

24332

**B. Tech. 6th Semester Information Technology**

**Examination, May-2013**

**PRINCIPLES OF SOFTWARE**

**Paper-CSE-302-F**

**Time allowed : 3 hours]**

**[Maximum marks : 100**

**Note : Attempt five questions in all. Question No. 1 is compulsory and attempt at least one question from each section.**

1. (a) What is SDLC ?
- (b) Differentiate between ER-diagram and data-flow diagram.
- (c) Define the various steps in behavioural model.
- (d) How the architecture design can be represented?
- (e) List out the characteristics of testability of software.
- (f) Define smoke testing.
- (g) What do you mean by forward engineering ?
- (h) What are the various objectives of formal technical reviews ?
- (i) Define status reporting.
- (j) List out the various factors of software quality.

**2×10=20**

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**P.T.O.**

**Section-A**

2. (a) Describe the term software crisis. What are the causes associated with it? How it led to the development of software engineering as a discipline? 12
- (b) Discuss the merits and demerits of waterfall model of software development. 8
3. (a) What are the core functions associated with project management? Explain. 10
- (b) Explain COCOMO-I model in detail. 10

**Section-B**

4. (a) What do you mean by software quality? Discuss the software quality attributes. 10
- (b) What are the key concepts in designing software? 10
5. List out the various steps of Transform Mapping that allows a DFD with transform flow characteristics to be mapped into a specific architectural style. 20



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**Section-C**

6. (a) Design the various test cases to find out the roots of a quadratic equation using various methods of functional testing ? 10
- (b) Discuss the concept of Reverse Engineering and Restructuring in detail. 10
7. (a) Differentiate between alpha testing and beta testing ? 10
- (c) Define the following terms :  
Error, Bug, Fault, Defect, Failure, Test Case, Test Suit. 10

**Section-D**

8. (a) What is software reliability ? Explain any one reliability model in detail. 10
- (b) Explain the various methods for software reviews. 10
9. Write short notes on :
- (a) ISO 9001 standard 10
- (b) CASE Tools. 10