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| **TSC Category** | Development and Implementation | | | | | |
| **TSC Title** | Software Testing | | | | | |
| **TSC Description** | Assess and test the overall effectiveness and performance of an application, involving the setting up of suitable testing conditions, definition of test cases and/or technical criteria | | | | | |
| **TSC Proficiency Description** | **Level 1** | **Level 2** | **Level 3** | **Level 4** | **Level 5** | **Level 6** |
|  | **ICT-DIT-2015-1.1** | **ICT-DIT-3015-1.1** | **ICT-DIT-4015-1.1** |  |  |
|  | Draft simple test scenarios, and perform software testing procedures, highlighting bugs or glitches affecting performance | Design test scenarios and implement new or complex tests, investigating issues or gaps between actual and expected results | Define the testing objectives and criteria for success and oversee the testing and follow up processes for software products |  |  |
| **Knowledge** |  | * Purpose and elements of a test case * Feature requirements of the testing environment * Procedures and process of software testing * Automation testing tools and practices * Indicators of software success and failure * Commonly encountered glitches, bugs, faults and failures | * Software and components which require testing * Process and methodology to create test scenarios * Implementation of more complicated software tests * Analysis of test results through automation * Various testing outcomes and their implications * Indicators of software malfunctioning or incompatibility | * Key objectives, pros, cons and applicability of various software tests * Impact of business requirements and regulatory standards on acceptable baselines * Success indicators for software testing |  |  |
| **Abilities** |  | * Draft standard test cases or scenarios * Prepare testing environment for testing based on technical criteria and specifications * Execute testing procedures * Execute software testing using automation * Assess test results for unexpected outcome * Document details of failures or glitches that surface from the test results in testing documents * Compare the test results against the functional requirements or desired outcomes to highlight gaps and areas for improvement * Diagnose commonly encountered faults and failures in applications | * Design test scenarios or cases to cover a broad range of scenarios for the application * Determine appropriate tests, execution conditions and expected results * Define technical criteria and specifications for tests * Implement new, complex or advanced tests * Analyse gaps between expected and actual test results * Diagnose any indicators of application malfunctioning or under-performance * Propose modifications to the product and/or system to address requirements more effectively | * Define the testing objectives * Establish guidelines and criteria for success for various software tests * Review test cases, technical criteria and specifications of tests * Oversee testing process for software products * Evaluate outcomes and patterns in test results in-depth * Recommend changes to address issues and optimise software performance and effectiveness |  |  |
| **Range of Application** | Types of testing may include but are not limited to:   * Unit Testing * Integration Testing * System Testing * Acceptance Testing | | | | | |