

UNIVERSITY OF ESWATINI

Faculty of Science and Engineering

Department of Computer Science

MAIN EXAMINATION

DECEMBER 2019

Title of Paper: INTRODUCTION TO INFORMATION TECHNOLOGY

Course Code: CSC 113

Time Allowed: 3 Hours

Total Marks: 100

Instructions to Candidates:

This Question Paper Consists of SIX (6) Questions. Section A is compulsory.

Answer ALL Questions in SECTION A and any TWO (2) Questions from SECTION B.

Marks are indicated in Square Brackets.

NB: You Are Not Allowed To Open This Examination Paper Until Permission Has Been Granted By The Invigilator

SECTION A

Question One

[30]

1. Define the following terms:
 - a. Drive [1]
 - b. Virtual memory [1]
 - c. Ubiquitous computing [1]
2. Match the following technologies to the correct ages: [4]

Technology	Age
Pascaline	Electro-Mechanical
Electronic Numerical Integrator and Computer	The Mechanical
Harvard Mark 1	Pre-Mechanical
Abacus	Electronic

3. List and briefly describe the components of an information system. [5]
4. Briefly describe the difference between a convertible and a 2-in-1 notebook. [2]
5. Why does the instruction per second measurement give a more accurate speed of the CPU compared to clock speed and word size measurements? [2]
6. Explain what is meant by the following terms:
 - a. Read Only Memory (ROM). [2]
 - b. Multi-Boot/ Dual Boot [3]
7. List the basic methods for troubleshooting common system unit problems. [3]
8. State the four (4) main functions of an operating system. [4]
9. Briefly explain the difference between lossy and lossless compression algorithms. [2]

Question Two

[15]

1. Define the following Terms:
 - a. Suite [1]
 - b. Open source software [1]
 - c. Augmented reality [1]
2. Briefly describe the difference between a word processor and a desktop publishing application. [2]
3. Give a brief description of the information you need to know in order to properly manage the applications on your computer. [5]

4. State any two (2) types for tasks you would accomplish using:
 - a. spreadsheet [1]
 - b. Computer-Aided design software [1]
5. Briefly describe the three (3) main basic elements of digital cameras. [3]

Question Three

[25]

1. Briefly describe the difference between push technology and pull technology. [2]
2. Define the following terms:
 - a. Hypertext [1]
 - b. Hyperlink [1]
 - c. Add-on [1]
 - d. Store-and-forward [1]
3. Briefly describe how the Internet Mail Access Protocol (IMAP) works. [3]
4. State two (2) examples of
 - a. Asynchronous Online Communication [2]
 - b. Synchronous Online Communication [2]
5. Briefly describe any two (2) examples of user-generated contents. [4]
6. Briefly describe the impact of social media on the society. [3]
7. State two (2) ways used to navigate to a website. [1]
8. State and briefly describe factors that affect the actual performance speed of the Internet. [4]

SECTION B

Question Four

[15]

1. What is the difference between a public telephone network and a data network? [2]
2. Briefly describe the following networks:
 - a. Private Digital Network [3]
 - b. Wide Area Network [3]
3. Briefly describe the difference between a gateway and a bridge. [2]
4. State and briefly describe the three (3) components that make up a URL [3]
5. Briefly describe the difference between IPv4 and IPv6. [2]

Question Five

[15]

1. Define the following terms:
 - a. Intellectual property [1]
 - b. Software licensing [1]
 - c. Internet piracy [1]
2. Briefly describe any two (2) forms of personal cybercrime. [4]
3. List the three (3) main categories of hacking. [3]
4. Describe any two (2) ways which can result in plagiarism. [2]
5. Briefly describe how censoring and filtering is done. [3]

Question Six

[15]

1. Define the following terms:
 - a. Program [1]
 - b. Database Management System [1]
 - c. Integrated Development Software [1]
2. Briefly describe the following data models:
 - a. Flat file database [2]
 - b. Object Oriented database [2]
3. List the three main functions of the Database Management System (DBMS). [3]
4. Match each of the following terms to its description: [5]
 - a. Flowchart
 - b. DFD
 - c. pseudocode
 - d. OOP
 - e. AI
 - i. English-like statements focusing on logic, not syntax
 - ii. study of how to make computers behave like humans
 - iii. defines objects and the actions that can be performed on them
 - iv. shows the flow of data in a system
 - v. graphic view of an algorithm