MANICALAND STATE UNIVERSITY OF APPLIED SCIENCES

FACULTY OF ENGINEERING, APPLIED SCIENCES AND TECHNOLOGY

DEPARTMENT: COMPUTER SCIENCE AND INFORMATION SYSTEMS

MODULE: INTRODUCTION TO COMPUTER SCIENCE
CODE: INSY102/INSY101/BCOS111

SESSIONAL EXAMINATIONS
OCTOBER-2023

DURATION: 3 HOURS

EXAMINER: MR N. MATANANA AND MR A. MAKANDWA

INSTRUCTIONS

1. Answer ALL **questions** in Section A **and** Section B

2. Answer Any **Two (2) questions** from Section C and Section D

3. Start a new question on a fresh page

4. Total marks 100

   Additional material(s): None

SECTION A - Answer **all** questions

Question 1

a. What is the effect of the following spreadsheets functions and formulas?

  i.   =**COUNT(B7:B11)**   **(2 Marks)**

  ii. =**RANK(F4, F$2:F$10,1)**   **(3 Marks)**

b. What is the rationale for using a spreadsheet package like Microsoft Excel instead of using a calculator in carrying out mathematical calculations

                                                            (3 Marks)

c. You have been tasked with conducting a census of all students at MSUAS who reside in Fern Valley. This census entails collecting essential information, including their addresses, phone numbers, and full names. In consideration of this data collection endeavour, which office software package would be the most suitable? Justify your selection.   **(3 Marks)**

d. With reference to Google Workspace (Also known as G Suite):

  i.   Explain any three services included in Google Workspace.   **(3 Marks)**

  ii. Describe the key features available during a Google Meet video call.

                                                            (3 Marks)

  iii. What is real-time collaboration in Google Docs, and how does it benefit users**?**   **(3 Marks)**

SECTION B - ANSWER **ALL** QUESTIONS

Question 2

(a) Outline the steps that one goes through when searching for textbooks using

    The MSUAS Library Catalogue. **(5 Marks)**

(b) Explain how you would search for an examination paper using the

    MSUAS Institutional Repository. **(5 Marks)**

SECTION C - ANSWER **ANY TWO** QUESTIONS

Question 3

a. Explain on any two user interfaces you are familiar with. **(2 Marks)**

b. Define green computing and describe how it contributes to environmental

    sustainability. **(4 Marks)**

c. Identify three components of the Central Processing Unit and explain the role of

    each. **(9 Marks)**

Question 4

a. Explain the functions of each of the following, memory types

    i. ROM **(2 Marks)**
    ii. Cache Memory **(2 Marks)**
    iii. RAM **(2 Marks)**

b. Differentiate between System Software and Application Software. **(4 Marks)**

c. Describe any **Five** (**5**) Functions of an Operating System **(5 Marks)**

Question 5

a. What is malware? Provide any three examples of common types of malware giving their differences. **(4 Marks)**

b. Explain the importance of strong passwords and multi-factor authentication in ensuring cyber security. **(3 Marks)**

c. Compare and contrast supercomputers, mainframes, mini and microcomputers. Provide examples where necessary as well as their areas of application.

(8 Marks)

Question 6

Zimbabwe launched its first satellite to space on November 7, 2022. The satellite, called ZimSat-1, is a nano-satellite that was developed by the Zimbabwe National Geospatial and Space Agency (ZINGSA) in collaboration with the Kyushu Institute of Technology in Japan. Discuss the relevance or importance/significance of this in your area of study **(15 Marks)**

SECTION D - ANSWER ANY **TWO** QUESTIONS

Question 7

New technology has brought Internet based learning at the core of teaching and learning. Discuss the challenges that are associated with online based learning.

(20 Marks)

Question 8

Discuss **five** (**5**) criteria that are used when evaluating articles from Internet

(20 Marks)

Question 9

Plagiarism is slowly getting out of hand at the Institutions of Higher Learning.

Clearly explain the following types of plagiarism:

(i) Self Plagiarism   **(5 Marks)**

(ii) Verbatim Plagiarism   **(5 Marks)**

(iii)Accidental Plagiarism   **(5 Marks)**

(iv)Mosaic Plagiarism   **(5 Marks)**

END OF EXAMINATION