Roll. No										18

B.E/B.Tech (Full Time) DEGREE END SEMESTER EXAMINATIONS, NOVEMBER2012

INFORMATION TECHNOLOGY

SEVENTH SEMESTER - (REGULATIONS 2008)

IT9029 – SOFTWARE QUALIFY ASSURANCE

Time: 3 hrs Max.Marks: 100

Answer ALL Questions

Part-A (10 x 2=20 marks)

1. Define 'Software Quality'. State its uses.
2. What is 'Base Line' in Software Configuration Management?
3. Distinguish between errors, faults and failures.
4. Define 'Software Reliability'. How will you measure it?
5. If modularity is measured by dividing the lines of code with number of modules, find the number of modules for a software project having 50KLOC and modularity 1000.
6. The readability of documents is measured using the formula:

   Readability = 0.39 a + b – c

   Where a is the number of words in each sentence, b is the number of syllables per 100 words and c =15.59. Using this formula, compute the readability of a document consisting of 10 sentences, in which there are 10 words with one syllable, 20 words with 2 syllables and 20 words with 3 syllables. Assume that each sentence has 5 words.
7. What is Quality circle? State its uses.
8. What is Pareto analysis? Give an example.
9. What are software standards? State their uses.
10. Write the role of ISO in Software Quality.

Part-B (5 x 16 = 80 marks)

11. (i) Explain the ' Defect Prevention' and risk management techniques in detail. (8)
    (ii) What are reviews in Software projects? How are they conducted? Explain it with references to Software Quality Assurance Management. (8)

12. a) (i) Explain the role of SQA in Software projects. (8)
    (ii) Why are people important in software projects? Explain in detail. (8)

    OR

    b) (i) Compare the principal ideas of Crosby, Deming and Juran for providing an effective Quality Management System. (8)
    (ii) Explain the Software Configuration Management Process. (8)

13. a) (i) Write an algorithm to find the G.C.D of two integers. Draw the control flow graph for this algorithm and find the cyclomatic complexity of it in two ways. Explain the uses of cyclomatic complexity. (8)
    (ii) Explain the CK – Metrics suit for object oriented software. Explain the metrics in detail. (8)

OR

b) (i) List the metrics proposed by Mc Call for software quality and explain them. (5)
(ii) Compute the function point value for a project with 5 user inputs, 50 user outputs, 4 enquires, 8 files and 2 external interfaces. Assume average weights. (5)
(iii) Define simple scoring weighted scoring and phased weighted scoring for measuring quality. Explain them with examples. (6)

14. a) (i) Explain the method of organizing quality programs. State their uses. How is it helpful for team working? (8)
(ii) What is Quality Auditing? How will you apply it for software projects? (8)

OR

b) (i) Explain about Software Quality Assurance Planning. (8)
(ii) What is software Documentation? Explain its role in Software Quality Plans. (8)

15. a) (i) Explain the Capability Maturity Model for process improvement. (8)
(ii) Write the key actions for moving from maturity level 2 to 3 and then from 3 to 4. (8)

OR

b) (i) Explain the ISO 9000 Quality features which are applicable to software Quality. (8)
(ii) Compare the features ISO 9000 model with SEI & CMM. (8)