Paper Code: BT-14A	Roll No.									

PrePhD
FIRST SEMESTER EXAMINATION, 2015-16
COMPUTER FUNDAMENTALS & PROGRAMMING

[Time: 3 Hrs.]   [MM: 100]

Note: Attempt ALL questions.

1. Answer any TWO parts of the following:-   **(10x2=20)**

   (a) Discuss the various types of memory used in computer system.

   (b) Why ER diagrams are used? Explain with some example. Also explain various types of symbols used in an ER diagram.

   (c) What is the need of function and various parameter passing methods in C? Also write a function C that accepts an array of integer as an argument and return the sum of all the elements of that array.

2. Answer any TWO parts of the following:-   **(10x2=20)**

   (a) Discuss the significance of following:
         (i) Compiler and Interpreter.
         (ii) Top down approach and step wise refinement.

   (b) Write an algorithm, and a program in C language to calculate the number of words in a given sentence, also give the frequency of vowels in that sentence.

   (c) Describe various operators in C language with proper syntax. Also discuss the significance of operator precedence with an example in C language.

3. Answer any TWO parts of the following:-   **(10x2=20)**

   (a) Write short notes on the following with **suitable example** in C:
         (i) Type conversion in C language.
         (ii) Application of any two mathematical C library functions with proper syntax.

   (b) With the help of a flow diagram, write a program in C to accept a 4 digit long integer and then display the sum of all the digits of that number.

   (c) Why C is preferred over other programming languages? Also discuss the various types of programming languages.

4. Answer any TWO parts of the following:-   **(10x2=20)**

   (a) Write a program in C language to create a text file, and then copy that text into other file after removing the blank spaces. Also display the total number of the characters in that file except the blanks.

(b) Give the use of any five string related library functions of C language with proper syntax.

(c) What is a pointer variable? Explain. Also discuss various pointer arithmetic operations in C with example.

5. Answer any TWO parts of the following:-   **(10x2=20)**

(a) What is a database system? Discuss various components of the database management system.

(b) What do understand by physical and logical data independence? Explain with suitable example.

(c) Write a program in C to add all the odd elements of the diagonal of a matrix A(5x5) of integers.