UNIVERSITY OF SWAZILAND
FINAL EXAMINATION, MAY 2014
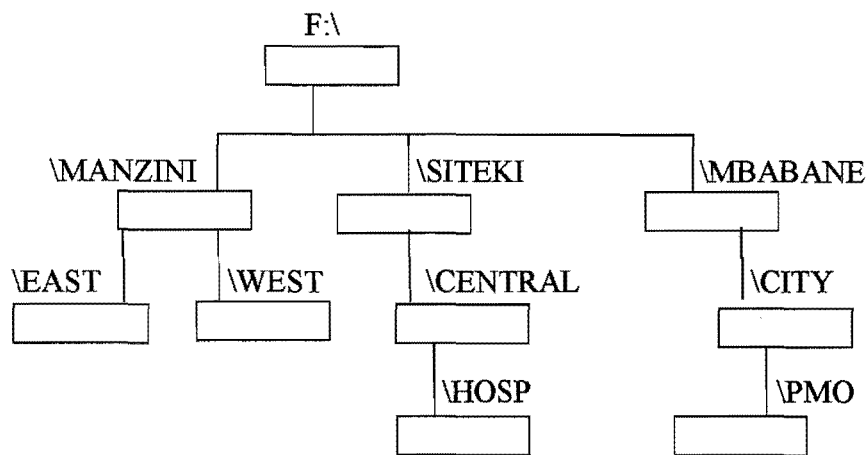
Title of Paper : COMPUTER SCIENCE FOUNDATION COURSE

Course number : CSF 100

Time allowed : Three (3) hours.

Instructions : Answer all the questions from Page 1 to page 5. Choose options as written with the questions.

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

Q1(a) (6 marks). Give examples and explain the following

(i). Three Internal MSDOS commands, not related to files or directories.
(ii). Three types of directories – Root, parent, and sub directory.

Q1(b) (4 marks). Starting from the system prompt F:\> , write a sequence of MSDOS commands and 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.

```
                              F:\
                              [    ]
                                |
        +---------------------+----------------------+
    \MANZINI              \SITEKI                \MBABANE
    [      ]              [      ]               [      ]
      |                      |                      |
  +-------+              +-------+              +-------+
\EAST   \WEST          \CENTRAL              \CITY
[    ]   [    ]        [      ]              [      ]
                          |                      |
                       \HOSP                  \PMO
                       [    ]                 [    ]
```

Q1(c) (5 marks). Write a **single** MSDOS command along with the correct system prompt to perform each of the following tasks independently. Assume that at the start of each task, the system prompt is F:\>. The context is the directory structure in question 1(b). Answer **any five** of the following. Assume that the display is always on the screen.

(i). Display the contents of the file NOTICE.TXT which is in the subdirectory \WEST.

(ii). Display the contents of the subdirectory \EAST.

(iii). Copy the file LIST.DOC in \HOSP subdirectory to the file OLDLIST.DOC in \PMO subdirectory.

(iv). Show the directory information in \CENTRAL whose names start with the letter C.

(v). Change the name of the file PRAC.DOC to NEWPRAC.DOC. Assume PRAC.DOC is in \CENTRAL subdirectory.

(vi). Remove all the files with .TXT extension from \MANZINI subdirectory.

Q2 (a) (4 marks). The context is MS Word as implemented in the Computer Centre Lab. Explain the steps to do the following -

(i). Create a bulleted list of five text items of your choice which have not yet been typed.

(ii). Change the style, size and color of the text of an already typed paragraph.

Q2(b) (6 marks). Write clear steps with example of doing the following. Answer **any two** of the following –

(i). Changing one paragraph into two paragraphs and two paragraphs into one paragraph.
(ii). Adding an equation $(x - a)^2 + (y - b)^2 = r^2$ after the current paragraph.
(iii). Insert your photo at the start of the current page from the file F:\PHOTO.PIC

Q3(a) (3 marks). Following formulas are copied from one cell to another. Write the copied formula in the destination cell. Answer **any three** of the following.

(i).   =$A1*$C2 (is copied from B4 to D6, What is copied in D6 ?).
(ii).   =B2*C2 (is copied from A2 to B3, What is copied in B3 ?).
(iii). =A$3+$C3 (is copied from D1 to E1, What is copied in E1 ?).
(iv).   =A4-C4 (is copied from B1 to F4, What is copied in F4 ?).

Q3(b) (3 marks). Write clearly which cell addresses appearing in Q3(a) (i) to (iv) are absolute, relative and partially relative.

Q3(c) (4 marks). Draw a spread sheet having data as follows –
1.   A1:A5 has data 8, 3, 6, 4, 2 respectively,
2.   B1:B5 has data 2, 4, 3, 1, 0 respectively,
1.   contents of C1 are = A1*B1-B2 and D1 are = B1+ C1+2

The contents of C1..D1 are copied at C2..D4. Write the formulas and values stored in C2..D4.

Q4. (4+2+4 marks). The context is the DBMS program (MS Access) as implemented in the Computer Centre Lab. During a students' survey, the following information was collected from several participating Students.

1. Student id   6 digits
2. Student name   25 characters,
3. Student age   2 digits (in years)
4. Student weight   number (in Kg)
5. Student gender   1 character (M - for male, F - for female)
6. Student height   Meters (1 digit before decimal and 2 digits after decimal)

(a). Write the design view of a simple relational database table that can be used to store data of the above survey. Write name of your table and primary key. Give reasons about your primary key choice.

(b). Write three records of students using suitable data of your choice, exactly in Data Sheet View. Show the form view of your choice of your table record .

(c). Write the query in Command View for the following tasks independently. Answer **any four** of the following -

(i). Retrieve Student id, Student age and Student names so that Student id's are in descending order.

(ii). Retrieve all the survey data with Student names ordered in ascending order.

(iii). Retrieve id's, age and height only of female Students whose height is less than 175 cms.

(iv). Retrieve id's and gender of the male Students who are above 25 years of age.

(v). Retrieve the names and age of all Students whose weight is greater than 190 Kg. Student names should be sorted in descending order.

Q5(a) (5 marks). Draw the shape produced when the following screen effecting direct LOGO command is given. Also write the position and direction of the turtle (in degrees) after the command is executed independently. Assume that CLEAR command has already been given.
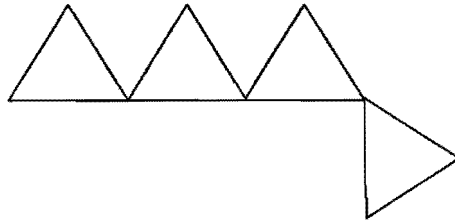
(i)   REPEAT 2 (FORWARD 20 TURN 90 PEN UP FORWARD 20 PEN DOWN)
(ii)   REPEAT 3 (FORWARD 40 TURN 90 FORWARD 20 TURN -90)

Q5(b) (6 marks). Write a LOGO program named TRIANGLE to draw a triangle at X, Y point. The length of each side of the triangle should be L as follows.
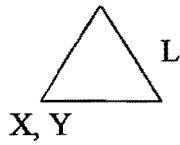
The drawing should start at X, Y with zero direction and terminate at the same point and direction.

Q5(c) (4 marks). Using the TRIANGLE program of Q5(b), write screen effecting direct LOGO command/s to draw the following. Use your own correct and suitable dimensions.

(End of Examination Paper)