NATIONAL UNIVERSITY OF SCIENCE AND TECHNOLOGY

FACULTY OF APPLIED SCIENCE

DEPARTMENT OF COMPUTER SCIENCE

INFORMATION TECHNOLOGY AND COMPUTER APPLICATIONS

SCS 1100

Main Examination Paper

December 2024

This examination paper consists of 4 pages

Time Allowed: 3 hours

Total Marks: 100

Examiner's Name: T. Zengeya
External Examiner's Name: Dr. C. Gombiro

INSTRUCTIONS

1. Answer any four (4) questions
2. Each question carries 25 marks

MARK ALLOCATION

QUESTION	MARKS
1.	25
2.	25
3.	25
4.	25
5.	25
TOTAL	100

QUESTION ONE

a) Define the following terms as they are used in IT.
    i.   Database   [2]
    ii.   Computer Hardware   [2]
    iii. Data   [2]
    iv. Information   [2]
    v.   Computer memory   [2]

b) Using examples differentiate between GUI and CLI   [5]

c) Explain any five characteristics of quality Information   [10]

QUESTION TWO

a) Explain how the following Utility programs can help maintain the computer
    i.   Anti-virus   [3]
    ii.   Firewall   [2]
    iii. Data recovery program   [2]

b) Discuss the characteristics of a good password   [5]

c) Sipho is creating a presentation to showcase the results to a science council to obtain future funding. He really wants to impress them but is very nervous, asks you to give him some advice on what to do on the presentation. Discuss any six items that you will share with Sipho that will be considered as **GOOD** advice about preparing a presentation. [13]

QUESTION THREE

a) Discuss how the following Malware can affect our computers
    i.   Spyware   [2]
    ii.   Trojan horse   [2]
    iii. Back Door   [2]
    iv. Adware   [2]
    v.   Ransomware   [2]

b) Suggest measures that can be implemented at (a) to protect our machines from attacks [5]

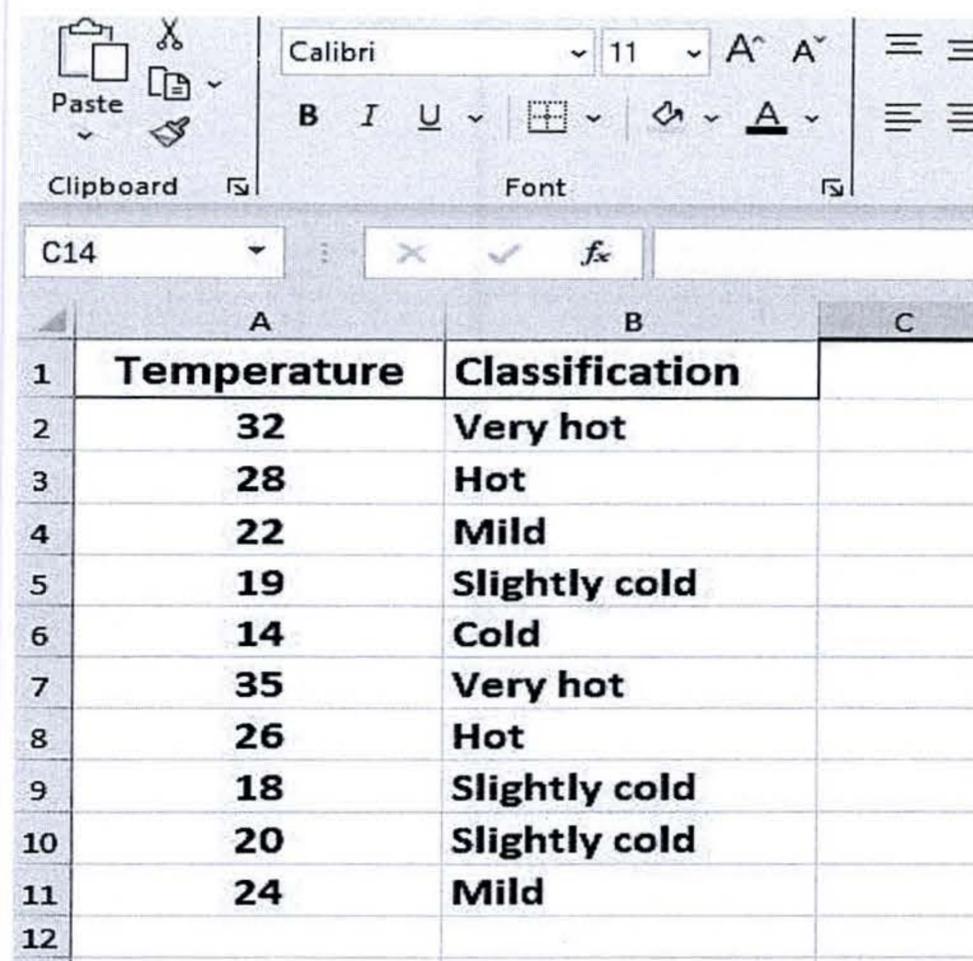c) Discuss any five functions of a computer system   [10]

QUESTION FOUR

a) Ms Word and Powerpoint allow users to perform all manipulations on screen in "**WYSIWYG**" fashion before printing out hardcopy. Explain what is meant by the statement. [2]

b) Explain any benefits of using Ms Word for document production [3]

c) Discuss the primary functions of an operating system [10]

d) c) Describe the societal implication and challenges of using information technology. [10]

QUESTION FIVE

You are given a temperature reading in cell A1. Based on the temperature in that cell, you are required to classify it according to the following conditions as shown in figure 1 below .

- If the temperature is greater than 30, display "Very hot".

- If the temperature is between 25 and 30 (inclusive), display "Hot".

- If the temperature is between 20 and 25 (inclusive), display "Mild".

- If the temperature is between 15 and 20 (inclusive), display "Slightly cold".

- If temperature is less than 15, display "Cold"

	A Temperature	B Classification	C
1	Temperature	Classification	
2	32	Very hot	
3	28	Hot	
4	22	Mild	
5	19	Slightly cold	
6	14	Cold	
7	35	Very hot	
8	26	Hot	
9	18	Slightly cold	
10	20	Slightly cold	
11	24	Mild	
12			

Figure 1: Temperature classification

a) Write an excel formula that will classify the temperature according to the conditions given above to produce the results in cell B1 in figure 1 above. [5]
b) Discuss the pros and cons of arranging computers on a network using the following topologies:
   i. Bus [2]
   ii. Star [2]
   iii. Mesh [2]
   iv. Ring [2]
c) Discuss the positive and negative impacts of AI to college students at NUST [12]

END