

**UNIVERSITY OF SWAZILAND
SUPPLEMENTARY EXAMINATION, JULY 2009**

Title of Paper : COMPUTER SCIENCE FOUNDATION COURSE

Course Number : CSF 100

Time Allowed : Three (3) hours.

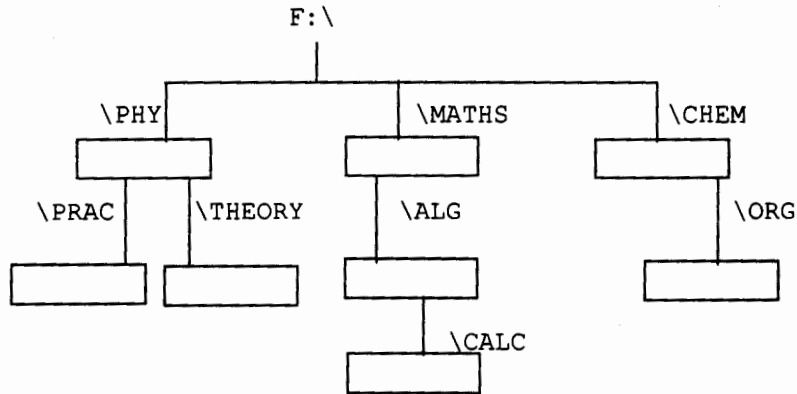
**Instructions : Answer all the questions. Choose options as given
with the questions. Maximum mark is 60.**

This paper should not be opened until permission has been granted by the invigilator.

Q1(a) (2 marks). Explain the meaning and distinction/s between ROM and RAM memories

Q1(b).(3 marks). Find binary equivalent of 80 and decimal equivalent of 10101001.

Q1(c) (5 marks). Starting from the system prompt F:\> , write a sequence of MSDOS commands and correct system prompts to create the following directory tree structure in the root of F: . Assume that the root of F: is empty at the start -



Q1(d) (5 marks). Write single MSDOS commands along with the correct system prompts to perform the following tasks independently. Assume that at the start of each task, the system prompt is F:\>. The context is the above figure as shown in question Q1(c). Answer any five of the following.

- (i). Display on SCREEN the contents of the file NOTES.TXT which is in the subdirectory \THEORY
- (ii). Display on the SCREEN the contents of the subdirectory \CALC.
- (iii). Copy the file FAB.TXT in the \PRAC subdirectory to the file FABNEW.PRN in \ALG subdirectory.
- (iv). Remove all the files with .EXE extension from the sub directory \ORG.
- (v). Change the name of the file OLD.COM to NEW.COM. Assume OLD.COM is in \ORG subdirectory.
- (vi). Remove everything from the \CHEM subdirectory. Assume that \ORG is empty.

Q2 (a) (6 marks). The context is MS Word as implemented in the Computer Centre Lab. Explain the steps to do the following -

(i). Change the text – $(X - X1)2 + (Y - Y1)2 = R2$ to the equation –

$$(X - X_1)^2 + (Y - Y_1)^2 = R^2$$

(ii). Create an empty table of 5 rows and 4 columns

Q2(b) (4 marks). Explain the distinction/s, meaning and usefulness of the following submenu items in MS Word. Answer any two of the following –

- (i). 'Save' and 'Save As' .
- (ii). 'Paste' and 'Paste Special'.
- (iii). 'Print' and 'Print Preview'.

Q3(a) (3 marks). A formula in A4 is copied to D5. Write the copied formula in D5. Assume that the contents of A4 are –

- (i). =B1*D1
- (ii). =A\$2+\$C2
- (iii). =\$C3-D\$4

Q3(b) (3 marks). Write clearly all the addresses that are absolute, relative and partially relative cell addresses of Q3(a) above.

Q3(c) (4 marks). A clipped spreadsheet contents are shown below.

	A	B	C	D	E
1	7	12			6
2	8	15			
3	4	19			
4	3	11			
5	2	10			

Assume that A1..E5 has numbers as shown above and contents of C1 and D1 are -

$$C1 = A1+A2, D1 = A1+C1+E1$$

The contents of C1..D1 are copied at C2..D4 and contents of E1 are copied at E2..E4.

Write the values displayed in C2..E4.

Q4. (4 + 2 + 4 marks). The context is the DBMS program (MS Access) as implemented in the Computer Centre Lab. A small club library wants to keep information about its book collections in its stock. The information consists of the following -

- | | |
|-----------------------------|---|
| 1. Title of the book | |
| 2. First author surname | |
| 3. First author other names | |
| 3. Book ISBN | 10 digits |
| 4. Year of acquisition | 4 digits |
| 5. Price of the book | 4 digits for Emlangeni, 2 for cents (----- .--) |

Write the structure or design view of a simple relational database table that can be used to store the above information for the library. Write the table name and field name of the primary key. Give reasons of your primary key choice.

Write 4 records of your table in Data sheet view.

Write SQL command view/s for the following independent queries. Answer **any four** of the following -

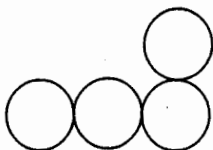
- (i). Create a list displaying the Title and First Author surname of every book. The First Author surname of books should be sorted in descending order.
- (ii). Create a list displaying the Title, ISBN and price of every book acquired in the year 2005.
- (iii). Create a list displaying the ISBN number and price of every book whose price is above E100.00. ISBN numbers should be sorted in descending order.
- (iv). Create a list of Titles of the books whose first author surname is 'DLAMINI'. The Titles should be sorted in descending order.
- (v). Create a list displaying the ISBN number and price of every book acquired between the years 1990 and 2003 (both inclusive). ISBN numbers should be sorted in ascending order.

Q5(a) (5 marks). Draw the shape produced when the following screen effecting direct LOGO command is given. Assume that CLEAR command has already been given. Write the position coordinates and direction of the turtle in degrees at the end of the command

- (i) REPEAT 3 (FORWARD 10 TURN 90)
- (ii) REPEAT 4 (FORWARD 40 TURN 90 FORWARD 20 TURN -90)

Q5(b) (6 marks). Write a LOGO program CIRCLE to draw a circle of radius R and CENTRE at CX, CY.

Q5(c) (4 marks). Using the CIRCLE program of Q5(b), write screen effecting direct LOGO commands to draw the following shape on the LOGO display screen. Use your own dimensions. Three similar circles are touching each other horizontally and one circle touching vertically as follows -



(End of Examination Paper)