

**UNIVERSITY OF SWAZILAND
FINAL EXAMINATION, MAY 2015**

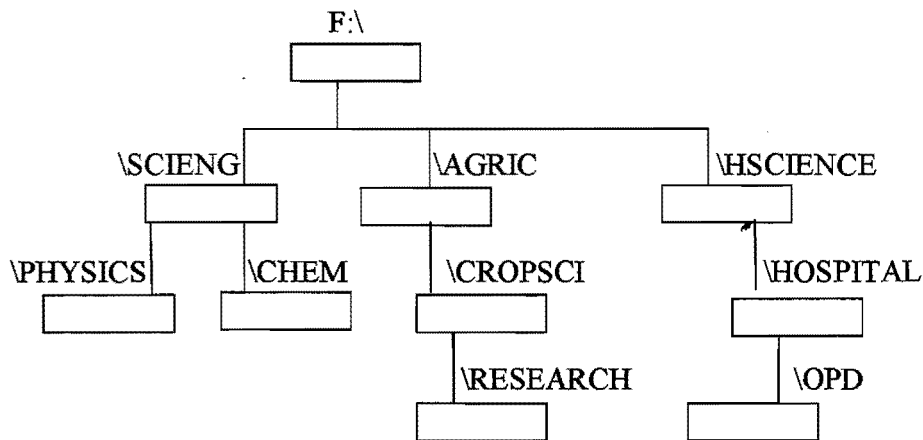
Title of Paper : COMPUTER SCIENCE FOUNDATION COURSE
Course Code : CSF 100
Time allowed : Three (3) hours.
Instructions : Answer all the questions from Page 1 to page 5. Choose options as written with the questions.

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

Q1(a) (4 marks). Convert $(137)_{10}$ and $(200)_{10}$ to their binary equivalent numbers and $(10001111)_2$ and $(01010101)_2$ to their decimal equivalent numbers.

Q1(b) (2 marks). Give examples and explain Wild file specifications of star and question mark type.

Q1(c) (4 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 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(c). Answer **any five** of the following. Assume that the display is always on the screen.

- (i). Display the contents of LETTER.TXT which is in the \RESEARCH.
- (ii). Display the contents of \OPD.
- (iii). Show the directory information in \CHEM whose names start with the letter A.
- (iv). Copy the file LIST.DOC in \HOSPITAL to the file OLDLIST.DOC in \CHEM.
- (v). Change the name of the file PRAC.DOC in \PHYSICS to OLDPRAC.DOC.
- (vi). Remove all the files with .PIC extension from \AGRIC 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). Assume three paragraphs – para1, para2 and para3 have already been typed. Now

align para1 to left of margins and change style to bold,
align para2 to center of margins and change style to italics & bold and
align para3 to left and right to the margins and change style to underline & bold.

(ii). Write steps so that each paragraph, para1, para2 and para3 starts on a new page without using enter key.

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

- (i). Changing one paragraph so that each sentence appears as an item of a numbered list.
- (ii). Adding an equation $x^2 + 2xy + y^2 = 0$ after the current paragraph.
- (iii). Add your signatures at the end of current document. Assume your signatures are in F:\SIGN.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 B1 to D2, What is copied in D2 ?).
- (ii). =B2*C2 (is copied from A2 to A3, What is copied in A3 ?).
- (iii). =A\$3+\$C3 (is copied from D1 to E3, What is copied in E3 ?).
- (iv). =A4*C4 (is copied from B1 to F4, What is copied in F4 ?).

Q3(b) (3 marks). Write the rules of copying of your answers to Q3(a). Also include the type of each cell address appearing in your answers to Q3(a)

Q3(c) (4 marks). Draw a spreadsheet having data as follows –

1. A1:A5 has data 80, 30, 60, 40, 20 respectively,
2. B1:B5 has data 20, 40, 30, 10, 00 respectively,
1. contents of C1 are = A1+B1-B2 and D1 are = B1+ C1+10

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. Id number | 6 digits |
| 2. Surname | 25 characters, |
| 3. Othernames | 30 characters |
| 4. Age | 2 digits (in years) |
| 5. Weight | number (3 digits for Kg before decimal and 2 digits for grams) |
| 6. Gender | 1 character (M - for male, F - for female) |
| 7. Height | number (1 digit for Meter before decimal and 2 digits for cms) |

(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.

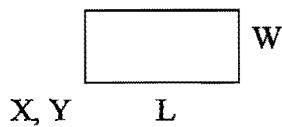
(iv). Retrieve Id's and gender of the male Students who are above 25 years of age.

(v). Retrieve the names and Id's of all Students whose gender is neither M nor F.

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.

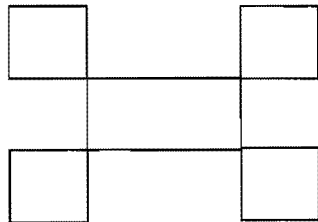
- (i) REPEAT 4 (FORWARD 20 TURN 90 FORWARD 10 TURN -90)
- (ii) REPEAT 3 (FORWARD 40 TURN 30 TURN 30 TURN 30)

Q5(b) (5 marks). Write a LOGO program named RECT to draw a rectangle. The lower left corner is at (X, Y), length of the rectangle should be L and width W, as follows –



The drawing should start at X, Y with zero direction and terminate at the same point and direction.

Q5(c) (5 marks). Using the RECT 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)