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Reg. No. : .....

Name : .....

Third Semester B.Tech. Degree Examination, December 2015
(2008 Scheme)
08.304 : PROGRAMMING IN C++ AND DATA STRUCTURES (TA)

Time : 3 Hours Max. Marks : 100

PART – A

Answer **all** questions. **Each** question carries **4** marks.

1. Explain the basic structure of a C++ program.
2. What are identifiers ? How is a user defined identifier different from a standard identifier ?
3. Differentiate between the operators = and = = ?
4. Write a C++ program that prints the sum of squares of first n integers using while loop.
5. Write note on dynamic memory management.
6. What is a constructor ? When does a constructor member function is involved in a class ?
7. Write a program to illustrate the use of friend function to access the private data of the base class using inheritance.
8. Define a function template. What are the rules to be followed while defining a function template ?
9. Write a program to sort a set of names in alphabetical order.
10. What is a stack ? What are the basic operations performed on a stack ?

P.T.O.

PART – B

Answer **any two** questions. **Each** question carries **10** marks.

Module – I

11. a) What are the different types of operators used in C++. 4

    b) Write a C++ program to find the sum of the series
    sum = $1 - 3^2 + 5^2 - \ldots\ldots\ldots + n^2$. 6

12. 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 of elements in the rows and columns.

13. What is meant by pointer to pointer ? What is its advantage ? Write a program to find the number of words in a set of lines using pointer.

Module – II

14. Write an object oriented program in C++ that prints the factorial of a given number using a copy construction and a destruction member function.

15. Write a C++ program to perform overloading of a plus operator for finding the sum of two given class objects.

16. Write a program to read data for the structure elements name, age, sex, height and weight from the keyboard and to store them on a file using read ( ) and write ( ) member functions. Also display the contents of the file on the screen.

Module – III

17. Write a program to illustrate the use of quick sort algorithm to sort a set of n integers.

18. What are the basic operations performed on a linked list. Write an object oriented program to illustrate the same.

19. Write a C++ program to perform in-order, pre-order and post-order traversal in a binary search tree.
