B.E./B.Tech. DEGREE EXAMINATION, MAY/JUNE 2007.
CS1023 SOFTWARE QUALITY MANAGEMENT

Part A - (10x2=20) Marks

1. What are the criteria for quality?
2. What is the significance of Quality Metrics?
3. What are quality standards?
4. List four tools for quality.
5. What is Quality Management Systems?
6. What are the elements of Quality Management Systems?
7. Bring out the difference between a process and product.
8. What is W^2HH principle?
9. What is the necessity of integrating metrics with in software engineering process?
10. List few metrics useful for small organization.

PART B-(5x16=80 marks)

11. How can you manage quality?

12. (a) Explain in detail, the different views of quality
    (b) Name and explain in detail any two models which you have studied to predict the quality of any software.

13. (a) Write short note on the following:
    I.   Elements of Quality Management System (QMS)?
    II.   Quality Management Systems for Software
    III.   Quality assurance

    (b). Discuss in detail, the ISO 9000/9001 series, which serves as a generic quality

14. (a). Discuss CMM and how to attain the different levels.
    (b). Explain briefly the principles and practices in Quality management system

15. (a). Discuss about the measures and metrics in process domains.
    (b). Discuss about the measures and metrics in product domains.

B.E./B.Tech. DEGREE EXAMINATION, NOVEMBER/DECEMBER 2007.

CS1023 SOFTWARE QUALITY MANAGEMENT

Part A - (10x2=20) Marks

1. Define different views of **"QUALITY"**.

2. Draw the cost graph associated with software quality in various phases of software development.

3. Write the criteria for a good metric

4. How will you measure usability?

5. Give the quality model of Deming.

6.How TQM is useful in achieving quality software?

7.Write the purpose of standards.

8. Define (a) Process (b) Product.

9. List the advantages of integrating quality metrics in software development process.

10. Is it possible to impose quality metrics in small organizations? Justify.

PART B-(5x16=80 marks)

11.   (a) Explain the hierarchical models Boehm and McCall.
         (b) List the various qualities attributes and explain the ways of measuring them.

12.   (a) Explain the Gilb approach in Quality Management.
         (b) Discuss in detail the following:
                 (i) CASE tools
                 (ii) Quality Standards

13.   (a) (i) What are the elements of Quality Management System(QMS)?Explain them in Details.
              (ii) Compare the Garvin's views of quality against Keizen's views

14.   (a). Explain the stages in ISO 9001 process. Who will be the auditors, why an
                organization needs it and how to get the certificate?
         (b). Explain the levels of CMM and if an organization wants to be CMM certified, what
                are the procedures it should follow?

15.   (a). Explain the following:
                 (i) In-process Quality Metrics
                (ii) S/W Maintenance Metrics.

         b). List the metrics associated with the different phases of SDLC.

B.E./B.Tech. DEGREE EXAMINATION, APRIL/MAY 2008.
CS1023 SOFTWARE QUALITY MANAGEMENT

PART A - (10X2=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 standard are needed?
10. In which way CMM differs from CMMI?

PART B-(5X16=80 MARKS)

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

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

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

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

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

14 (a). Why nonparametric PTR model is used for   defect tracking? How is it used?
    (b)Brief the five point satisfaction scale used in customer satisfaction surveys.

15 (a). Write a note on CMMI developed by software engineering institute.
     (b).Narrate a suitable situation for the application of six sigma concepts and ISO 9000

B.E./B.Tech. DEGREE EXAMINATION, NOVEMBER/DECEMBER 2008.
CS1023 SOFTWARE QUALITY MANAGEMENT

Part A - (10x2=20) Marks

1. Define software quality.

2. What are the conditions that a quality metrics must meet?

3. Define quality Assurance

4. How to build a successful quality assurance team?

5. What are the advantages of CASE tools?

6. Define Total Defect Containment Effectiveness.

7. What are the elements of Quality Management System?

8. Mention the activities of quality improvement program

9. What is the use of ISO9003 standards?

10. What are the potential benefits of the accreditation process?

PART B-(5x16=80 marks)

11. (a) Explain in detail the hierarchical models of Boehm and McCall.

    (b) Explain the Gilb's approach in measuring quality.

12. (a) Discuss in detail the quality takes in software quality assurance.

    (b) (i) Write briefly about the software quality assurance reviews and audits
        (ii) Discuss the software quality assurance documentation

13. (a) Discuss in detail the Ishikawa's basic tools for quality control.

    (b) (i) Discuss briefly the defect prevention process
        (ii) Write a note on the reliability growth models for quality assessment

14. (a) Discuss about the quality standard ISO 9001.
    (b). (i) Explain about the Capability Maturity Model.

15. (a) (i) Discuss the Raleigh model frame work for Quality Management System.
    (b). Explain the various complexity metrics and models

Part A - (10x2=20) Marks

1. Define Software Quality. What is it from the user's point of view?
2. List out at least four important measures of maintainability.
3. State four quality attributes due to Gilb .
4. What is the need for software quality assurance plan?
5. What are the Ishikawa's seven basic tools?
6. Explain briefly the significance of time between failure models and fault count models.
7. What is problem tracking report (PTR) model?
8. Mention the activities of quality improvement program
9. Define cyclomatic complexity. What is its use is software?
10.What are the six sigma limits? Explain their importance in quality management.

PART B-(5x16=80 marks)

11. (a) Discuss in detail the hierarchical models of Boehm and McCall. Explain the significance of these models in software development process.

(b) Explain the purpose of Goal-Question-Metric (GQM) model. Suppose the development team has as its goal **"improve effectiveness of testing"**. Use GQM approach to suggest relevant questions and measures that will enable you to determine if you have met your goal.

12 (a) What are the important quality tasks to be performed for effective Quality Management? Discuss issues and remedies in quality assurance management.

(b) Discuss the techniques used by quality auditors for software explain the importance of each technique.

13. (a) Bring out salient features of Rayleigh model. Discuss the significance of this model in the reliability analysis of the software. How does it provide a framework for quality management?

(b) Explain clearly the concept of defect removal effectiveness and its importance in the software development. How the metrics associated with defect removal effectiveness help in quality planning and management.

14. (a) What are the important components of Quality management system? Discuss how the reliability growth models are useful for quality management system.

(b) What are the module design metrics used in practice? Discuss the significance of these metrics.

15.   (a) Discuss the need for quality standards. Do they ensure the adequate quality? Explain ISO 9000-3 standard for software development.

 b) Write short notes on the following: (i) Capability Maturity Model (CMM).

(ii) Comparison of ISO 9000 and CMM.

B.E./B.Tech. DEGREE EXAMINATION, APRIL/MAY 2009.
CS1023 SOFTWARE QUALITY MANAGEMENT

Part A - (10x2=20) Marks

1 What are the problems highlighted by Gilb with the implementation of methods?
2. Draw the GE Model.
3. Define Usability.
4. What is SQA plan?
5.Define Little Wood model.
6.What are CASE Tools?
7. Define Cyclomatic complexity?
8. Mention the SPC Techniques and its purposes.
9. What are the needs for standards.
10. What is CMMI?

PART B-(5x16=80 marks)

11.a) Explain in detail the views of quality.

11.b)   Explain in detail GQM model.

12.a) Explain in detail the Quality tasks and responsibilities.

12.b) Explain the technical review process.

13 a) Explain in Detail about the Ishikawa's basic tools in software development.

13.b) Explain the Reliability models.

14 a) Explain in detail the Cyclomatic Complexity.

14.b) Explain in detail the Customer satisfaction surveys/analysis.

15 a) Explain the ISO9000-3 standard for software development.

15.b) Explain six sigma concepts.