Code : 051614

B.Tech 6th Semester Exam., 2015

SOFTWARE ENGINEERING

Time : 3 hours   Full Marks : 70

Instructions :

(i) All questions carry equal marks.

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

(iii) Attempt **FIVE** questions in all.

(iv) Question No. **1** is compulsory.

1. Choose the correct option (any *seven*) :

   (a) If every requirement stated in the SRS has only one interpretation, SRS is said to be

      (i) correct

      (ii) unambiguous

      (iii) consistent

      (iv) verifiable

   (b) A fault simulation testing technique is

      (i) mutation testing

      (ii) stress testing

      (iii) black-box testing

      (iv) white-box testing

   (c) Modules X and Y operate on the same input and output data, then the cohesion is

      (i) sequential

      (ii) communicational

      (iii) procedural

      (iv) logical

   (d) If the objects focus on the problem domain, then we are concerned with

      (i) object-oriented analysis

      (ii) object-oriented design

      (iii) object-oriented analysis & design

      (iv) None of the above

   (e) SRS is also known as specification of

      (i) white-box testing

      (ii) stress testing

      (iii) integrated testing

      (iv) black-box testing

   (f) The model in which the requirements are implemented by category is

      (i) evolutionary development model

      (ii) waterfall model

      (iii) prototyping model

      (iv) iterative waterfall model

(g) SRD stands for

(i) Software Requirements Definition

(ii) Structured Requirements Definition

(iii) Software Requirements Diagram

(iv) Structured Requirements Diagram

(h) A COCOMO model is

(i) common cost estimation model

(ii) constructive cost estimation model

(iii) complete cost estimation model

(iv) comprehensive cost estimation model

(i) The worst type of coupling is

(i) data coupling

(ii) control coupling

(iii) stamp coupling

(iv) content coupling

(j) One of the fault base testing techniques is

(i) unit testing

(ii) beta testing

(iii) stress testing

(iv) mutation testing

2. (a) What is principle aim of software engineering discipline? What does the discipline of software engineering discuss?

(b) Describe the various steps in software development life cycle. What are end product of each step?

3. (a) What is prototype model? Under what circumstances is it beneficial to construct a prototype? Does the construction of prototype always increase the overall cost of software development?

(b) List five desirable characteristics of good SRS document. Discuss the relative advantages of formal and informal requirement specifications.

4. (a) What is structured analysis? Briefly review the tools used. How does it differ from traditional approach?

(b) Describe the major software quality assurance activity and indicate their importance.

5. (a) What are drivers and stub modules in context of integration and unit testing of software product? Why are stubs and driver modules required?

(b) What is difference between coding standard and coding guidelines? Write down important coding standard and guidelines that you would recommend.

6. (a) What are different types of maintenance that a software product might need? Why is much maintenance required?

(b) Discuss typical software risk. What techniques can we use to control each risk? Is it possible to prioritize the risk? Explain.

7. (a) What is software project estimation? Write in brief about COCOMO estimation models.

(b) Discuss the need of software quality assurance. Also give the importance of FTR.

8. (a) Compare between ISO and SEI-CMM for software.

(b) Write a note on CASE tools. Also state the benefits of CASE tools for software engineering.

9. (a) Explain equivalence class partitioning and boundary-value analysis.

(b) What is software maintenance? Explain software re-engineering.

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