NAVRACHANA UNIVERSITY, VADODARA
## School of Liberal Studies and Education
End-Semester Examination, November - 2017
FY M. Sc. – Semester-1
Course: Computer Applications in Chemistry (IT125)

Date: 30-Nov-2017   Time: 10:30am –12:30 pm   **Marks: 40**

Instructions: *1) Attempt each question on new page*
2) Draw diagrams with pencil wherever necessary.

Attempt any two from Q. 1 to Q.3   **[2 x 8 = 16 Marks]**

Q. 1 What is variance and standard deviation? Give the formulae for same. Explain with the suitable example.

Q. 2 Write the syntax and draw the flowchart for the following-
1) if   2) if else   3) if-else ladder   4) select case

Q. 3 A computer hardware dealer is having sales data in the form of following data cube.
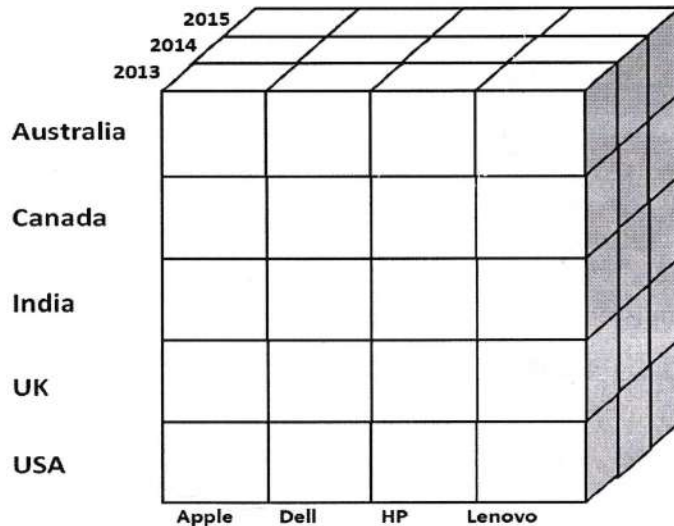
Draw the section of cube and write summation equation in the form of *i, j, k* for following queries
(i)   Sales of Lenovo in all countries in all years
(ii)   Sales of Apple, Dell and HP in India in all years
(iii)   Sales of all products in UK, USA in 2014
(iv)   Sale of Dell and Lenovo in India and USA in 2015.

Also calculate the number of cubes that represent the answer for above questions.

Attempt any two from Q.4 to Q.6   **[2 x 3 = 6 Marks]**

Q. 4 What is File handling in FORTRAN? How to open the file. Also write the syntax to read and write the file in FORTRAN.

Q. 5 Write a FORTRAN program to print sum of 'n' natural numbers.

Q. 6 Explain any three logical operators available in FORTRAN.

Attempt any two from Q.7 to Q.9   **[2 x 5 = 10 Marks]**

Q. 7   Give the syntax for the 'do loop' and 'do while loop'. Support your answer with the help of suitable example.

OR

Give the basic syntax of FORTRAN program. Describe the importance of all basic default parameters used while implementing FORTRAN program.

Q. 8   Write the inbuilt function to calculate the following mathematical operations in FORTRAN with example.
  1) To calculate square root of a given number
  2) To perform matrix multiplication
  3) To find absolute of a number

Q. 9   Write the inbuilt functions available to find maximum and minimum value from an array. Also write the code for the same.

Attempt any two from Q.10 to Q.12   **[2 x 4 = 8 Marks]**

Q. 10   Define the following terms-
  1) Coefficient of multiple determination for multiple regression(R^2)
  2) Slope
  3) Standard Error
  4) Intercept

Q. 11   What is Data-type? List the data types used in FORTRAN and explain any one of those.

OR

Q.12   Write a FORTRAN program to find the largest number among the given three numbers.

*** End of Question Paper ***