

**Software Engineering**  
**(IT-354, June 07)**

**Note:** Attempt five questions taking at least one question from each unit.

**UNIT-1**

1. a) What is the difference between programs and software products? Also explain software characteristics.  
b) Explain waterfall model and compare it with spiral model on the basis of advantages, disadvantages and application.
2. a) Explain COCOMO Model in detail with suitable figures.  
b) Explain Risk Analysis and Risk Management.

**UNIT-2**

3. a) Explain design concepts and design principles in detail.  
b) What is SRS document? What is the structure of SRS? What are its benefits? What is role of user of software in writing it?
4. Write notes on any four:-
  - i) Data Modeling and E-R Diagram
  - ii) Requirements Engg.
  - iii) Data flow diagrams
  - iv) Coupling and Cohesion
  - v) Functional Modeling
  - vi) Information flow

**UNIT-3**

5. Explain Software Testing fundamentals and explain White box testing and Black box testing in detail.
6. a) Explain difference debugging techniques and explain Regression Testing.  
b) Explain Software Maintenance with difference approaches.

**UNIT-4**

7. a) Explain Software Reliability.  
b) Explain Quality Assurance.  
c) Explain Capability Maturity Model.
8. Explain case tools with benefits, limitation, classification and various classes of case tools. Also explain CASE work benches.