B.E/B.TECH (FULLTIME) DEGREE END SEMESTER EXAMINATIONS, APRIL/MAY 2014

COMPUTER SCIENCE AND ENGINEERING

SECOND SEMESTER (REGULATION 2012)

CS8203 PROGRAMMING USING C++

Max Time: 3 Hrs ' Max Marks: 100

Part-A (10 \* 2 = 20 Marks)

ANSWER ALL QUESTIONS

1. Give 4 expressions to access array elements.

1. Declare a pointer to a function which accepts one integer argument and returns an integer.
2. What is function prototype?
3. Differentiate class and structure.

5. Can a static member function access non static member variables? Justify.

1. How are data members initialized in C++?
2. What is an iterator?
3. Write 4 functions for manipulating file pointers. What is their use?

9. What is a generic function?

10. What is namespace ?

Part-B(5\* 16 = 80 Marks)

11. a. Write a C program to swap 2 integers using function swap which takes the 2 integers as parameters. Print the swapped result in main. (8)

b. A file contains letters, digits and special characters . Write a C program to count the number of

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| characters in the file. | (8) |

12.a.l. Explain the use of default arguments with suitable examples.

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| 12.3.2. A class math | has | 2 integer members a andb; Initialise | and display the data members. A |
| friend function sum | finds | the sum of a and b and prints the result. | Write the complete program to |

print the sum of the 2 members using sum.

(OR)

12.b.l.A class X has an integer member a; A class Y has an integer member b; Initialise and display

the data members. A friend function sum finds the sum of a and b and prints the result. Write the

complete program.

12.b.2. Explain function over loading with examples.

13.a.l.Write a program to count the number of objects created. (5)

13.a.2. Class employee has name and age as data members. Print() is a pure virtual function. Class manager is inherited from employee. Manager is represented by his name, age and salary which is double. Class supervisor is inherited from employee. Supervisor is represented by his name, age and dept\_name which is string . Write a program to implement the hierarchy and display the particulars of manager and supervisor objects. (11)

(OR)

13. b. Explain any 4 forms of inheritance giving an example for each.

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| 14. a.l.Explain the | following giving an | | | example for each : (11) | |
| (i) muitipie handiers | | (ii)restricting | | exceptions (iii) rethrowing an exception | |
| 14.a.2. Write a program | | to divide | a/b. Raise an exception if | | b isO. (5) |
|  |  |  |  | (OR) |  |
| 14.b.l. A class contains 2 generic | | | members. Use constructor | | and show displays the data members. |
| Write a program to | display an object with float and int members and another object with int and char | | | | |
| members. (8) |  |  |  |  |  |

14.b.2.Write a generic function to swap the 2 parameters of any data type and display the swapped value in the function itself. Call the generic function from main to swap 2 integer values and 2 char values.(8)

15.a.1. Write a program to access a vector through iterator. Assign elements to the vector, display the vector and modify the contents of vector.

15.a.2.Write a C++ program to create class string with name and int length. Dynamically allocate memory for the data members; method disp() prints the name ; method join() takes 2 string objects as arguments and concatenates the name data member.

(OR)

15.b.l.Write a C++ program to create a file ITEM and write name and cost fields into the file. Then read the file and display the details.

15.b.2. Explain any 3 ios format functions with an example for each .