SE5076 SOFTWARE TESTING AND QUALITY ASSURANCE L T P C
3 0 2 4

OBJECTIVES:

The student should be able to

- Know what is software and the usage of different types of softwares.
- Know the Quality Metrics of various Softwares.
- Know the methodologies used in developing software.
- Test the product finally to check the product Quality.

UNIT I INTRODUCTION 9+6

Introduction to Software Quality - Challenges – Objectives – Quality Factors – Components of SQA – Contract Review – Development and Quality Plans – SQA Components in Project Life Cycle – SQA Defect Removal Policies – Reviews.

UNIT II TESTING METHODOLOGIES 9+6

Basics of Software Testing – Test Generation from Requirements – Finite State Models – Combinatorial Designs - Test Selection, Minimization and Prioritization for Regression Testing – Test Adequacy, Assessment and Enhancement.

UNIT III TEST STRATEGIES 9+6

Testing Strategies – White Box and Black Box Approach – Integration Testing – System and Acceptance Testing – Performance Testing – Regression Testing - Internationalization Testing – Ad-hoc Testing – Website Testing – Usability Testing – Accessibility Testing.

UNIT IV TEST AUTOMATION AND MANAGEMENT 9+6

Test plan – Management – Execution and Reporting – Software Test Automation – Automated Testing tools - Hierarchical Models of Software Quality – Configuration Management – Documentation Control.

UNIT V SQA IN PROJECT MANAGEMENT 9+6

Project progress control – costs – quality management standards – project process standards – management and its role in SQA – SQA unit.

TOTAL: 45+30:75 PERIODS

OUTCOMES

Upon completion of the course, the student will be able to

- Develop Quality plans and use SQA components in project life cycle.
- Analyze the product Quality.
- Judge the use of infrastructure components and use configuration items for Quality control.
- Use various testing methods and verify.
- Assess Quality standards of various software products.

REFERENCES

1. Daniel Galin, “Software Quality Assurance – from Theory to Implementation” Pearson Education, 2009
2. Yogesh Singh, “Software Testing”, Cambridge University Press, 2012
3. Aditya Mathur, “Foundations of Software Testing”, Pearson Education, 2008
4. Ron Patton, ”Software Testing” , Second Edition, Pearson Education, 2007
5. Srinivasan Desikan, Gopalaswamy Ramesh, “Software Testing – Principles and Practices”, Pearson Education, 2006
6. Alan C Gillies, “Software Quality Theory and Management”, Cengage Learning, Second Edition, 2003.
7. Robert Furtell, Donald Shafer, and Linda Shafer, “Quality Software Project Management”, Pearson Education Asia, 2002.

CO	PO						PSO		
	1	2	3	4	5	6	1	2	3
1.	√		√	√			√	√	√
2.	√		√				√	√	
3.	√		√	√			√	√	
4.	√		√	√			√	√	√
5.	√		√	√		√	√	√	√

CP5088 USER INTERFACE DESIGN L T P C
3 0 0 3

OBJECTIVES:

- To determine the necessity of user interaction by understanding usability engineering and user modeling.
- To learn the methodologies for designing interactive systems.
- To investigate the core and complex design issues for interaction.
- To examine the evaluation methodologies of design.
- To understand design issues for web and mobile platforms.

UNIT I INTRODUCTION 9

Context of Interaction –Ergonomics - Designing Interactive systems – Understanding Users-cognition and cognitive frame works, User Centred approaches - Usability, Universal Usability, Understanding and conceptualizing interaction, Guidelines, Principles and Theories

UNIT II INTERACTION DESIGN 9

Universal design principles, guidelines, heuristics, HCI Patterns, Design Frame Works, Design Methods, Prototyping, Understanding Interaction Styles, Direct Manipulation and Immersive Environments, Fluid Navigation, Expressive Human and Command Languages, Communication and Collaboration.

UNIT III DESIGN AND EVALUATION 9

Advancing the User Experience, Timely User Experience, Information Search, Data Visualization Evaluation Techniques- Assessing User Experience- Usability Testing – Heuristic Evaluation and Walkthroughs, Analytics Predictive Models.

UNIT IV MODELS AND THEORIES 9

Cognitive Models, Socio-Organizational Issues and Stake Holder Requirements, Communication And Collaboration Models task Analysis, Dialog Notations and Design, Models of the System, Modeling Rich Interaction, Ubiquitous Computing

UNIT V DESIGNING INTERACTIONS FOR WEB AND MOBILE PLATFORMS 9

Hypertext, Multimedia and WWW, Designing for the web Direct Selection, Contextual Tools, Overlays, Inlays and Virtual Pages, Process Flow. Use Transitions-Lookup patterns-Feedback Patterns, Mobile Apps, Mobile Navigation, Content and Control Idioms, Multi-Touch Gestures, Inter-App Integration, Mobile Web.

TOTAL : 45 PERIODS