Subject: SOFTWARE ENGINEERING

Time: 3 Hours   **Max. Marks: 100**

JUNE 2011

NOTE: There are 9 Questions in all.
- **Question 1 is compulsory and carries 20 marks. Answer to Q.1 must be written in the space provided for it in the answer book supplied and nowhere else.**
- **The answer sheet for the Q.1 will be collected by the invigilator after 45 Minutes of the commencement of the examination.**
- **Out of the remaining EIGHT Questions answer any FIVE Questions. Each question carries 10 marks.**
- **Any required data not explicitly given, may be suitably assumed and stated.**

Q.1   **Choose the correct or the best alternative in the following:**   **(2×10)**

a. Which one is the most important feature of spiral model?

    (A) Quality management   **(B)** Risk management
    (C) Performance management   **(D)** Efficiency management

b. Waterfall model is not suitable for

    (A) Small Project   **(B)** Accommodating change
    (C) Complex Project   **(D)** None of the above

c. Which one is not a step of requirement engineering?

    (A) Requirement elicitation   **(B)** Requirement analysis
    (C) Requirement Design   **(D)** Requirement documentation

d. SRS stands for

    (A) System Requirement Source
    (B) Software Requirement Specification
    (C) Specification Released Software
    (D) None of the above

e. The relationship of data elements in a module is called

    (A) Coupling   **(B)** Cohesion
    (C) Modularity   **(D)** None of the above

f. The model to measure the software process improvement is

    (A) ISO9000   **(B)** ISO9126
    (C) CMM   **(D)** Spiral model

g. For a function of n variables, boundary value analysis yields

(A) 4n+3 test cases   **(B)** 4n+1 test cases
(C) n+4 test cases   **(D)** None of the above

h. During the development phase, the following testing approach is not used

(A) Unit testing   **(B)** Bottom up testing
(C) Integration testing   **(D)** Acceptance testing

i. An internet banking system is an example of

(A) Two-tier Client Server architecture
(B) Three tier Client Server Architecture
(C) Distribute object Architecture
(D) Multiprocessor architecture

j. "Information hiding" feature in object oriented design is known as

(A) Encapsulation   **(B)** Polymorphism
(C) Hierarchy   **(D)** Abstraction

Answer any FIVE Questions out of EIGHT Questions.
Each question carries 16 marks.

Q.2 a. Explain the spiral model. Illustrate your answer with the help of Block Diagram.
(8)

     b. Describe various management activities that a Project Manager is supposed to perform while doing Project Management. **(8)**

Q.3 a. Differentiate between
     (i) User requirement and System requirement **(4)**
     (ii) Functional and Non-functional requirement **(4)**

     b. Define and explain Structured Methods in detail. **(8)**

Q.4 a. What is Software Prototyping? Explain the process of developing a prototype.
(8)

     b. Define and explain software process. Explain with the help of flow chart formal specification in the software process. **(8)**

Q.5 a. Explain system organization models in detail. **(8)**

     b. What is a Distributed System? Explain the significance and limitations of using a Distributed System. **(8)**

Q.6 a. What is meant by Object-oriented development? Explain various stages of an Object-oriented design process. **(8)**

b. Explain the term "Reuse –base Software Engineering". List various benefits and limitations of Software Reuse. **(8)**

Q.7 a. Define and explain Component based Software Engineering. What are its limitations? **(8)**

b. Explain User Interface design process. What are the design issues that are to be considered by UI designers? **(8)**

Q.8 a. Explain Verification and Validation. **(8)**

b. Compare Black-box and White-box Testing techniques. **(8)**

Q.9 a. Differentiate between CMM and ISO. **(8)**

b. Define Configuration Management. Explain various stages of Configuration Management Process. **(8)**