Roll No. ....

Total No. of Questions : 13]   [Total No. of Pages : 02

J-3583[S-1439]   [2037]

M.Sc. (IT) (Semester - 1st)
C & C++ (M.Sc. (IT) - 103(O))

Time : 03 Hours   **Maximum Marks : 75**

Instruction to Candidates:

1) Section - A is **compulsory.**

2) Attempt any **Nine** questions from Section - B.

Section - A

Q1)   *(15 x 2 = 30)*

a) Describe the definition of constant & what are its various types used in C.?

b) Explain the various types of library functions used in C language?

c) How can you apply arithmetic operations on strings?

d) Explain the meaning of a dangling pointer? What type of problems it may cause?

e) Justify why the for loop is most popular among programmers?

f) Compare between the conditional control statement and null statement?

g) Describe the structure tag and what is its purpose?

h) Write down the order of the precedence of all the C++ operators.

i) Discuss the various IF statements and why the ladder IF statement is used?

j) What do you mean by classes in classes?

k) Describe the meaning of multiple inheritance?

l) Differentiate between bottom up and top-down testing.

m) What do you understand by total quality management (TQM)? What are the advantages of TQM?

n) Explain the software quality attributes.

o) Differentiate between structural and integration testing?

P.T.O.

Section - B

(9 X 5 = 45)

Q2) Differentiate between the followings : pre and post increment/decrement operators, unary plus and unary minus operator, comparison and equality operators.

Q3) Give a list of marks ranging from 0 to 100, write a program to compute and print the number of students :
   (a) Who have obtained more then 80 marks.
   (b) Who have obtained more then 40 marks.

Q4) Write a program to find the sum of n integers starting from m^{th} integer.

Q5) How can you declare and use user-defined function? Write all the various types of working of functions.

Q6) Differentiate between mathematical and trigonometric function. How can you convert a mathematical expression to a C expression?

Q7) Write a C program to find the real root of a quadratic equation of type $ax^2 + bx + c = 0$, where $a \neq 0$.

Q8) Write a C program to sort the data in two dimensional array.

Q9) Why comments, symbolic statements and special operators are used in C++ programming?

Q10) Explain why a software development effort is initiated & finally terminated in the spiral model.

Q11) What are the primary differences between a model-oriented specification method and a property-oriented specification method?

Q12) What are the different categories of software development projects according to the COCOMO estimation model? Give examples of software project development projects belonging to each of these categories.

Q13) Discuss the difference between black box and structural testing.

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