

**III B.Tech. I Semester Supplementary Examinations, May -2005**  
**SOFTWARE ENGINEERING**  
**(Information Technology)**

**Time: 3 hours**

**Max Marks: 80**

**Answer any FIVE Questions**  
**All Questions carry equal marks**

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1. Explain the software process and give the process maturity level in detail.
2. Explain the software project metrics with a real time example.
3. (a) Explain advantages of object-oriented analysis over the conventional structured analysis.  
(b) Give brief outline of the Object Oriented Analysis (OOA) method proposed by Booch and highlight its advantages over other OOA models.
4. (a) “Data Modeling can be viewed as a subset of OOA.”. comment on this statement and justify your comments.  
(b) “Object Oriented Analysis is radically different from the conventional Structured analysis approach”, comment on this statement.
5. State and explain the fundamental concepts that are applicable to all software design.
6. Explain various Object Oriented Design concepts.
7. Explain various software quality standards and discuss how to assure them.
8. What is meant by software testing? What are its types? Explain any two testing techniques.

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1. Explain the recent advances in one of the leading edge software application areas among :
  - (a) Web based application.
  - (b) Virtual Reality.
2. Describe the difference between process and project metrics.
3. Discuss the problems of using natural language for requirements specification and show, using small examples, how structuring natural language into forms can help avoid some of these difficulties.
4. Write short notes on the following:
  - (a) Data Objects
  - (b) Attributes
  - (c) Relationships
  - (d) Entity-Relationship diagrams.
5.
  - (a) Explain the relationship in software design in technical aspects and management aspects.
  - (b) What is formal technical review? Explain how it will assess software design quality.
6.
  - (a) Explain how human perception will have influence on user interface design?
  - (b) State and explain the generic tasks that always performed in user interface design.
7. Explain various software quality standards and discuss how to assure them.
8.
  - (a) Explain the elements of reverse engineering.
  - (b) Explain top-down integration testing.
  - (c) Explain the maintenance side effects.

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1. Explain in detail about software crisis.
2. What are indirect measures and why are such measures widely used in software metrics works?
3. Discuss the use of 4GLs for prototyping. What are the kinds of applications for which this would be recommended? Justify.
4. (a) "Data Modeling can be viewed as a subset of OOA.". comment on this statement and justify your comments.  
(b) "Object Oriented Analysis is radically different from the conventional Structured analysis approach", comment on this statement.
5. What is PDL? Explain with an example how PDL is used to specify program components?
6. State and explain different categories of Human-Computer Interface design guidelines.
7. Explain various software quality standards and discuss how to assure them.
8. (a) Discuss about loop testing.  
(b) Discuss about software maintenance costs.

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1. Explain the recent advances in one of the leading edge software application areas among :
  - (a) Web based application.
  - (b) Virtual Reality.
2. Explain the Grady's private and public use for different types of process data.
3. Explain about Object Oriented concepts.
4. (a) Explain how Data Structure oriented methods represent software requirements by focusing on data structure rather than data-flow?
  - (b) Write similarities and differences between DSSD and JSD.
5. Develop a design model for the interactive application of computer aided design system.
6. Describe the worst interface that you have ever worked with and critique it relative to the concepts that you have studied in user interface design.
7. (a) Explain software quality assurance.
  - (b) Explain the factors that affect software quality.
  - (c) Explain the concept of software re-engineering.
8. (a) Discuss about loop testing.
  - (b) Discuss about software maintenance costs.

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