

**II B. Tech II Semester Supplementary Examinations January - 2014****SOFTWARE ENGINEERING**  
(Computer Science and Engineering)

Time: 3 hours

Max. Marks: 75

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Answer any **FIVE** Questions  
All Questions carry **Equal** Marks  
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1. a) What are the management myths and practitioner's myths and realities?  
b) What is meant by CMMI? Discuss its significance. And also discuss about personal process models.
2. a) Compare the Incremental process models with the Evolutionary process models.  
b) Describe four types of non-functional requirements that may be placed on a system. Give examples of each of these types of requirement.
3. a) What is meant by requirements discovery? Discuss clearly the view point oriented analysis with a suitable example.  
b) What is meant by a semantic data model? Explain about inheritance models with a suitable example.
4. a) Explain the layered model of a version management system.  
b) Explain about data design and procedural design.
5. a) Write the layered architecture for weather mapping system.  
b) Explain the user interface design steps.
6. a) Discuss about software testing strategy and software testing steps.  
b) Discuss the metrics for design model.
7. a) Discuss the reactive and proactive risk strategies.  
b) Explain the metrics for software quality.
8. Write short notes on the following:
  - a) Formal technical reviews
  - b) The ISO 9000 standard
  - c) Statistical SQA.

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1. a) Define the term “software”. State and explain various software engineering layers.  
b) With a neat diagram explain the common process framework.
2. a) Compare the prototyping model with the spiral model. Discuss how to select a particular process model based on characteristics of a project.  
b) Write the structure of a requirements document and also discuss about various users of it.
3. a) What is meant by requirements validation? What are the checks that should be carried out on requirements?  
b) What are structured methods? Discuss the components of a CASE tool for structured method support.
4. a) Define the term “Software Design”. Discuss the design model and importance of the design phase for success of a project.  
b) Discuss briefly about architectural design.
5. a) Discuss with a suitable example how to identify objects.  
b) Explain the user interface design models and importance of user interface.
6. a) What is meant by unit testing? Discuss the unit test considerations and unit test environment.  
b) Explain the metrics for software testing and maintenance.
7. a) Explain the risk identification and projection activities.  
b) Explain the metrics for software quality.
8. Write short notes on the following:
  - a) SQA
  - b) Software reliability
  - c) Formal technical reviews.

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1.
  - a) What are the phases and sub phases of a problem solving loop? Explain them.
  - b) With a neat diagram explain the linear sequential model. And also discuss its drawbacks.
2.
  - a) Compare the spiral model with the Unified process.
  - b) What is meant by system requirements? Discuss the notations for requirements specifications.
3.
  - a) What is meant by Requirements Engineering Process? Explain the spiral model of it.
  - b) What are semantic data models? Write state stimulus description for the microwave oven.
4.
  - a) What are the inputs and outputs of design phase? Discuss how to achieve quality design.
  - b) Explain the layered model of a version management system.
5.
  - a) Explain the object oriented design process.
  - b) Explain the user interface design activities.
6.
  - a) What is meant by integration testing? Discuss about Top-down integration and Bottom-up integration.
  - b) Discuss the metrics for analysis model and design model.
7.
  - a) Discuss the metrics for software quality.
  - b) Discuss about Risk projection.
8. Write short notes on the following:
  - a) The ISO 9000 quality standards
  - b) Software reliability
  - c) Statistical SQA.

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1. a) Define the term "Software". And also discuss the changing nature of software.  
b) Discuss about CMMI and process patterns.
2. a) Compare the waterfall model with the Unified process model.  
b) Identify and briefly describe the four types of requirements that may be defined for a computer based system.
3. a) Define the terms requirements elicitation and analysis. Explain clearly the requirements elicitation and analysis process.  
b) What is meant by dataflow diagram? Draw the dataflow diagram of order processing.
4. a) What is meant by software design? Discuss various design concepts.  
b) Discuss briefly about architectural styles and patterns.
5. a) What is meant by object oriented design? Discuss the design evolution.  
b) Explain the interface design evaluation cycle.
6. a) Distinguish between Black-Box testing and white-box testing.  
b) Discuss the metrics for source code and design model.
7. a) Distinguish between software measurement and metrics.  
b) Explain RMMM Plan.
8. Write short notes on the following:
  - a) Software reliability
  - b) The ISO 9000 quality standards
  - c) Software Reviews.