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**P 1278**

B.E./B.Tech. DEGREE EXAMINATION, NOVEMBER/DECEMBER 2007.

Fourth Semester

Information Technology

IF 255 — SOFTWARE ENGINEERING

Time : Three hours

Maximum : 100 marks

Answer ALL questions.

PART A — (10 × 2 = 20 marks)

1. List out the drawbacks of the Spiral Model?
2. What do you mean by ETVXM Architecture? Give two advantages.
3. What are the notations used to develop a content description in Data Dictionary?
4. Differentiate between functional and Non-functional requirements.
5. State the principles of user interface design?
6. Specify any two-design heuristics for the manipulation of program structure?
7. What generic activities are required during graph-based testing?
8. Categorize the debugging approaches?
9. How should we assess the quality of proposed software metric?
10. What are the advantages of CASE?

PART B — (5 × 16 = 80 marks)

11. (a) Explain Evolutionary software process Model? Compare and Contrast the various Evolutionary Models? (8 + 8)

Or

- (b) (i) Explain the factors that should to be considered to construct a System Model? (6)
- (ii) Discuss about Process Engineering Hierarchy and Product Engineering Hierarchy. (10)
12. (a) Write briefly about the following : (i) Prototyping in Software Process. (ii) Types of Prototyping Paradigms. (iii) Is Prototyping a viable approach? (iv) Generic classes of methods and Tools for rapid Prototyping.

Or

- (b) Develop Context level DFD, DFD Level 1 and DFD Level 2 for a safe home System. (16)
- (Note: Assume your own specifications)
13. (a) Describe transform mapping by applying design steps to an example System? (16)

Or

- (b) Illustrate Transaction Mapping by considering the user Interaction Subsystem of an example Software? What are the tasks that must be completed after the program structure has been developed and defined? (16)
14. (a) (i) What is Cyclomatic Complexity? How do you compute Cyclomatic Complexity? (16)
- (ii) Define the following : (2 × 4 = 8)
- (1) unit testing
- (2) integration testing
- (3) Validation testing and system testing.

Or

- (b) Explain the steps involved in top-down and Bottom-up Integration testing? Compare them. (16)

15. (a) Explain the various technical metrics and measures for software? (16)

Or

(b) (i) Explain the building blocks of CASE.

(ii) What is Integrated CASE? Explain. (8 + 8)

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