

University of Fort Hare
Together in Excellence

DEGREE EXAMINATIONS: NOVEMBER 2018

CSC 121F

INTRODUCTION TO PROGRAMMING CONCEPTS

Time: 2 HOURS, 30 MINUTES

Marks: 100

Internal Examiner

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Instructions

- This paper consists of 8 pages including cover page
- There are FOUR(4) questions ,you have to answer all
- No calculators may be used to answer questions.
- Use the numbering system used in the question paper for your answers

QUESTION 1**[10 MARKS]**

1.1. Four answers are provided for you to choose from, write only the number and a letter for the correct answer.

1.1.1. Ms Excel is an example of Software [1]

- A. Utility
- B. Application
- C. System
- D. Anti-virus

1.1.2. To go to a new line within a cell , you can use a combination of keys [1]

- A. Ctrl + Enter
- B. Alt + Enter
- C. Shift + Enter
- D. Enter

1.1.3. To edit information in the cell you can use [1]

- A. Formula bar
- B. Status bar
- C. Title bar
- D. Quick access toolbar

1.1.4. If cell DZ5 is active, and [shift] + [Enter] are pressed, then cell will be active [1]

- A. DZ6
- B. DZ4
- C. DY5
- D. EA5

1.1.5. A short cut key for pasting information in a cell on Ms Excel is [1]

- A. Ctrl + P
- B. Ctrl + V
- C. Ctrl + C
- D. Ctrl + X

1.2. Match the phrase written in column A, with the description written in column B that best suit it.

Column A	Column B
1.2.1. Cell	A. Is identified by its first and last cell address, separated by a colon.
1.2.2. Named Box	B. Can be used for Editing information typed in the cell
1.2.3. Range	C. Displays the name of the application file.
1.2.4. Formula Bar	D. The intersection of a row and column; and are always named with the column letter followed by the row number.
1.2.5. File Tab	E. Displays information about the current worksheet.
	F. Displays the active cell location.
	G. It helps you to manage the Microsoft application and provide access to its options such as Open, New, Save, As Print, etc.
	H. Displays groups of related commands within tabs. Each tab provides buttons for commands.

[5]

QUESTION 2

[25 MARKS]

The following spreadsheet shows the records for csc100F, year 2000

Microsoft Excel - prac test 1 - Excel

FILE INSERT HOME PAGE LAYOUT FORMULAS DATA REVIEW VIEW DEVELOPER Te

K18 : [X] [✓] [fx]

CSC100F MARKS RECORD YEAR: 2000										
No.	Surname & Initials	Student number	Test1	Test2	Test3	Total	Average	DP		
1	BLAYI, S	12346	28	56	35	119	40	45.5		
2	CEKWANA, S	65323	25	54	56	135	45	55		
3	CUBUNGU, P.B	56893	57	34	17	108	36	45.5		
4	CWAYI, H.Q	34562	29	27	56	112	37	42.5		
5	DUBE, P	12678	55	77	21	153	51	66		
6	FAKIDOLO, T	56743	78	87	98	263	88	92.5		
7	GENUKILE, S	33091	25	88	36	149	50	62		
8	GILA, A	56976	25	90	30	145	48	60		
9	GOSO, L	43266	78	91	78	247	82	84.5		
10	GOVENDER, J	98647	32	56	30	118	39	44		
Maximum			78	91	98					
Minimum			25	27	17					
No. Passed			4	8	4					

- 2.1. Cells A1:I1 were merged, and multiple line were typed within there. Briefly explain how these three lines were inserted there [2]
- 2.2. What formula would you type in cell D14 to get the highest mark in test 1? [1]
- 2.3. What formula would you type in cell D16 to count the number of people whose mark is 50 and more? [1]
- 2.4. What formula would you type in cell I3 to calculate DP for you, the average of the best two tests [2]
- 2.5. In the above spreadsheet, which cell is active? [2]

2.6. If the cells B3:G5 were to be highlighted, what would be written in the named box? [2]

2.7. Under what circumstances would what is written in the named box not be the same as the active cell? [2]

2.8. If we want the marks for Blayi and Cekwana to always be in view including their DP while scrolling in the spreadsheet, briefly explain how you would do it? [2]

2.9. If the formula “= IF (D3<50, “THIS” , “THAT”)” is typed in cell J3, and an AutoFill is used to copy the formula through to J12, what will be printed in cell:

2.9.1. J6 [1]

2.9.2. J7 [1]

2.9.3. J10 [1]

2.10. If the formula “= IF (D3>50, “THIS” ,IF(D3<70, “THAT”, “Other”))” is typed in cell J3, and an AutoFill is used to copy the formula through to J12, what will be printed in cell:

2.10.1. J6 [1]

2.10.2. J7 [1]

2.10.3. J10 [1]

2.11. Assume that the cells in the range B5:I10 is selected, and sorted in descending order according to column F. What will appear in the following cells after the sort is completed?

2.11.1. A5

2.11.2. B3

2.11.3. F8

2.11.4. G12 [4]

[25]

QUESTION 3

[30 MARKS]

3.1. What is an algorithm? [2]

3.2. Study the following algorithm and answer questions that will follow:

Input the number of copies(c)
If c less than 40 then
 $Cost = c * 10$
Otherwise
 $Cost = 10 * 20 + (c - 40) * 5$

Output the cost

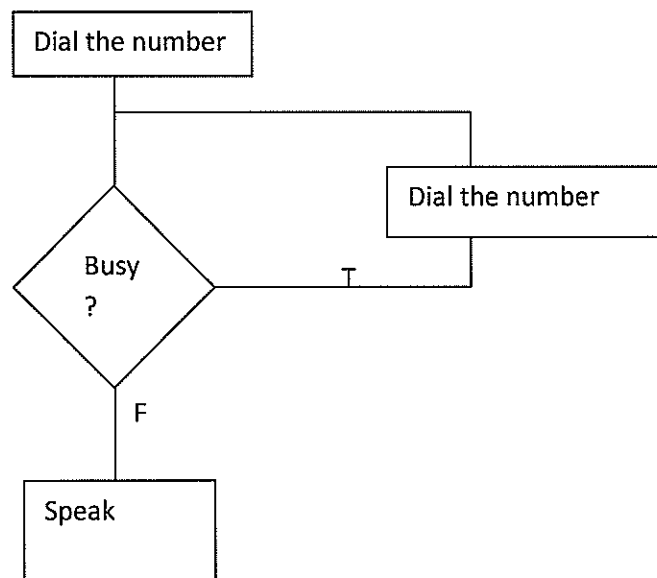
Calculate the cost as defined in the above algorithm if :

3.2.1. $c = 10$ [2]

3.2.2. $c = 40$ [2]

3.2.3. $c = 60$ [2]

3.3. Study the following flowchart which resemble a situation of making a phone call, and write an algorithm presented below [5]



3.4. Study the following algorithm, and answer questions that follow.

Put sum =0

Put count=0

While the end of file has not been reached

Read the next number from the file

Add the number to sum

Add one to count

Put average= sum / count

Output average to the screen

3.4.1. Draw a flowchart representing the above algorithm. [8]

3.4.2. Suppose the numbers in the file are 1, 2, 3 and 4. What will be displayed on the screen by the above algorithm [2]

3.5. Write down an algorithm to find the smallest number from the numbers entered on the keyboard, stopping when Zero is typed [7]

[30]

QUESTION 4

[35 MARKS]

4.1 What is a procedure? [2]

4.2. Study the following procedure and answer questions that follow:

Public sub Macro1()

' one decimal

'Macro recorded 2006/09/10

'Keyboard Shortcut: Ctrl+Shift+K

Selection.Numberformat = "0.0"

End Sub

4.2.1. What is the macro name? [1]

4.2.2. What does the single quote(') tell us in the above procedure? [2]

4.2.3. Briefly explain what the above procedure does. [2]

4.3 Write a procedure that format font in cells as follows:

Macro name to be forte, Font style bold, courier, size 10, colour 4 and must have a comment "My first procedure". [8]

4.4. What are the values of the three variables x, y and z after the following instruction have been carried out?

Dim X as Variant

Dim y as variant

Dim z as variant

X=2

Y=6

Z= y/x

X= y-x

Y=z + x

[3]

4.5. Write a procedure that multiplies two numbers. The numbers are read from the cells B3 and B4, the results is stored in cell B5 [4]

4.6. Write a procedure that will compute the area of a circle in cell B1 whose radius is read from cell A1, and take pi = 3.14. Formula: $A = \pi * r^2$ [6]

4.7. A student has failed if he gets a final mark less than 45, a supplementary is allowed if his final mark is 45 to 49, lastly it is a Pass if final mark is 50 and more. Write a procedure which read the final mark from cell A1, and print **Failed**, **Supplementary** or **Passed** depending on the given conditions above in cell A2. [7]

[35]