

Unit IV

7. (a) Why is the ios class made to be a virtual base class for the istream and ostream classes ? 7
- (b) Write a short note on container class. 8
8. Write and test a program in C++ that instantiates a function template that implements a binary search of assorted array of objects. 15

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(Second Semester)

(B. Scheme) (Main & Re-appear)

(CSE)

CSE-552-B

SOFTWARE DESIGN AND CONSTRUCTION

Time : 3 Hours]

[Maximum Marks : 75

Before answering the question-paper candidates should ensure that they have been supplied to correct and complete question-paper. No complaint, in this regard, will be entertained after the examination.

Note : Attempt *Five* questions in all, selecting at least *one* question from each Unit. All questions carry equal marks.

Unit I

1. What is the need of software architecture ?
Briefly describe the following architectural design models : **15**
 - (a) Structural models
 - (b) Framework models
 - (c) Process models.
2. Write and explain any *five* issues of importance for data design at component level. **15**

Unit II

3. (a) Define association class ? How is it used in UML, show with suitable example ? **7**
 - (b) How is Reverse Engineering approach different from Forward Engineering approach ? Write its *three* advantages. **8**
4. (a) Define the term “Use-Case”. What are different components of a use-case ? **2,6**

- (b) Do actors have to be necessarily human beings ? Can an actor play more than one roles in a system ? Illustrate different types of actors. **7**

Unit III

5. (a) Explain the relvance of different access specifiers with respect to inheritance. **9**
 - (b) Differentiate between aggregation and inheritance with suitable examples. **6**
6. (a) Explain, how the issue of memory-leak is handled by virtual functions. **6**
 - (b) Write a program using class to illustrate the following types of constructors : **9**
 - (i) Default constructor
 - (ii) Parametric constructor
 - (iii) Copy constructor.