**Test Suite**

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| Test Suite | Test Case Identification Number | Test cases | Environment | Expected Result | Final Result |
| Test Suite 1 | T1 | For admin module, To check if the web application lets the admin to login with a correct admin ID and correct password. |  |  |  |
| T2 | For admin module, To check if the Admin must have a unique user ID of min 4 character length. Is being exclude special characters and is being not begin with a digit. |  |  |  |
| T3 | For admin module, To check if the password must be 8 character length, is being allows special characters like !@#$ only and must have a Capital letter, a special character and a digit |  |  |  |
| T4 | For admin module, To check if all communications with external systems is being be encrypted using a hash function. |  |  |  |
| T5 | For admin module, To check if all data User Name and password combination will be stored into a database for future reference. |  |  |  |
| T6 | For admin module, To check if the timestamp is captured and stored in the database on login successful. |  |  |  |
| T7 | For admin module, To check if the admin is being redirected to a page, where admin will be able to view courses, students assigned to that course and will be able to generate QR code if necessary. |  |  |  |
| T8 | For admin module, To check if the admin is being lets a maximum of three times to login and on further failure, a notification is being popup saying 'Login Failure’. |  |  |  |
| T9 | For admin module, To check if the web application not lets the admin logout when the admin clicks on the logout button. |  |  |  |
|  | T10 | For admin module, To check if the web application lets the admin to add a course to a department. |  |  |  |
|  | T11 | For admin module, To check if the web application lets the admin to delete a course to a department. |  |  |  |
|  | T12 | For admin module, To check if the web application allows the admin to modify the course details of a department. |  |  |  |
|  | T13 | For admin module, To check if the web application allows the admin to add instructor to a course. |  |  |  |
|  | T14 | For admin module, To check if the web application allows the admin to remove instructor of a course. |  |  |  |
|  | T15 | For admin module, To check if the web application lets the admin to modify the instructor details of a course of a department. |  |  |  |
|  | T16 | For admin module, To check if the web application lets the admin to add students taking a particular course of a department. |  |  |  |
|  | T17 | For admin module, To check if the web application lets the admin to remove students taking a particular course. |  |  |  |
|  | T18 | For admin module, To check if the web application lets the admin to modify the student’s details taking a particular course of a department. |  |  |  |
|  | T19 | For admin module, To check if the web application lets the admin generate a unique QR code based on the CRN and the timer. |  |  |  |
|  | T20 | For admin module, To check if the web application lets the admin to add multiple instructors to a particular course of a department. |  |  |  |
|  | T21 | For admin module, To check if the web application lets the admin to add multiple students to a particular course of a department. |  |  |  |
|  | T22 | For admin module, To check if the web application letss the admin to add multiple courses of a department. |  |  |  |
|  | T23 | For admin module, To check if the admin be able to view student attendance over the whole semester of a department. |  |  |  |
|  | T24 | For admin module, To check if the web application lets the admin modify student attendance records. |  |  |  |
|  | T25 | For admin module, To check If the web application lets the admin deletes student attendance records. |  |  |  |
|  | T26 | For admin module, To check if the web application lets the admin analyse student attendance records. |  |  |  |
|  | T27 | For admin module, To check if the web application lets the admin view the number of students in each course. |  |  |  |
|  | T28 | For admin module, To check if the web application provide appropriate feedback to the admin after modifying any student records. |  |  |  |
| Test Suite 2 | T29 | For Student module, To check if the mobile application lets the user login using a username and password. |  |  |  |
|  | T30 | For Student module, To check if the Student must have a unique user ID of min 4 character length. Is being exclude special characters and is being not begin with a digit. |  |  |  |
|  | T31 | For Student module, To check if the Password must be 8 character length, is being allows special characters like !@#$ only and must have a Capital letter, a special character and a digit. |  |  |  |
|  | T32 | For Student module, To check if all communications with external systems is being be encrypted using a hash function. |  |  |  |
|  | T33 | For Student module, To check if all data User Name and password combination will be stored into a database for future reference. |  |  |  |
|  | T34 | For Student module, To check if the timestamp is being be captured and stored into a database on login successful. |  |  |  |
|  | T35 | For Student module, To check if the mobile application is being lets the student login with a correct username and password following the above mentioned rules. |  |  |  |
|  | T36 | For Student module, To check if the mobile application save the students login and not ask for login again and again when the user opens the application. |  |  |  |
|  | T37 | For Student module, To check if the mobile application lets the user scan the unique QR code displayed by the Instructor. |  |  |  |
|  | T38 | For Student module, To check if the application is being take him to a 'student view'' page. |  |  |  |
|  | T39 | For Student module, To check if the application is being identify the student and save further details based on unique student ID. |  |  |  |
|  | T40 | For Student module, To check if the Timestamp of the scan is captured and saved onto student table. |  |  |  |
|  | T41 | For Student module, To check if the application is being ask the student to scan the QR code again. |  |  |  |
|  | T42 | For Student module, To check if the mobile application lets the student scan the QR code for a maximum of three times. |  |  |  |
|  | T43 | For Student module, To check if the mobile application lets the user capture the unique QR code displayed by the Instructor. |  |  |  |
|  | T44 | For Student module, To check if the mobile application lets the user capture the unique QR code displayed by the Instructor. |  |  |  |
|  | T45 | For Student module, To check if the mobile application sends a proper feedback to the user saying 'QR code scanned and attendance recorded'. |  |  |  |
|  | T46 | For Student module, To check if the mobile application lets the student view the courses he/she has registered to in the department. |  |  |  |
|  | T47 | For student module, To check if the mobile application lets the student view his/her current attendance percentage. |  |  |  |
|  | T48 | For student module, To check if the mobile application lets the student logout of the application. |  |  |  |
| Test Suite 3 | T49 | For Instructor module, To check if the web application lets the Instructor login to the system with given user id and password. |  |  |  |
| T50 | For Instructor module, To check if the Instructor must have a unique user ID of min 4 character length. |  |  |  |
| T51 | For Instructor module, To check if the password must be 8 character length, is being allows special characters like!@#$ only and must have a Capital letter, a special character and a digit. |  |  |  |
| T52 | For Instructor module, To check if all communications with external systems is being be encrypted using a hash function. |  |  |  |
| T53 | For Instructor module, To check if all data User Name and password combination will be stored into a database for future reference. |  |  |  |
| T54 | For Instructor module, To check if the timestamp is captured and stored in the database. |  |  |  |
| T55 | For Instructor module, To check if the instructor is being be lets a maximum of three times to login. |  |  |  |
| T56 | For Instructor module, To check if the web application lets the Instructor to add courses across departments. |  |  |  |
| T57 | For Instructor module, To check if the web application lets the Instructor to add multiple sections for a course. |  |  |  |
| T58 | For Instructor module, To check if the web application lets the Instructor invite another instructor. |  |  |  |
| T59 | For Instructor module, To check if the web application lets the Instructor generate a unique QR code when the instructor clicks on 'Generate QR button' on the Instructor view. |  |  |  |
| T60 | For Instructor module, To check if the web application lets the Instructor display that unique QR code to the students in the class. |  |  |  |
| T61 | For Instructor module, To check if the web application lets the Instructor choose the time interval from the 'Time Interval between QR' dropdown. |  |  |  |
| T62 | For Instructor module, To check if the web application lets the Instructor choose the number of QR’s to be generated by the application in the 'generate QR' page. |  |  |  |
| T63 | For Instructor module, To check if the web application is being lets the instructor choose the QR active time from the 'generate QR' page. |  |  |  |
| T64 | For Instructor module, To check if the web application lets the Instructor redirect to the 'instructor view' page when the instructor clicks on home page button on 'generate QR' page. |  |  |  |
| T65 | For Instructor module, To check if the web application lets the Instructor modify student attendance records. |  |  |  |
| T66 | For Instructor module, To check if the web application lets the Instructor deletes student attendance records. |  |  |  |
| T67 | For Instructor module, To check if the web application lets the Instructor analyse student attendance records. |  |  |  |
| T68 | For Instructor module, To check if the web application lets the Instructor view the number of students in each course. |  |  |  |
| T69 | For Instructor module, To check if the web application provides the appropriate count of the students in the class. |  |  |  |
| T70 | For Instructor module, To check if the web application provide appropriate feedback to the Instructor after modifying any student records. |  |  |  |