2013

SOFTWARE PROJECT MANAGEMENT & QUALITY ASSURANCE

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 alternatives for the following : $10 \times 1 = 10$

   i) The model which reduces the cost of development of software is

      a) Water Model

      b) Prototyping

      c) Iterative

      d) none of these.

   ii) On an average, the programmer months is given by $3.6 * (KLOC)^{1.2}$. If so, project requiring one thousand source instructions will require

      a) 3·6 PM

      b) 0·36 PM

      c) 0·0036 M

      d) 7·23 PM.

iii) The combination of the top-down and the bottom-up approach may be referred to as an

    a) Integrative approach   b) Interpretive approach

    c) Interactive approach   d) both (b) and (c)

    e) none of these.

iv) Problem analysis is done during

    a) system design phase   b) system analysis phase

    c) before system test   d) all of these

    e) none of these.

v) Coding and testing are done in a

    a) top-down manner

    b) bottom-up manner

    c) Ad hoc manner

    d) cross-sectional manner

    e) none of these.

vi) The Black-Box concept

   a) is invoked by describing a system in terms of inputs and outputs, leaving the transformation process of a black box

   b) assumes that the black box is independent

   c) assumes that inputs and outputs will remain stable

   d) all of these

   e) none of these.

vii) A graphic representation of an information system is called

   a) Flow chart   b) Pictogram

   c) Data flow diagram   d) Histogram

   e) none of these.

viii) To which phase of SDLC, is file conversion related ?

   a) System implementation

   b) System analysis

   c) System development

   d) System design

   e) None of these.

ix) The ratio of the relative levels of product development complexity for application, utility and system programs are

    a)   3 : 1 : 9   b)   1 : 3 : 6

    c)   1 : 3 : 9   d)   9 : 3 : 1.

x) Risk containment strategy is/are

    a)   avoid the risk   b)   transfer the risk

    c)   risk reduction   d)   all of these.

GROUP – B
(Short Answer Type Questions)

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

2. What is the difference between Classical and Iterative Waterfall model ?

3. Explain 4 *P*'s in Software Project Management.

4. a) Why is software testing necessary ?

    b) What is System Analysis and Design ?   2 + 3

5. a) Why is Spiral Model known as 'Meta Model' ?

    b) What do you mean by Perfective Maintenance ?   3 + 2

6. What is the difference between verification and validation ?

b) Compare Basic with Detailed COCOMO models.

c) Define the utility of PART Chart with example.

d) A project of size 300 KLOC is to be developed. The development team has average experience on similar type of project. Calculate nominal development time, average staff size and productivity of the software project.   5 + 3 + 3 + 4

9. a) What are the functions of Quality Assurance Group ?

b) Distinguish between Quality Control and Quality Assurance.

c) Why is evolutionary model called incremental model ?

d) How does the risk factor affect the spiral model of software development ?   4 + 5 + 3 + 3

10. a) What is McCall's Quality Factor ? Briefly explain.

b) Explain several advantages and disadvantages of prototype model.

c) What do you understand by TQM ? What are the advantages of TQM ?   5 + 5 + 1 + 4

11. Write short notes on the following :   5 × 3

a)   Parkinson's Law

b)   Norden's Work

c)   Putnam's Work

d)   Formal Review Technique

e)   ISO 9000 Series of standards.

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