

Exam. Code : 107206

Subject Code : 2095

BCA Semester—VI

SOFTWARE ENGINEERING

Paper—II

Time Allowed—3 Hours] [Maximum Marks—75

**Note :** Attempt any **five** questions. All questions carry equal marks.

1. Why model-driven system development is popular ? Explain in detail the tools used for data modeling and process modeling. 15
2. (a) What is structured analysis ? Explain in detail the various tools used for structured analysis.  
(b) What are the contents we should contain in the SRS document and design document ? Discuss in brief the structure of SRS with an example. 15
3. Define the terms Quality, Quality plan and Quality metric. Discuss in brief the various function oriented metrics and size oriented metrics used for evaluating software quality. 15
4. (a) Differentiate between the following :
  - (i) Verification and validation
  - (ii) Personal plan and Quality assurance plan
  - (iii) Inspection and Review
  - (iv) System availability and system reliability.

- (b) What is the need of software planning ? Discuss in detail the activities and objectives of software planning phase. 10,5
5. Describe, how the term estimation and decomposition is related. Discuss the COCOMO Model and its importance. Assume that the size of an organic type software product has been estimated to be 32,000 lines of source code. Assume that the average salary of software engineers be Rs. 15,000/- per month. Determine the effort required to develop the software product and the normal development time. 15
6. What is testing ? How test cases are designed ? Why testing is necessary phase of software development ? Name various software testing techniques. Also discuss the objectives and principles of functional and non-functional testing. 15
7. (a) Name the widely used software design methods and give a detailed sketch of data flow design method with a suitable example.
- (b) Explain the notion of coupling and cohesion in the context of structured design. 15
8. Write short notes on :
- (a) Internal documentation
- (b) Partitioning and Abstraction
- (c) Information Hiding. 5,5,5