



Reg. No. : .....

Name : .....

**First Semester M.Tech. Degree Examination, March 2013**  
**Branch : Computer Science and Engineering**  
**RCC – 1003 : SOFTWARE ENGINEERING PRINCIPLES**

Time : 3 Hours

Max. Marks : 100

***Instruction : Answer any five questions and all questions carry equal marks.***

- I. a) What is meant by prototype ? Under what circumstances is it beneficial to construct a prototype ? Does the construction of a prototype always increase the overall cost of software development ?  
b) Compare the relative advantages of iterative waterfall model and spiral model.
- II. a) Briefly discuss the different types of problems of requirements that should be identified and resolved during analysis stage.  
b) Discuss the relative merits of ISO 9001 certification and the SEI-CMM based quality assessment.
- III. a) Compare COCOMO I and COCOMO II.  
b) What does Halstead's volume metric represent conceptually ? How according to Halstead's the effort depend on program volume ?  
c) What is the advantage of functional independence in a software design ?
- IV. a) Explain various software metrics.  
b) Briefly discuss regression testing. Why is regression testing necessary ?  
c) Enumerate the different types of coupling and cohesion that might exist between two modules.



- V. a) Define three metrics to measure software reliability. Do you consider these metrics are entirely satisfactory to provide measures of reliability of a system ? Justify your answer.
- b) Discuss the process models for software maintenance and indicate how will you select an appropriate maintenance model for a project at hand.
- VI. a) Discuss various mechanisms for tool integration.
- b) What is the difference between revision and version of software products ?
- c) Explain how change and version control are achieved using a configuration management tool.
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