



**NATIONAL UNIVERSITY OF LESOTHO
INSTITUTE OF EXTRA MURAL STUDIES
RESEARCH, EVALUATION & MEDIA DEPARTMENT
DIPLOMA IN MASS COMMUNICATION
2022/2023 ACADEMIC YEAR**

**MAC 0105 – Computer Studies – Year 1
First Semester Final Examination Paper**

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January 2023

Marks: 100

Time: 3 hrs.
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Instructions:

- Read all questions carefully before you answer.
- **Answer all questions.**
- Number your answers exactly the same way they appear on the question paper.
- Please ensure that you proof-read all your answers.
- Marks will be deducted for untidy and/or illegible handwriting and grammar mistakes.
- Each question must be answered on a separate page.

Question 1 [24 marks]

- (a) Define the following terms: input, hardware and software. [6]
- (b) Give one example of each of the following: input, hardware and software. [6]
- (c) What is the main purpose of a CPU? [2]
- (d) What is the difference between primary storage and secondary storage? [4]
- (e) Explain the functions of the following CPU components:
Control unit and Arithmetic/Logic unit. [4]
- (f) What is the function of ROM? [2]

Question 2 [26 marks]

- (a) What is the difference between softcopy output and hardcopy output? [4]
- (b) What is the difference between impact printers and non-impact printers? [4]
- (c) Give two examples of secondary storage devices. [2]
- (d) Work out the following binary numbers: $111 + 11$ and $1101 - 11$ [4]
- (e) Given that $1\text{TB} = 1024\text{GB}$, work out the number of gigabytes contained
in a 2TB external hard disk [4]
- (f) How are serial storage devices different from random storage devices? [4]
- (g) Explain the machine cycle by clearly outlining steps/stages the following group
of components will follow when processing the addition of the numbers 5 and
15 to produce the result 20. The components are RAM, Control Unit and
Arithmetic/Logic Unit. [4]

Question 3 [24 marks]

- (a) Give two examples of applications software. [2]
- (b) Explain the difference between applications software and systems software. [4]
- (c) Explain any three responsibilities of an operating system. [6]
- (d) Give two differences between machine language and high-level language. [4]
- (e) How is a compiler different from an interpreter? [4]
- (f) How is source code different from object code? [4]

Question 4 [26 marks]

- (a) Define the following terms: Computer network, ISP, web browser and URL. [8]
- (b) Give two differences between star topology and bus topology. [4]
- (c) Explain the difference between peer-to-peer network and client-server network. [4]
- (d) In a about a page, discuss the role that ICT played in facilitating teaching and learning during the COVID-19 pandemic era. [10]