

## FCP - DEC 2007 - 1

Roll No. ....

Total Pages : 3

**8040**

**BT-1/D07**

### FUNDAMENTALS OF COMPUTERS & PROGRAMMING IN C

Paper-CSE-101E

Opt. (i)

Time : Three Hours]

[Maximum Marks : 100

**Note :** Attempt five questions in all, selecting at least one question from each Unit. All questions carry equal marks.

#### UNIT-I

1. (a) What are the basic components of the CPU of a computer ? Describe the role of each of the components in the functioning of computer system. 10  
(b) Find the decimal equivalent of the following numbers :  
(i)  $(111.01)_2$ .  
(ii)  $(247.65)_8$ .  
(iii)  $(1001.011)_2$ .  
(iv)  $(A2B.D4)_{16}$ .  
(v)  $(11010)_2$ . 5  
(c) Explain different operating systems available for PC. 5
2. (a) What is a System ? Why is computer often referred to as a computer system ? 10  
(b) Write short notes on the following :  
(i) Batch processing.  
(ii) Multiprocessing.  
(iii) Multitasking.  
(iv) Time sharing.  
(v) Multiprogramming. 10

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#### UNIT-II

3. (a) Why do we need High level languages ? Why we cannot work in Machine language ? 7½  
(b) What is Assembly language ? What are its advantages over machine language ? 7½  
(c) Make a flowchart for the problem of finding the roots of a quadratic equation. 5
4. (a) Explain the differences among assemblers, compilers, interpreters and linkers. 10  
(b) What is Debugger ? How is it different from compiler ? 5  
(c) In what manner E-mail is similar to Postal services ? 5

#### UNIT-III

5. (a) What is Recursion ? Write a program which uses recursion to find the sum of the series  $1+2+3+.....+n$ . 10  
(b) Explain the use of Local and External variables in a C program. 10
6. (a) What is Switch statement in C ? How is it different from if-else statement ? Explain with example. 7½  
(b) Differentiate Continue and Break statement in C. 5  
(c) Write a program in C to show the use of Call by value and Call by reference. 7½

#### UNIT-IV

7. (a) What are Enumerations ? Write a program to make an enumeration of days of week and to find the difference between two days. 10  
(b) What are the differences between Structures and Unions ? How unions are more memory saving than structures ? Show by example. 10

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- (a) Describe the different ways in which files can be categorized in C. 7½
  - (b) What is the purpose of fclose function ? Must a call to this function appear within a program that utilizes a data file ? 7½
  - (c) Summarize the different file types that can be specified by the fopen function. 5
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