

IV B.Tech II Semester Regular Examinations, Apr/May 2008
PRINCIPLES OF SOFTWARE ENGINEERING
(Electrical & Electronic Engineering)

Time: 3 hours

Max Marks: 80

Answer any FIVE Questions
All Questions carry equal marks

1. Describe the following:
 - (a) Software engineering
 - (b) Software configuration
 - (c) Software engineering paradigms. [5+5+6]
2. (a) Explain about size-oriented metrics.
(b) Explain about Defect Removal efficiency. [8+8]
3. What are the major planning activities for a software developing project. [16]
4. (a) Explain about information strategy planning.
(b) Write about product engineering. [8+8]
5. What are Dataflow diagrams? Mention the various elements of a dataflow diagram and their use. Suggest why Dataflow diagrams are intuitive and easy to understand by non technical staff. [16]
6. What is meant by modularity and show the relationship between cost/effort and number of modules with the help of a graph. [16]
7. Explain interface design guidelines. [16]
8. Write notes on the following:
 - (a) Recovery testing
 - (b) Security testing
 - (c) Performance testing
 - (d) Sensitivity testing [4+4+4+4]

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1. Explain software applications. [16]
2. Tabulate the similarities and differences between size oriented, function oriented and extended function point metrics. [16]
3. What is risk? Is it economical to do risk management? What is the effect of this activity on the overall cost of the project? [16]
4. What is warnier-Orr diagram? And explain with an example how it is different from warnier diagram. [16]
5. Explain:
 - (a) Jackson system development.
 - (b) SADT (Structured analysis and Design Technique) [8+8]
6. How are the concepts of coupling and software portability related? Provide examples to support your discussion. [16]
7. Explain about Data design with examples. [16]
8. What is a test case? What do you understand by test case design? Design a test case using a template for the following:
Processing cheque payment against a bill raised by the credit card company. The documents in the process are cheque and payment slip.
Programs are written for calculation of area of rectangle and triangle. Test the programs for correctness. [16]

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1. Write short notes on the following:
 - (a) Class room software engineering
 - (b) Business process reengineering. [8+8]
2. Explain the software project metrics with a real time example. [16]
3. Explain about software configuration management . [16]
4. (a) Explain about modeling the system architecture.
(b) Write about system modeling. [8+8]
5. Explain about dataflow diagrams and their importance with an example. [16]
6. Write about
 - (a) Data structure
 - (b) Software procedure
 - (c) Information hiding [5+6+5]
7. Write a short notes on:
 - (a) Design post processing
 - (b) Architectural design optimizations [8+8]
8. (a) Why does software fail after it has passing acceptance testing.
(b) What is debugging? [8+8]

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1. Propose a specific software project that would be amenable to the incremental model. Present the scenario for applying the model to the software. [16]
2. (a) Describe various software quality metrics.
(b) Explain process metrics and software process improvement. [8+8]
3. (a) Write about change control.
(b) Write short notes on configuration audit.
(c) Write about configuration states reporting. [5+5+6]
4. Explain the following briefly:
(a) Alternative analysis techniques
(b) Requirement analysis technique. [8+8]
5. Write about:
(a) Control specification
(b) Process specification [8+8]
6. Write short notes on
(a) Software design and software engineering.
(b) Design and software quality. [8+8]
7. Explain how human skill level will have influence in user interface design. [16]
8. (a) Why is regression testing important? When is it used.
(b) What is partitioning and clustering and what role does it play in testing. [8+8]
