Title of Skill Course: Software Tester

1. Department: Department of Computer Science Optional

2. Title: Software Tester

3. Sector: Information Technology

4. Eligibility: B.Sc.III

5. Year of implementation: 2020

Course Structure

Skill Level	Theory Hours	Practical Hours	Total Hours	Credits	No. of students in batch
6	15	30	45	02	30

Syllabus

Course Objectives:

1. To learn Testing concept and its strategies.
2. Have an ability to apply software testing knowledge and engineering methods.

Theory Syllabus (Contact Hrs: 15, Credits: 01)

Unit I: Introduction to Testing

Strategic Approach to Software Testing, The Multiple Roles of the Software Tester (People Relationships), Scope of Testing, Test Strategies for Conventional Software, Validation Testing, System Testing, Basic Terminologies, V Shaped Software Lifecycle Model.

Unit II: Manual Testing, Functional and Structural Testing

Need of Manual Testing, Goals, Advantages, Disadvantages,Manual testing tools, Manual Testing vs Automation Testing. Boundary Value Analysis, Equivalence Class Testing, Decision Table Based Testing. Basis Path Testing: Program Graph, DD Path graph, Cyclomatic Complexity, Graph Matrices, Control Flow Testing: Statement Coverage, Branch Coverage, Condition Coverage, Path Coverage

Practical Syllabus (Contact Hrs: 30, Credits: 01)
List of Experiments ------------------------------------ 30 hrs
1. Write a program that take three inputs (a,b&c) that represent the sides of a triangle, and the output is one of the below four:
   • Not a triangle
   • Scalene triangle
   • Isosceles triangle
   • Equilateral triangle
2. Generate test cases using Boundary Value Analysis, Equivalence Class Partitioning and Decision Table Testing.
   1. Generate test cases using Basis path testing.
   2. Run code coverage tool.

3. Write a program that determines the nature of roots of a quadratic equation.
   Output should be one of the following:-
   - Not a quadratic equation.
   - Complex roots
   - Real roots
   - Single roots
4. Generate test cases using Boundary Value Analysis, Equivalence Class Partitioning and Decision Table Testing.
5. Generate test cases using Basis path testing.
6. Run code coverage tool
7. Write a program that checks whether the number is even or odd. Run code coverage tool and find the amount of code being covered.
8. Case study/ Industrial Visit

Course Outcomes:

Students will be able to,
1. Know various test processes and continuous quality improvement
2. Perform a complete testing process, taking into account practical considerations.

Reference Books:
3. Yogesh Singh, Software Testing(India, Cambridge University Press India Private Limited 2012) 456 pages.
4. Roger S. Pressman, Software Engineering: A Practitioner's Approach (McGraw Hill Education; 7th edition , 2009) 928 pages.

BOS Sub Committee:

Sr. No.	Name of Member	Designation	Address
1.	Ms. V.N. Pawar	Chairman	YCIS, Satara
2.	Ms. R.U. Atar	Member	YCIS Satara
3.	Mr. SiddhantWadmare	Academic Expert	D.Y. Patil college Pune
4.	Mr Jaidip Kumar	Industrial Expert	Symbiosis College, Pune