

III B.Tech II Semester Regular Examinations, Apr/May 2006
SOFTWARE ENGINEERING
(Common to Computer Science & Systems Engineering and Electronics & Computer Engineering)

Time: 3 hours

Max Marks: 80

Answer any FIVE Questions
All Questions carry equal marks

1. Explain the Software Applications. [16]
2. Describe briefly
 - (a) UML [4]
 - (b) LCA [4]
 - (c) LCO [4]
 - (d) IOC [4]
3. “The activities in a requirements analysis process are highly interactive with continual feedback from each activity to the other activities”. Explain the validity of this statement. [16]
4. (a) “Data Modeling can be viewed as a subset of OOA”. comment on this statement and justify your comments. [8]
(b) “Object Oriented Analysis is radically different from the conventional Structured analysis approach”, comment on this statement. [8]
5. What is meant by Transform analysis? Explain clearly with an example the different steps in it. [16]
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. [16]
7. (a) Discuss in detail about Statistical Quality Assurance. [8]
(b) Discuss about the Cost of Quality. [8]
8. (a) Discuss about loop testing. [8]
(b) Discuss about software maintenance costs. [8]

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1. Write short notes on
 - (a) Engineering and Scientific Software. [4]
 - (b) Web based Software. [4]
 - (c) Embedded Software. [4]
 - (d) Business Software. [4]
2. What is meant by software scope in software project planning? Why is it very important to have a software scope that is understandable, unambiguous and bounded? [16]
3. Write different steps in Object Oriented Analysis (OOA) approach proposed by Coad and Yourdon and explain them clearly. [16]
4. (a) "Data Modeling can be viewed as a subset of OOA". comment on this statement and justify your comments. [8]
(b) "Object Oriented Analysis is radically different from the conventional Structured analysis approach", comment on this statement. [8]
5. Represent the different types of Couplings on the spectrum and explain them clearly with an example to each. [16]
6. Explain various Object Oriented Design concepts. [16]
7. Explain various software quality standards and discuss how to assure them. [16]
8. What are the different levels of testing and the goals of different levels? [16]

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1. Explain the evolving role of Software. [16]
2. Compute the function point value for an embedded system with the following characteristics.
Internal data structures = 6
External data structures = 3
No. of user inputs = 12
No. of user outputs = 60
No. of user inquiries = 9
No. of external interfaces = 3
Transformations = 36
Transitions = 24
Assume that the complexity of these counts is evenly divided among low, average and high. [16]
3. Explain why, for large systems development, it is recommended that the prototypes should be throw-away prototypes. [16]
4. Write short notes on the following:
 - (a) Data Objects [4]
 - (b) Attributes [4]
 - (c) Relationships [4]
 - (d) Entity-Relationship diagrams. [4]
5. What is procedural abstraction, data abstraction, and control abstraction? Give examples to support your explanation. [16]
6. (a) Explain how human perception will have influence on user interface design? [8]
(b) State and explain the generic tasks that always performed in user interface design. [8]
7. (a) Discuss in detail about condition testing. [8]
(b) Discuss about data flow testing. [8]
8. (a) Why is completeness more difficult to achieve as abstraction level increases?

- (b) Why interactivity must increase if completeness is to increase?
- (c) Explain the differences between restructuring and forward engineering. [5+5+6]

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1. (a) What are the different outputs produced during the development of a software. [8]
(b) Give the outline of prototyping model of software with advantages. [8]
2. Compute the function point value for an embedded system with the following characteristics.
Internal data structures = 6
External data structures = 3
No. of user inputs = 12
No. of user outputs = 60
No. of user inquiries = 9
No. of external interfaces = 3
Transformations = 36
Transitions = 24
Assume that the complexity of these counts is evenly divided among low, average and high. [16]
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. [16]
4. Explain Warnier Diagrams and DSSD approach with an example to each. [16]
5. State and explain the fundamental concepts that are applicable to all software design. [16]
6. (a) Explain how human perception will have influence on user interface design? [8]
(b) State and explain the generic tasks that always performed in user interface design. [8]
7. Explain various software quality standards and discuss how to assure them. [16]
8. (a) Explain the elements of reverse engineering. [6]
(b) Explain top-down integration testing. [5]
(c) Explain the maintenance side effects. [5]
