

Roll No.

Total No. of Questions : 13]

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Paper ID [A0403]

(Please fill this Paper ID in OMR Sheet)

M.Sc. IT (103) (New/S05) (Sem. - 1st)

C++ AND DATA STRUCTURES

Time : 03 Hours

Maximum Marks : 75

Instruction to Candidates:

- 1) Section -A is **Compulsory**.
- 2) Attempt any **Nine** questions from Section - B.

Section - A.

(15 × 2 = 30)

Q1)

- a) Define an identifier in C++.
- b) What is a keyword? List four keywords in C++.
- c) Give an example of “continue” control statement in C++.
- d) What is the size of float in C++?
- e) What are the advantages of template function in C++?
- f) What is inline function?
- g) What is a copy constructor in C++?
- h) Define global variables.
- i) What is user defined data type?
- j) What is a stack?
- k) Define binary file.
- l) Explain exception handling.
- m) Consider the following section of C++ program, in which a and b are int variables
b = 2;
a = 1;
a = b++;
What are the values of a and b?
- n) If a=5, b=10, c=15 and d=0, what is the truth value of the following expression? $a + d \geq c - b$
- o) What is the difference between the expressions a4 and a[4]?

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P.T.O.

Section - B.

(9 × 5 = 45)

- Q2)** What is object oriented programming? Explain why an object oriented program is more robust than structured programming?
- Q3)** What is a pointer variable? How are pointers important in a programming language? Give an example of use of pointers in C++.
- Q4)** Write a program in C++ to read a set of integer values and to store it in a one dimensional array A. Copy the values into array B in the reverse direction.
- Q5)** What is parameter passing? Explain with example call by reference scheme in C++.
- Q6)** Write a C++ program, which reads in a line of text word by word in a loop using *cin* statement and outputs on the screen the words in the reverse order using *cout* statement.
- Q7)** Write a recursive program in C++ to compute factorial of a given integer n.
- Q8)** Define a class Word which can hold a word where the length of the word is specified in the constructor. Write the constructor and the destructor.
- Q9)** Write a program in C++ to read a two-dimensional array and find the sum of the elements in each row and column separately and display the sum in rows and columns.
- Q10)** Explain salient features of the file handling operations in C++.
- Q11)** What do you understand by operator overloading? How does it differ from operator overriding?
- Q12)** Write short note on the following
(a) Container class
(b) Friend functions
- Q13)** Differentiate between public and private access specifies with suitable examples.

