15032

B. Tech 1st / 2nd Semester Examination

Introduction to Computer & Programming in C (OS)

CS-1001

Time : 3 Hours   **Max. Marks : 100**

The candidates shall limit their answers precisely within the answer-book (40 pages) issued to them and no supplementary/continuation sheet will be issued.

Note : Candidates are required to attempt one question each from section A, B, C and D. Section-E is compulsory.

SECTION - A

1. (a) What is assembly language? What kinds of statements are present in an assembly language program? Discuss. Also highlight the advantages of assembly language.
                                                                (10)

    (b) Write a note on components of motherboard. Explain
                                                                (10)

OR

    (a) Define & explain Assembler, Loader, and Compiler.
                                                                (10)

    (b) What are the different operating systems? Explain. What is difference between micro kernel and macro kernel?
                                                                (10)

SECTION - B

2. (a) Write an algorithm and draw a flowchart to find largest of n numbers.   (5)

    (b) Draw a flowchart and write a function in C to calculate factorial of given number and also write a program to calculate the sum of following series using above function:- S=1! + 2! + 3! +........n!   (15)

OR

2. (a) Design an algorithm to convert a decimal number, n, to binary format.   (10)

    (b) Explain steps involved in drawing of a flowchart.   (10)

SECTION - C

3. (a) List any eight commonly found programming errors in a C program.   (10)

    (b) Write a recursive function that will calculate HCF of two numbers and draw its flow chart also.   (10)

OR

    (a) How does a structure differ from any array? What do you mean by "Call by value and Call by reference"?   (10)

    (b) Write a C program, which accepts an integer numbers and prints the multiplication of the digits.   (10)

SECTION - D

4. (a) Write a program that accepts the source and destination filenames from the command line and copy the file from source to destination. Include a check on the number of arguments passed.   (10)

    (b) Write a program segment in C to swap the value of two variable using pointers.   (10)

OR

(a) Write a program to accept Item information (item no., item name, qty., price) for 'n' items. Store this in file and display it in well format.

(b) What is a pointer? How pointers are declared in C? Illustrate with a suitable example. (10)

SECTION - E

5. (a) How the software is classified?

(b) What is Assembly language? Give example.

(c) What are Library functions in C?

(d) What is escape sequence for Null character?

(e) Give syntax and use of Typecast operator.

(f) Which function is used to calculate square root of X in 'C' from Math.h Library? Give syntax.

(g) 'Function can return multiple values'. Comment.

(h) Give a macro definition #define SQUARE (X) (x)*(x)

What will be the output of following statement:

Printf ("%d", SQUARE (4+4));

(i) Explain the use of file opening modes "a" and "at".

(j) Explain the difference between bitwise AND and logical AND operators with the help of examples. (2×10=20)