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V 4114

B.E./B.Tech. DEGREE EXAMINATION, APRIL/MAY 2008.

Eighth Semester

(Regulation 2004)

Computer Science and Engineering

CS 1020 — SOFTWARE QUALITY MANAGEMENT

(Common to BE (Part-Time) Seventh Semester Regulation 2005)

Time : Three hours

Maximum : 100 marks

Answer ALL questions.

PART A — (10 × 2 = 20 marks)

1. Mention the project parameters that affect the quality of product.
2. Differentiate the terms “validity” and “reliability”.
3. Define Cost of quality.
4. Differentiate “Bugs”, “Errors” and “Defects”.
5. Write the formula to compute defect removal efficiency.
6. Mention the criteria for evaluating the reliability model.
7. Give the pictorial view of inspection effort/defect rate when the actual is compared with model.
8. Define cyclomatic complexity.
9. Why quality standards are needed?
10. In which way CMM differs from CMMI?

PART B — (5 × 16 = 80 marks)

11. (a) Explain briefly about the levels of quality measurement. (16)

Or

- (b) Explain the concept of product quality metrics and process quality metrics by considering an example on your own. (16)

12. (a) List the constituency and their tasks to conduct software quality assurance. Also enlist the activities conducted by SQA group for attaining a high quality end product. (16)

Or

- (b) Explain how software engineers perform software quality control activity in detail. (16)

13. (a) Write about the basic tools for quality control suggested by Ishikawa. (16)

Or

- (b) Explain briefly about the dynamic software reliability models. (16)

14. (a) Why nonparametric PTR model is used for defect tracking? How is it used? (16)

Or

- (b) Brief the five point satisfaction scale used in customer satisfaction surveys. (16)

15. (a) Write a note on CMMI developed by software engineering institute. (16)

Or

- (b) Narrate a suitable situation for the application of six sigma concepts and ISO 9000 series. (16)