

SOFTWARE QUALITY ASSURANCE

OBJECTIVES:

- Describe approaches to quality assurance
- Understand quality models
- Evaluate the system based on the chosen quality model

Unit I: Introduction:

The Software Quality Challenge. What is Software Quality?

Software Quality Factors: The Components of the Software Quality Assurance System -
Overview **Pre-Project Software Quality Components**

Unit II:

SQA Components in the Project Life Cycle

Integrating Quality Activities in the Project Life Cycle, Reviews Software Testing - Strategies
Software Testing –Implementation, Assuring the Quality of Software Maintenance

Unit III: Software Quality Infrastructure Components

Procedures and Work Instructions. Supporting Quality Devices Staff Training, Instructing and
Certification. Preventive and Corrective Actions.

Unit IV: Software Quality Management Components

Project Progress Control: Software Quality Metrics, Software Quality Costs

Unit V: Standards, Certification and Assessment

SQA Standards ISO 9001 Certification Software, Process Assessment

Unit VI: Organizing for Quality Assurance

Management and its Role in Quality Assurance, The Software Quality Assurance

OUTCOMES:

Upon Completion of the course, the students will be able to

- Describe different approaches to testing software applications
- Analyze specifications and identify appropriate test generation strategies
- Develop an appropriate test design for a given test object

TEXT BOOKS:

1. Software Quality Assurance, Theory of implementation-Daniel Galin, Pearson
2. MauroPezze and Michal Young, "Software Testing and Analysis. Process, Principles, and Techniques", John Wiley 2008

REFERENCE BOOKS:

1. BorizBeizer, "Software Testing Techniques", 2nd Edition, DreamTech, 2009.
2. Aditya P. Mathur, "Foundations of Software Testing", Pearson, 2008
3. Mauro Pezze and Michal Young, "Software Testing and Analysis. Process, Principles, and Techniques", John Wiley 2008
4. Stephen H. Kan, "Metrics and Models in Software Quality Engineering", 2nd Edition, Pearson, 2003
5. KshirasagarNaik and PriyadarshiTripathy (Eds), "Software Testing and Quality Assurance: Theory and Practice", John Wiley, 2008