Dot Matrix Printer.

Question 49

Directories are called folders in Windows operating systems.

Question 50

Subdirectories are called internal files in Windows operating systems.

Question 51

The file structure on the hard drive is stored in a table in Windows operating systems.

Question 52

In Command-line interface (CLI), user interacts with menus and icons.

Question 53

Graphics may also include text.

Question 54

Only vector graphics can be used when designing templates for label printing.

Question 55

Bitmap graphics is also called 'raster' graphics.

Question 56

Gmail is a webmail provider.

Question 57

Universal Disk Format is a type of file system, which is developed for hard drives.

Question 58

Vector graphics is also called 'object-oriented' graphics.

Question 59

Tuple is another name for a column in database.

Question 60

Joint Photographic Experts Group format is an example of lossy compression.

SECTION C

[20 MARKS]

Instruction:

Answer question 61 and 62 starting your answer for question 61 on a new blank page of the answer booklet and also question 62 on a new blank page of the answer booklet.

Question 61

[1 + 1 + 2 + 1 + 2 + 1 = 8 Marks]

- (a) Briefly describe “bitmap graphics”.
- (b) Provide an example of bitmap graphics.
- (c) Briefly describe “Lossy image compression”.
- (d) Provide an example of Lossy image compression.
- (e) Briefly describe “Lossless image compression”.
- (f) Provide an example of Lossless image compression.

Question 62

[1 + 1 + (3 + 1 + 2 + 4) = 12 Marks]

- (a) Define what a DBMS (Database Management System) is.
- (b) Provide an example of a Relational Database Management System.
- (c) Create a database called *Library System* consisting of 3 tables:
 - 1. *Book*
 - 2. *Author*
 - 3. *Publisher*

- (i) Assign four (4) columns and two (2) rows each for the three table entities.
- (ii) Identify the unique keys of each table.
- (iii) Identify the relationships between the tables.
- (iv) Create an Entity Relationship Diagram for the library system.

END OF EXAMINATION