

# UNIVERSITY OF ESWATINI

Faculty of Science and Engineering

Department of Computer Science

## SUPPLEMENTARY EXAMINATION

FEBRUARY 2020

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. Virtual memory [1]
  - b. Graphics Processing Unit [1]
2. Briefly explain the major views of information technology. [2]
3. List and briefly describe the components of an information system. [5]
4. Briefly describe any two (2) types of information systems. [4]
5. State whether each of the following statements is TRUE or FALSE: [6]
  - a. System memory is volatile.
  - b. Cache is a type of static memory.
  - c. Read Only Memory (ROM) can either be static or dynamic.
  - d. The term computer system is a synonym of information system.
  - e. In a convertible notebook, the screen and the keyboard are detachable.
  - f. Component memory is an example of Dynamic Random Access Memory (DRAM).
6. Describe the main components of the Central Processing Unit (CPU). [4]
7. List and describe the four (4) basic functions of a computer. [4]
8. Describe any two (2) types of utility software. [4]

## Question Two

[15]

1. Define the following Terms:
  - a. Virtual reality [1]
  - b. Augmented reality [1]
2. Give a list of all the applications that are found in a typical office suite. [3]
3. State any three (3) advantages of vector images. [3]
4. List the three (3) types of services that is provided by cloud computing. [3]
5. State any two types for tasks you would accomplish using:
  - a. word processor [1]
  - b. desktop publishing application [1]
6. Briefly describe the difference between analog devices and digital devices. [2]

### Question Three

[25]

1. Define the following terms:
  - a. Store-and-forward [1]
  - b. Synchronous communication [1]
  - c. Asynchronous communication [1]
2. Describe how the Post Office Protocol (POP) works. [3]
3. Give example of two (2) situations where each of the following communication method is appropriate:
  - a. Instant messaging [1]
  - b. Voice over Internet Protocol [1]
  - c. Videoconferencing [1]
  - d. Email [1]
4. List the six (3) main categories of e-commerce. [3]
5. State and explain the factors that you would consider when deciding to use written or verbal communication. [4]
6. Give two examples of situations where email should be used to communicate rather than texting or instant messaging. [2]
7. List any four (4) ways that can be used to access the Internet. [2]
8. Describe what you would consider in order to evaluate the credibility of information on the web. [2]
9. Briefly explain how you would troubleshoot a PC that is failing to connect to the Internet. [2]

## SECTION B

### Question Four

[15]

1. Define the following terms:
  - a. Protocol [1]
  - b. Virtual Private Network [1]
  - c. Hypertext Transfer Protocol (HTTP) [1]
  - d. Domain name [1]
2. Briefly describe the difference intranets and extranets. [2]
3. List the main three (3) types of networking cables. [3]
4. Briefly describe the four (4) layers used in protecting the network [4]

5. Briefly describe the difference between a static web page and a dynamic web page. [2]

### Question Five

[15]

1. Define the following terms:
  - a. Copyright laws [1]
  - b. Digital rights management [1]
  - c. Software piracy [1]
2. Describe the three (3) goals of computer security. [3]
3. List any four (4) ways that can be used in cracking a password. [2]
4. How are Zombie attacks carried out? [2]
5. How does the proxy server work? [3]
6. Describe any two (2) steps that can be taken to ensure that computers are disposed of properly. [2]

### Question Six

[15]

1. What is a database?
2. State and explain the type of database you would advise each of the following companies to use: [4]
  - a. A company that specializes in big data analysis
  - b. A company with several branches in different countries
  - c. A clothing shop that sale different kinds of clothes from different designers
  - d. A company that has a single branch with 4 departments that are made up of 20 employees each
3. List the three (3) main functions of the Database Management System (DBMS). [3]
4. Give two examples of the following relationships:
  - a. One-to-one [1]
  - b. One-to-many [1]
  - c. Many-to-many [1]
5. Briefly describe the following terms:
  - a. Machine Learning [2]
  - b. Expert System [2]