Code : 105401

2013 (A)

SOFTWARE ENGINEERING

Time : 3 hours *Full Marks* : 70

Instructions :

(i) The marks are indicated in the right-hand margin.

*(ii) There are **TEN** questions in this paper.*

*(iii) Attempt any **FIVE** questions.*

1. What is the principal aim of the software engineering discipline? What does the discipline of software engineering discuss? 14

2. *(a)* Distinguish between a program and a software product.

(b) Draw a schematic diagram to represent the iterative waterfall model of software development. 7+7=14

3. What are the objectives of the feasibility study phase of software development? Explain the important activities that are carried out during the feasibility study phase of a software development project. 14

4. *(a)* What are the relative advantages of using either the LOC or the function point metric to measure the size of a software product?

(b) List the major responsibilities of a software project manager. 7+7=14

5. *(a)* How are the functional and non-functional requirements different?

(b) Draw a sequence diagram of ATM withdrawal. 7+7=14

6. *(a)* What are the types of user-interface design?

(b) Explain the stages of object-oriented design process. 7+7=14

7. *(a)* According to Boehm, how are verification and validation different?

(b) What are various approaches taken for test-case design? 7+7=14

8. *(a)* What do you mean by algorithmic cost models?

(b) Explain Humphrey's structure for quality plan. 7+7=14

9. *(a)* Explain the maintenance cost distribution with effort distribution chart.

   (b) Explain the process metrics used for assessing maintainability. 7+7=14

10. *(a)* Explain the approaches for quality control.

    (b) Explain Lehman's law for program evolution dynamics. 7+7=14

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