(6 pages)

7541/SCS8C53/
SCS9C53 **APRIL 2013**

SOFTWARE ENGINEERING

(For those who joined in July 2008 and after)

Time : Three hours Maximum : 75 marks

SECTION A — (10× 1 = 10 marks)

Answer ALL questions.

Choose the correct answer :

1. What is the main concern of software engineering area?
   (a) Hardware configuration
   (b) Software production
   (c) Network configuration
   (d) Software reusability.
2. Which type of system usually requires more extensive validation and testing?
   (a) Web-based system
   (b) Real-time system
   (c) Stand-alone system
   (d) Information system.
3. Which type of testing is expensive and impractical without automated support?
   (a) Release testing
   (b) Regression testing
   (c) Interface testing
   (d) Component testing.
4. Test cases consist of _____
   (a) Testing plans
   (b) Requirements specifications
   (c) Use case diagrams
   (d) Inputs and predicted outputs.
5. The number of independent paths in a program can be found by computing the _____
   (a) Cyclomatic complexity
   (b) Binary search routine
   (c) Equivalence partitions
   (d) Input sequence.

6. What is the result of requirements documentation activity?
   (a) Requirements document
   (b) Test cases
   (c) System models
   (d) Complete.
7. What term refers to the degree to which a system is easy to learn and use?
   (a) Validity
   (b) Visibility
   (c) Reusability
   (d) Usability.
8. _____ is concerned with modifying existing software systems to meet new requirements.
   (a) Software specification
   (b) Software design and implementation
   (c) Software validation
   (d) Software evolution.

9. Functional - independence of modules can be measured using these two criteria, _____ and _____.
   (a) Information hiding, abstraction
   (b) Cohesion, coupling
   (c) Modularity, architecture
   (d) Refinement, refactoring.
10. Which of these is characteristic of a good software design?
   (a) Exhibits strong coupling between its modules
   (b) Implements all requirements in the analysis model
   (c) Includes test cases for all components
   (d) Provides a complete picture of the software.

SECTION B — (5 × 7 = 35 marks)

Answer ALL questions, choosing either (a) or (b)

11. (a) Write about planning an organizational structure.

Or

(b) Write a note on 'Planning the Development Process'.

12. (a) Explain the Software Cost factors.

Or

(b) Write about Staffing-Level Estimation.

13. (a) Write short notes on 'Software Requirements Specification'.

Or

(b) Explain about Languages and Processors for Requirements Specification.

14. (a) Write about Fundamental Design Concepts.

Or

(b) Explain the Design Guidelines.

15. (a) Write a note on 'Unit testing and Debugging'.

Or

(b) Write short notes on 'Quality assurance and Static Analysis'.

SECTION C — (3 × 10 = 30 marks)

Answer any THREE questions.

16. Explain the following :

(a) Quality and Productivity Factors

(b) Managerial Issues and Planning Activities.

17. Discuss the various Software cost Estimation techniques in detail.

18. Illustrate with an example of Formal specification techniques.

19. Summarize the following :

(a) Test plans

(b) Milestones

(c) Walkthroughs

(d) Inspections.

20. Describe about System Testing and Formal Verification.

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