

2/10/13.

**ANNA UNIVERSITY :: CHENNAI - 600 025**  
**Department of Electrical and Electronics Engineering**

**B.E. [EEE] - Full-Time [Arrear Examinations]**  
**Regulation : 2008**

**EE 9152 - Object Oriented Programming in C++**

**Time: 3 Hrs.**

**Max. Marks : 100**

**Part - A [ 10 x 2 = 20 ]**

1. Give any two merits and demerits of object oriented methodology.
2. What do you mean by data abstraction?
3. Define the terms constructors and destructors.
4. What is a base class?
5. Define multiple and multilevel inheritance?
6. What are pure virtual functions?
7. List the operators that cannot be overloaded.
8. What do you mean by standard template library
9. Summarize the sequence of events when an exception occurs.
10. State the difference between C style and C++ style exception handling.

**Part - B [ 5 x 16 = 80 ]**

11. a) Explain how the three expressions in the for statement control the loop? [8]  
b) Give the syntax and explain the operation of while loop. Write a program to reverse the given integer value using the same. [8]
12. a) Write a function called hms\_to\_secs() that takes three int values - for hours, minutes, and seconds—as arguments, and returns the equivalent time in seconds (type long). Create a program that exercises this function by repeatedly obtaining a time value in hours, minutes, and seconds from the user (format 12:59:59), calling the function, and displaying the value of seconds it returns. [16]  
Or  
b) Create a class called employee that contains a name (an object of class string) and an employee number (type long). Include a member function called getdata() to get data from the user for insertion into the object, and another function called putdata() to display the data. Assume the name has no embedded blanks. Write a main() program to exercise this class. It should create an array of type employee, and then invite the user to input data for up to 10 employees. Finally, it should print out the data for all the employees. [16]
13. a) List and explain the types of inheritance with suitable example programs. [16]  
Or  
b) Write a note on virtual and pure virtual functions. [16]
14. a) It will be convenient to store distances as two numbers, representing feet and inches while creating a drawing or architectural program that uses the English system. Create a class for storing distance in English system and overload the + operator to add two distances and less than (<) operator to compare two distances. [16]  
Or  
b) Write a detailed note on function templates and class templates. [16]
15. a) Write a detailed note on exception handling with a simple example. [16]  
Or  
b) Explain the process of building classes for matrix operations [16]