N 1263

B.E./B.Tech. DEGREE EXAMINATION, NOVEMBER/DECEMBER 2004.

Fourth Semester

Information Technology

IF 255 — SOFTWARE ENGINEERING

Time : Three hours Maximum : 100 marks

Answer ALL questions.

PART A — (10 × 2 = 20 marks)

1. What are the characteristics of object oriented system? Which of them makes it worthy in software engineering?

2. Justify software development in product engineering perspective.

3. What is data dictionary? Where it is used in software engineering?

4. How the requirements are collected for "user–interface" of a software?

5. What is meant by transaction mapping? How it is used in software design?

6. What is the criteria based on which the lower and upper bounds on the number of modules for a software is decided?

7. How the regression and stress tests are performed?

8. State the objectives and guidelines for debugging.

9. What is the standardization for software metrics?

10. What is the impact of 'Technology Complexity factor' in software cost estimation? Justify.

PART B — (5 × 16 = 80 marks)

11. (i) Explain the advantages of adhering to life cycle model for software development.

(ii) Describe waterfall and spiral models of life cycle.

(iii) How do you classify softwares based on cost, application and development time? Explain.

12. (a) (i) Explain the feasibility studies. What are the outcomes? Does it have either explicit or implicit effects on software requirement collection.

(ii) What is prototyping techniques? How prototype models are prepared for a software process? Discuss.

Or

(b) (i) Describe how software requirements and documented? State the importance of documentation.

(ii) Explain the software requirement analysis and modelling.

13. (a) (i) Explain data, architectural and procedural design for a software. Explain.

(ii) Describe the design procedure for a data acquisition system.

Or

(b) (i) Explain the importance of user interface design for the sale of a software.

(ii) Discuss the Human–computer interaction. Explain different heuristics design procedure used for this.

14. (a) (i) Explain the testing procedures for boundary conditions.

(ii) Describe verification and validation criteria for a software.

Or

(b) (i) Describe unit testing and integration testing. How test plans are generated?

(ii) Suggest software testing sequence for a 100% bug free software. Explain.

15. (a) Explain various cost estimation models and compare.

Or

(b) Write briefly on

(i) CASE

(ii) Software complexity measure.
