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Reg. No. : | | | | | | | | | | | | |

Question Paper Code : 31509

B.E./B.Tech. DEGREE EXAMINATION, NOVEMBER/DECEMBER 2013.

Fourth Semester

Information Technology

IT 2251/IT 41/IT 1251 A/10144 IT 406/080250013 — SOFTWARE ENGINEERING AND QUALITY ASSURANCE

(Regulation 2008/2010)

Time : Three hours Maximum : 100 marks

Answer ALL questions.

PART A — (10 × 2 = 20 marks)

1. Differentiate between Verification and Validation.
2. What do you mean by Computer based system?
3. What is a Data Dictionary?
4. What is a Data Flow Model?
5. What are Design Heuristics?
6. Distinguish between a Subsystem and a Module.
7. What are "Statement coverage and Branch Coverage" Criteria?
8. What is regression testing?
9. Distinguish between product metrics and process metrics.
10. Name the different types of Quality Reviews.

PART B — (5 × 16 = 80 marks)

11. (a) (i) Explain the significance of Business Process Engineering with a diagram. (8)

(ii) Explain the systems engineering Hierarchy in detail. (8)

Or

(b) (i) Give an overview of Product Engineering with a suitable diagram. (8)

(ii) Explain the salient features of the "Classical Life Cycle Model". (8)

12. (a) (i) Outline the contents of "Requirements Document" based on IEEE Standard and explain. (8)

(ii) Explain briefly the various steps involved in creating a Behavioral Model. (8)

Or

(b) (i) What are the different types of Non Functional Requirements? Explain in detail. (8)

(ii) Explain the features of Prototyping and its application. (8)

13. (a) (i) Name and explain the various data design principles. (7)

(ii) Explain the salient features of Data Acquisition Systems in detail. (9)

Or

(b) (i) Explain the various components of a real time operating system with a suitable diagram. (7)

(ii) Discuss the important issues to be addressed in designing user Interfaces. (5)

(iii) Explain the concept of Modularity in brief. (4)

14. (a) (i) Explain the features of Path testing and the use of Control Flow Graphs in path testing. (9)

(ii) Explain the features of Validation testing in detail. (7)

Or

(b) (i) Explain the cause effect graph testing with an example. (8)

(ii) Explain the importance of testing Boundary Conditions with examples. (8)

15. (a) (i) Explain the salient features of ISO 9000 standard. (10)

(ii) State the important software metrics and explain them briefly. (6)

Or

(b) Write short notes on the following:

(i) CMMI and process improvement. (8)

(ii) Version Control and Release Management. (8)
