

H 1357

B.E./B.Tech. DEGREE EXAMINATION, MAY/JUNE 2006.

Fourth Semester

Information Technology

IF 255 — SOFTWARE ENGINEERING

Time : Three hours

Maximum : 100 marks

Answer ALL questions.

PART A — (10 × 2 = 20 marks)

1. Define 'software engineering' and 'system engineering'.
2. What is software process model?
3. List some non-functional requirements of a software, with an example.
4. What is software prototyping?
5. Define the term Software Architecture.
6. Why do we go for modular design?
7. Why testing is an important activity?
8. What is regression testing?
9. Define function point and LOC.
10. Why do software changes occur often? Briefly explain.

PART B — (5 × 16 = 80 marks)

11. (i) Explain in detail about the spiral model of software process. (10)
(ii) Compare this model with incremental model in detail. (6)
12. (a) What is software requirement? What are the various methods of gathering software requirement? Explain.

Or

- (b) Discuss the importance of requirement analysis in detail. Explain how analysis model is organized.

13. (a) What is software design? Who does this? What are the steps in the design activity? What is the outcome of design activity? Explain.

Or

- (b) What are the different architectural styles for software design and explain each design in detail.

14. (a) Explain in detail about the importance of cyclomatic complexity in testing. Explain a method for estimating the same.

Or

- (b) Distinguish validation testing, system testing and debugging. Illustrate with an example.

15. (a) (i) Discuss the importance of software maintenance. What are the various types of software maintenance? Explain. (10)

- (ii) Define CASE tool taxonomy. (6)

Or

- (b) (i) Explain two metrics to measure the software complexity in detail. Discuss the advantages and disadvantages of these metrics. (10)

- (ii) State ZIPE's law and explain. (6)

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