2012
M. Sc. (Biotechnology) First Semester
MBIO-104: Computer Applications

Time allowed: 3 Hours   Max. Marks: 80

NOTE: *Attempt five questions in all, including Question No. 9 (Part-E) which is compulsory and selecting one question each from Part A-D.*

x-x-x

PART-A

1)
   a) Name the three major components of CPU and briefly identify their responsibilities.
   b) What is computer memory hierarchy that might be found on a modern computer? Why do we need it? Explain.   (8, 8)

2)
   a) What is the role of flowchart in problem solving on computers? Draw a flowchart to check whether a positive integer number N is prime or not.
   b) Convert the 567.75 in decimal number system to equivalent binary number system.   (8, 8)

PART-B

3)
   a) List and explain relational, arithmetic and logical operators in 'C' and their execution order, with examples.
   b) Write a program in 'C' to print the sum of the digits of a three digit number.   (8, 8)

4)
   a) What is an array? Write a C program using array to find largest and smallest number from a list of 100 given numbers.
   b) What do you mean by file handling? Define the file reading and file writing operations in C Language, by taking suitable examples.   (8, 8)

PART-C

5)
   a) What is Internet? Explain various services offered by the Internet.
   b) What is spreadsheet software? Explain various financial functions (built-in) in spreadsheet software that you have used.   (8, 8)

6)
   a) Explain the Mail Merge operation in MS-Word. What are the steps involved in Mail Merge?
   b) What is the purpose of Presentation Software? Explain the features provided by MS PowerPoint.   (8, 8)

PART-D

7)
   a) The marks secured by recruits in the selection test (X) and in the proficiency test (Y) are given below:

X:	10	15	12	17	13	16	24	14	22
Y:	30	42	45	46	33	34	40	35	39

   Calculate Karl Pearson's correlation coefficient.
   b) Calculate the standard deviation if the mean of a certain set of observations is 20 and the mean of the squares of the same observations is 500.   (8, 8)

8) Explain the following with examples:
   a) Statistical Hypotheses Testing using t-test
   b) Bubble Sort   (8, 8)

PART-E

9)
   a) What is a low-level computer programming language? What are its features?
   b) What is the advantage of using functions in 'C'?
   c) What is meant by data structures? Give examples.
   d) Define continuous and discrete variable. Give examples.   (4x4=16)

x-x-x