CS/B.Tech/CSE(New) SEM 7 CS 701 2013 14

9   a)   What do you mean by software reliability ?

    b)   What are Halstead's metrics ?

    c)   Briefly describe one reliability model.

    d)   Briefly describe different user interface elements.

    e)   What are the methodology for dialog design ?

                                                2 + 3 + 4 + 3 + 3

10. a)   Draw the context-diagram and level-1 diagram along with a data dictionary of an examination system for processing the marks of the students. The system after processing the marks of students generates a report card for each individual student. The system also generates a consolidated report and sends it to the Controller of examination.

    b)   Also draw the Use Case diagram of the above mentioned scenario.

    c)   What are the propositions of Putnam's model ?

    d)   Discuss the different stages of 'Capability Maturity Model'.   6 + 4 + 3 + 2

11. Write short notes on any *three* of the following :   3 × 5

    a)   Statement coverage *vs.* branch coverage

    b)   Characteristics of a good user interface

    c)   Cohesion and Coupling

    d)   Verification and Validation

    e)   Software Project Plan.

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2013
SOFTWARE ENGINEERING

Time Allotted : 3 Hours   *Full Marks* : 70

The figures in the margin indicate full marks.

Candidates are required to give their answers in their own words as far as practicable.

GROUP – A

(Multiple Choice Type Questions)

1.   Choose the correct or best alternatives for the following :

                                                10 × 1 = 10

     i)   Structured systems development cycle approach includes which of the following characteristics ?
          a)   Dataflow   b)   Top down
          c)   Data structure   d)   None of these.

     ii) Alpha testing is done by
          a)   customer   b)   tester
          c)   developer   d)   none of these.

     iii) Beta testing is done by
          a)   the developers pages
          b)   Blocks
          c)   Holes
          d)   Frames.

     iv) Testing the software is basically
          a)   verification   b)   validation
          c)   both (a) and (b)   d)   none of these.

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vi) Functional testing is known as

   a) structural testing   b) behaviour testing

   c) registration testing   d) none of these.

vi) System test is performed by

   a) end users   b) programmers

   c) system analyst   d) None of these.

vii) A prototype refers to

   a) a working model of a proposed system

   b) the set of activities of a system

   c) both (a) and (b)

   d) none of these.

viii) The most important feature of spiral model is

   a) Requirement analysis

   b) Quality management

   c) Risk management

   d) Configuration management.

ix) A COCOMO model is

   a) Common cost estimation model

   b) Complete cost estimation model

   c) Constructive cost estimation model

   d) None of these.

x) Equivalence class partitioning is followed in

   a) White box testing   b) Black box testing

   c) Both (a) and (b)   d) None of these.

GROUP - B

(Short Answer Type Questions)

Answer any *three* of the following   3 × 5 = 15

What are the drawbacks of classical waterfall model ? How are they rectified in other variants of the classical waterfall model ?   5

What is feasibility study ? Explain different types of feasibility study.   5

Consider the size of an organic type s/w product that has been estimated as 32.000 lines of source code. The average salary of s/w developers is 15.000 p.m. Determine the effort required to develop the s/w, the nominal development time and the cost to develop the product.   5

   a) What is phase containment of errors ?

   b) Describe structured analysis and structured design.

                            2 + 3

   a) Define software quality.

   b) Briefly explain McCall's quality factors.   2 + 3

GROUP - C

(Long Answer Type Questions)

Answer any *three* of the following.   3 × 15 = 45

   a) Give the guideline formulated in IEEE 830 for writing SRS document.

   b) Assuming standard activities in a Library. write SRS according to IEEE 830.   7 + 8

Do a comparative study among the following CoCoMo models :

   a) Basic

   b) Intermediate

   c) Complete

   d) CoCoMo2.