**Step 1: Equivalence Class Partitioning (ECP)**

**ECP Test Cases**

| **Test Case ID** | **Description** | **Input** | **Expected Output** |
| --- | --- | --- | --- |
| TC-AL-01 | Valid admin login | Username: adminPassword: admin123 | Redirect to admin dashboard |
| TC-AL-02 | Empty username | Username: Password: admin123 | Show "Username required" error |
| TC-AL-03 | Empty password | Username: admin Password: | Show "Password required" error |
| TC-AL-04 | Invalid credentials | Username: adminPassword: wrongpass | Show "Invalid credentials" message |
| TC-AL-05 | SQL injection input | Username: ' OR 1=1 --Password: anything | Show "Invalid credentials" or block request |

| **Test Case ID** | **Description** | **Input** | **Expected Output** |
| --- | --- | --- | --- |
| TC-AS-01 | Valid staff entry | All fields valid | Staff added successfully |
| TC-AS-02 | Missing required fields | Name field empty | Show "Name is required" error |
| TC-AS-03 | Invalid phone number | Phone: 123abc! | Show "Invalid phone number" error |
| TC-AS-04 | Duplicate username/email | Username already exists | Show "Username already exists" message |

| **Test Case ID** | **Description** | **Input** | **Expected Output** |
| --- | --- | --- | --- |
| TC-US-01 | Valid update | Change name or contact details | Show "Updated successfully" message |
| TC-US-02 | Invalid ID | ID does not exist | Show "Staff not found" message |

| **Test Case ID** | **Description** | **Input** | **Expected Output** |
| --- | --- | --- | --- |
| TC-DS-01 | Valid deletion | Existing staff ID | Staff deleted successfully |
| TC-DS-02 | Non-existent ID | ID: 9999 | Show "Staff not found" error |

| **Test Case ID** | **Description** | **Input** | **Expected Output** |
| --- | --- | --- | --- |
| TC-VS-01 | View all staff | None | List of all staff is displayed |
| TC-VS-02 | Filter by role | Role: Trainer | Only trainers displayed |