EIT062

(Following Paper ID and Roll No. to be filled in your Answer Book)

PAPER ID : 2524   Roll No. [ ][ ][ ][ ][ ][ ][ ][ ][ ][ ]

B.Tech.

(SEMESTER-VI) THEORY EXAMINATION, 2012-13

SOFTWARE TESTING

Time : 3 Hours]   *[Total Marks : 100*

SECTION – A

1. Attempt **all** parts : $10 \times 2 = 20$
    (a) What is the main benefit of designing tests early in the life cycle ?
    (b) What is risk-based testing ?
    (c) What is functional system testing ?
    (d) What are the advantages of Independent Testing ?
    (e) What is the key difference between preventative and reactive approaches to testing ?
    (f) What determines the level of risk ?
    (g) What is beta testing ?
    (h) What do you mean by RAD ?
    (i) Define the concept of six sigma.
    (j) Define TPA analysis Technique.

SECTION – B

2. Attempt any **three** parts : $3 \times 10 = 30$
    (a) Given the following fragment of code, how many tests are required for 100% decision coverage & why ?

    ```
    if width > length
          then biggest_dimension = width
                if height > width
          then biggest_dimension = height
    end_if
    else   biggest_dimension = length
          if height > length
          then biggest_dimension = height
          end_if
    end_if
    ```

(b) Can you explain the different methodology for the execution and the design process stages in Six Sigma ?

(c) What is CMMI and explain the different maturity levels in a staged representation ?

(d) What are the different ways of doing Black Box testing ?

SECTION – C

Attempt **all** parts.   5 × 10 = 50

3. Attempt any **two** parts :   2 × 5 = 10

(a) What is component testing ? Why stubs and drivers are used to replace the missing software and simulate the interface ? Explain.

(b) What are the different methodologies in Agile Development Model ?

(c) Consider the following techniques. Which are static and which are dynamic techniques and why ?
(i) Equivalence Partitioning
(ii) Use Case Testing
(iii) Data Flow Analysis
(iv) Exploratory Testing
(v) Decision Testing

4. Attempt any **two** parts :   2 × 5 = 10
(a) Draw & explain the fish bone/Ishikawa diagram.
(b) Explain the PDCA cycle and discuss where testing fits in it.
(c) What are the categories of defects ? Explain.

5. Attempt any **two** parts :   2 × 5 = 10
(a) How does load testing work for websites ?
(b) What are the different kinds of variations used in Six Sigma ?
(c) What are the different models in CMMI ?

6. Attempt any **two** parts :   2 × 5 = 10
(a) Define data-driven testing. Explain its features, applications and working.
(b) Explain the function points of the following elements :
(i) FTR   (ii) ILF   (iii) EIF
(iv) EI   (v) EO   (vi) EQ
(vii) GSC
(c) How many types of application boundaries are present ? Explain how they are identified using the litmus test.

7. Attempt any **two** parts :   2 × 5 = 10
(a) What different sources are needed to verify authenticity for CMMI implementation ?
(b) How one can determine the estimate for black box testing for a given project ? How TPA works ?
(c) Explain capability levels in a continuous representation. Continuous model is the same as the staged model. Justify the statement.

———————

2524   2