**Table 5.1**

| **Identifier** | TC - 1 (Registration) |
| --- | --- |
| **Related requirements(s)** | None |
| **Short description** | It confirms that the user is getting registered properly |
| **Pre-condition(s)** | None |
| **Input data** | Provide Name, Email, Password, Cnic number,Address, Contact Info, Gender |
| **Detailed steps** | 1- Provide required Input values  2- Press the register button |
| **Expected result(s)** | Registration Successful |
| **Post-condition(s)** | User account is created with the provided information. |
| **Actual result(s)** | Registration Successful |
| **Test Case Result** | Registration process is done successfully |

**Table 5.2**

| **Identifier** | TC - 2 (Login) |
| --- | --- |
| **Related requirements(s)** | None |
| **Short description** | It confirms that the user is getting login properly |
| **Pre-condition(s)** | Must be registered already |
| **Input data** | Provide Email, Password |
| **Detailed steps** | 1- Provide required Input values  2- Press the login button |
| **Expected result(s)** | User is redirected to dashboard page |
| **Post-condition(s)** | None |
| **Actual result(s)** | User is successfully redirected to dashboard page |
| **Test Case Result** | login process is done successfully |

**Table 5.3**

| **Identifier** | TC - 3 (Reset password) |
| --- | --- |
| **Related requirements(s)** | None |
| **Short description** | It confirms that the user is reset properly |
| **Pre-condition(s)** | Must be logged in |
| **Input data** | Provide current password and new password |
| **Detailed steps** | 1. Log in to the system with valid credentials. 2. Navigate to the "Reset Password" section. 3. Enter the current password. 4. Enter a new password. 5. Confirm the new password. 6. Click on the "Reset Password" button   . |
| **Expected result(s)** | Password reset successful message displayed.  User can log in with the new password |
| **Post-condition(s)** | User's password is updated in the system. |
| **Actual result(s)** | Password is reset successfully while logged in. |
| **Test Case Result** | Password is reset successfully |

**Table 5.4**

| **Identifier** | TC - 4 (Booking ticket) |
| --- | --- |
| **Related requirements(s)** | None |
| **Short description** | Ticket booking functionality |
| **Pre-condition(s)** | Must be logged in |
| **Input data** | Date  Number of tickets  Seat preference  Payment method |
| **Detailed steps** | 1. Navigate to the ticket booking page. 2. Select the desired event or transportation service (Concert ABC). 3. Choose the date for the event (May 25, 2024). 4. Specify the number of tickets required (2). 5. Select seat preferences (General Admission). 6. Enter payment details (Credit Card). 7. Click on the "Book Now" button. |
| **Expected result(s)** | * Booking confirmation message displayed. * Tickets are reserved for the specified event and date. * Payment is processed successfully. |
| **Post-condition(s)** | None |
| **Actual result(s)** | * Booking confirmation message displayed. * Tickets are reserved for the specified event and date. * Payment is processed successfully. |
| **Test Case Result** | Seats are booked with valid credits |

**Table 5.5**

| **Identifier** | TC - 5 (Payment) |
| --- | --- |
| **Related requirements(s)** | None |
| **Short description** | Testing the functionality of processing a payment for a booked ticket. |
| **Pre-condition(s)** | 1. User has booked ticket(s). 2. User has selected a payment method. |
| **Input data** | 1. Total amount: $100 2. Payment method: Credit Card 3. Credit Card Number: [valid credit card number] 4. Expiry Date: [valid expiry date] 5. CVV: [valid CVV] |
| **Detailed steps** | 1. Navigate to the payment page. 2. Review the total amount to be paid. 3. Select the payment method (Credit Card). 4. Enter the credit card number, expiry date, and CVV. 5. Click on the "Pay Now" button. |
| **Expected result(s)** | 1. Payment confirmation message displayed. 2. Payment is processed successfully. 3. User receives a confirmation email. |
| **Post-condition(s)** | None |
| **Actual result(s)** | 1. Payment confirmation message displayed. 2. Payment is processed successfully. 3. User receives a confirmation email. |
| **Test Case Result** | Payment was successful |

**Table 5.6**

| **Identifier** | TC - 6 (Download ticket) |
| --- | --- |
| **Related requirements(s)** | None |
| **Short description** | Testing the functionality of downloading a ticket after successful booking. |
| **Pre-condition(s)** | User has booked ticket(s)  .Payment for the ticket(s) is processed successfully. |
| **Input data** | Ticket ID |
| **Detailed steps** | 1. Navigate to the ticket details or booking history section. 2. Find the booked ticket with the provided ticket ID. 3. Click on the "Download Ticket" or "Print Ticket" option |
| **Expected result(s)** | Ticket is downloaded in PDF format |
| **Post-condition(s)** | None |
| **Actual result(s)** | Ticket downloaded successfully in PDF format.. |
| **Test Case Result** | Ticket is successfully downloaded after booking. |

**Table 5.7**

| **Identifier** | TC - 7 (Cancel Ticket) |
| --- | --- |
| **Related requirements(s)** | None |
| **Short description** | Ticket cancellation functionality |
| **Pre-condition(s)** | User has booked ticket(s). |
| **Input data** | Ticket ID |
| **Detailed steps** | Navigate to the ticket details or booking history section.  Find the booked ticket with the provided ticket ID.  Click on the "Cancel Ticket" or "Request Cancellation" option. |
| **Expected result(s)** | Confirmation message displayed indicating successful ticket cancellation.  Ticket is marked as canceled in the system. |
| **Post-condition(s)** | None |
| **Actual result(s)** | Confirmation message displayed indicating successful ticket cancellation.  Ticket is marked as canceled in the system. |
| **Test Case Result** | Ticket is successfully canceled. |

**Table 5.8**

| **Identifier** | TC - 8 (Feedback and Complaints) |
| --- | --- |
| **Related requirements(s)** | None |
| **Short description** | Feedback and complaints functionality |
| **Pre-condition(s)** | User is logged into the system. |
| **Input data** | Feedback/Complaint: [Enter feedback or complaint text] |
| **Detailed steps** | 1. Navigate to the feedback/complaints section in the user dashboard. 2. Click on the "Submit Feedback" or "Submit Complaint" button. 3. Enter the feedback/complaint text in the provided text area. 4. Click on the "Submit" button. |
| **Expected result(s)** | Confirmation message displayed indicating successful submission of feedback/complaint.  Feedback/complaint is recorded in the system. |
| **Post-condition(s)** | None |
| **Actual result(s)** | Confirmation message displayed indicating successful submission of feedback/complaint.  Feedback/complaint is recorded in the system. |
| **Test Case Result** | Feedback/complaint is successfully submitted. |

**Table 5.9**

| **Identifier** | TC - 9 (Search Trains) |
| --- | --- |
| **Related requirements(s)** | None |
| **Short description** | Train search functionality. |
| **Pre-condition(s)** | User is logged into the system |
| **Input data** | Departure station: [Enter departure station name or code]  Destination station: [Enter destination station name or code]  Date of travel: [Enter date of travel] |
| **Detailed steps** | 1. Navigate to the train search section of the application. 2. Enter the departure station in the appropriate field. 3. Enter the destination station in the appropriate field. 4. Select the date of travel from the calendar or enter it manually. 5. Click on the "Search" or "Find Trains" button. |
| **Expected result(s)** | List of available trains between the specified stations and on the selected date is displayed.  Relevant train details such as train number, departure time, arrival time, and seat availability are shown.  User can select a train for further details or booking. |
| **Post-condition(s)** | None |
| **Actual result(s)** | List of available trains between the specified stations and on the selected date is displayed.  Relevant train details such as train number, departure time, arrival time, and seat availability are shown.  User can select a train for further details or booking. |
| **Test Case Result** | Trains are searched successfully |

**Table 5.10**

| **Identifier** | TC - 10 (View train schedule) |
| --- | --- |
| **Related requirements(s)** | None |
| **Short description** | Train schedule viewing functionality |
| **Pre-condition(s)** | User is logged into the system |
| **Input data** | Departure station: [Enter departure station name or code]  Destination station: [Enter destination station name or code] |
| **Detailed steps** | 1- Navigate to Train schedule section  2- Press the view schedule button |
| **Expected result(s)** | Schedules are displayed |
| **Post-condition(s)** | None |
| **Actual result(s)** | Trains schedules are displayed |
| **Test Case Result** | Viewing trains schedules is done successfully |

**Table 5.11**

| **Identifier** | TC - 11 (Track Train) |
| --- | --- |
| **Related requirements(s)** | None |
| **Short description** | Testing the functionality of tracking a specific train in real-time |
| **Pre-condition(s)** | User must be logged in |
| **Input data** | Train Number |
| **Detailed steps** | Navigate to the train tracking section of the application.  Enter the train number in the appropriate field.  Click on the "Track Train" or "Search" button. |
| **Expected result(s)** | Real-time location and status of specified train are displayed.  User can view the current position of the train on a map or through textual updates.  Relevant details such as estimated arrival time, departure time, and delays (if any) are shown. |
| **Post-condition(s)** | None |
| **Actual result(s)** | Real-time location and status of specified train are displayed.  User can view the current position of the train on a map or through textual updates.  Relevant details such as estimated arrival time, departure time, and delays (if any) are shown. |
| **Test Case Result** | Train is navigated successfully |

**Table 5.12**

| **Identifier** | TC - 12 (Predict Arrival and departure time) |
| --- | --- |
| **Related requirements(s)** | None |
| **Short description** | Testing the functionality of predicting arrival and departure times based on real-time tracking of trains. |
| **Pre-condition(s)** | User must be logged in |
| **Input data** | Train Number |
| **Detailed steps** | 1. Navigate to the train tracking section of the application. 2. Enter the train number in the appropriate field. 3. Click on the "Track Train" or "Search" button. 4. Monitor the real-time tracking updates for the specified train |
| **Expected result(s)** | Real-time location and status of the specified train are displayed.  Predicted arrival and departure times are updated dynamically based on the train's current location and speed.  User can view estimated arrival and departure times for upcoming stations |
| **Post-condition(s)** | None |
| **Actual result(s)** | Real-time location and status of the specified train are displayed.  Predicted arrival and departure times are updated dynamically based on the train's current location and speed.  User can view estimated arrival and departure times for upcoming stations |
| **Test Case Result** | Trains schedule is predicted successfully |

**Table 5.13**

| **Identifier** | TC - 13 (Admin Dashboard) |
| --- | --- |
| **Related requirements(s)** | None |
| **Short description** | Testing the functionality and features available on the admin dashboard. |
| **Pre-condition(s)** | Admin credentials are valid. |
| **Input data** | Admin username: [Enter valid admin username]  Admin password: [Enter valid admin password] |
| **Detailed steps** | Log in to the admin dashboard using valid admin credentials.  Navigate to the admin dashboard interface |
| **Expected result(s)** | Admin dashboard is displayed with relevant widgets, menus, and options.  Key performance indicators (KPIs) such as user statistics, revenue, and system status are prominently displayed.  Access to various administrative functions such as user management, content management, and system configuration |
| **Post-condition(s)** | None |
| **Actual result(s)** | Admin dashboard is displayed with relevant widgets, menus, and options.  Key performance indicators (KPIs) such as user statistics, revenue, and system status are prominently displayed.  Access to various administrative functions such as user management, content management, and system configuration |
| **Test Case Result** | Admin Dashboard functionality is verified successfully. |

**Table 5.14**

| **Identifier** | TC - 14 (ManageTrains schedule) |
| --- | --- |
| **Related requirements(s)** | None |
| **Short description** | Testing the functionality of managing passengers by adding or removing them from the system. |
| **Pre-condition(s)** | Admin must be logged in |
| **Input data** | Testing the functionality of managing Train schedule by adding or removing train or changing arrival or departure time them from the system |
| **Detailed steps** | Add Schedule:   * + Click "Add Schedule."   + Enter details.   + Click "Save."   + Expected: New schedule added.   Update Schedule:   * + Select schedule.   + Edit details.   + Click "Update."   + Expected: Schedule updated.   Remove Schedule:   * + Select schedule.   + Click "Remove."   + Confirm.   + Expected: Schedule removed. |
| **Expected result(s)** | For adding a new train schedule:  Schedule is successfully added to the system.  Newly added schedule details are displayed in the schedule list.  For updating a train schedule:  Schedule details are successfully updated in the system.  Updated schedule details are reflected in the schedule list.  For removing a train schedule:  Schedule is successfully removed from the system.  Removed schedule details are no longer displayed in the schedule list. |
| **Post-condition(s)** | None |
| **Actual result(s)** | For adding a new train schedule:  Schedule is successfully added to the system.  Newly added schedule details are displayed in the schedule list.  For updating a train schedule:  Schedule details are successfully updated in the system.  Updated schedule details are reflected in the schedule list.  For removing a train schedule:  Schedule is successfully removed from the system.  Removed schedule details are no longer displayed in the schedule list. |
| **Test Case Result** | Train schedules are managed successfully. |

**Table 5.15**

| **Identifier** | TC - 15 (Manage passenger) |
| --- | --- |
| **Related requirements(s)** | None |
| **Short description** | Testing the functionality of managing passengers by adding or removing them |
| **Pre-condition(s)** | Admin must be logged in |
| **Input data** | Passenger name , and complete info |
| **Detailed steps** | Log in to the admin dashboard using valid admin credentials.  Navigate to the passenger management section.  To add a passenger:   * + Click on the "Add Passenger" or "Create Passenger" button.   + Enter the required passenger details in the provided fields.   + Click on the "Save" or "Add" button to confirm the addition.   To remove a passenger:   * + Locate the passenger to be removed from the list.   + Select the passenger's entry.   + Click on the "Remove" or "Delete" button.   + Confirm the removal action when prompted |
| **Expected result(s)** | * For adding a passenger:   + Passenger is successfully added to the system.   + Newly added passenger details are displayed in the passenger list. * For removing a passenger:   + Passenger is successfully removed from the system.   + Removed passenger details are no longer displayed in the passenger list. |
| **Post-condition(s)** | None |
| **Actual result(s)** | * For adding a passenger:   + Passenger is successfully added to the system.   + Newly added passenger details are displayed in the passenger list. * For removing a passenger:   + Passenger is successfully removed from the system.   + Removed passenger details are no longer displayed in the passenger list. |
| **Test Case Result** | Passengers management is verified by successfully adding or removing them |

**Table 5.16**

| **Identifier** | TC - 16 (Manage fare) |
| --- | --- |
| **Related requirements(s)** | None |
| **Short description** | It confirms that the user is getting registered properly |
| **Pre-condition(s)** | Admin must be logged in |
| **Input data** | Fare details: Fare type (e.g., adult, child), fare amount, route or destination |
| **Detailed steps** | 1. Log in to the admin dashboard using valid admin credentials. 2. Navigate to the fare management section. 3. To add a new fare:    * Click on the "Add Fare" or "Create Fare" button.    * Enter the required fare details in the provided fields.    * Click on the "Save" or "Add" button to confirm the addition. 4. To update an existing fare:    * Locate the fare to be updated from the list.    * Select the fare entry.    * Edit the relevant fare details as needed.    * Click on the "Update" or "Save Changes" button to confirm the update. |
| **Expected result(s)** | * For adding a new fare:   + Fare is successfully added to the system.   + Newly added fare details are displayed in the fare list. * For updating a fare:   + Fare details are successfully updated in the system.   + Updated fare details are reflected in the fare list. |
| **Post-condition(s)** | None |
| **Actual result(s)** | * For adding a new fare:   + Fare is successfully added to the system.   + Newly added fare details are displayed in the fare list. * For updating a fare:   + Fare details are successfully updated in the system.   + Updated fare details are reflected in the fare list. |
| **Test Case Result** | Fare is updated or added successfully |

**Table 5.17**

| **Identifier** | TC - 17 (manage stations) |
| --- | --- |
| **Related requirements(s)** | None |
| **Short description** | Testing the functionality of managing stations by adding, updating, or removing them from the system. |
| **Pre-condition(s)** | None |
| **Input data** | Provide station name location and additional information |
| **Detailed steps** | 1. Log in to the admin dashboard using valid admin credentials. 2. Navigate to the station management section. 3. To add a new station:    * Click on the "Add Station" or "Create Station" button.    * Enter the required station details in the provided fields.    * Click on the "Save" or "Add" button to confirm the addition. 4. To update an existing station:    * Locate the station to be updated from the list.    * Select the station entry.    * Edit the relevant station details as needed.    * Click on the "Update" or "Save Changes" button to confirm the update. 5. To remove a station:    * Locate the station to be removed from the list.    * Select the station entry.    * Click on the "Remove" or "Delete" button.    * Confirm the removal action when prompted. |
| **Expected result(s)** | * For adding a new station:   + Station is successfully added to the system.   + Newly added station details are displayed in the station list. * For updating a station:   + Station details are successfully updated in the system.   + Updated station details are reflected in the station list. * For removing a station:   + Station is successfully removed from the system.   + Removed station details are no longer displayed in the station list. |
| **Post-condition(s)** | None |
| **Actual result(s)** | * For adding a new station:   + Station is successfully added to the system.   + Newly added station details are displayed in the station list. * For updating a station:   + Station details are successfully updated in the system.   + Updated station details are reflected in the station list. * For removing a station:   + Station is successfully removed from the system.   + Removed station details are no longer displayed in the station list. |
| **Test Case Result** | Stations are managed successfully. |

**Table 5.18**

| **Identifier** | TC - 18 (manage trains) |
| --- | --- |
| **Related requirements(s)** | None |
| **Short description** | This test case verifies the functionality of managing trains by adding, updating, or removing them from the system. |
| **Pre-condition(s)** | Admin must be logged in |
| **Input data** | Train name, departure/arrival time |
| **Detailed steps** | 1. Add Train:    * Click on the "Add Train" button.    * Fill in the required details such as train number, type, capacity, etc.    * Click on the "Save" button. 2. Update Train:    * Locate an existing train from the list.    * Click on the train entry.    * Edit the train details as required.    * Click on the "Update" button. 3. Remove Train:    * Locate an existing train from the list.    * Click on the train entry.    * Click on the "Remove" button.    * Confirm the removal action when prompted. |
| **Expected result(s)** | * Add Train:   + The new train should be successfully added to the system.   + The details of the newly added train should be displayed in the train list. * Update Train:   + The train details should be successfully updated in the system.   + The updated train details should be reflected in the train list. * Remove Train:   + The selected train should be successfully removed from the system.   + The removed train details should no longer be displayed in the train list. |
| **Post-condition(s)** | None |
| **Actual result(s)** | * Add Train:   + The new train should be successfully added to the system.   + The details of the newly added train should be displayed in the train list. * Update Train:   + The train details should be successfully updated in the system.   + The updated train details should be reflected in the train list. * Remove Train:   + The selected train should be successfully removed from the system.   + The removed train details should no longer be displayed in the train list. |
| **Test Case Result** | Trains are managed successfully |

**Table 5.19**

| **Identifier** | TC - 19 (add train route) |
| --- | --- |
| **Related requirements(s)** | None |
| **Short description** | This test case verifies the functionality of managing trains by adding, updating, or removing them from the system. |
| **Pre-condition(s)** | Admin must be logged in |
| **Input data** | Train name, departure time/arrival time routes location address |
| **Detailed steps** | Add Train Route:   * + Click on the "Add Route" button.   + Fill in the required details such as route name, origin, destination, distance, etc.   + Click on the "Save" button.   Update Train Route:   * + Locate an existing train route from the list.   + Click on the route entry.   + Edit the route details as required.   + Click on the "Update" button.   Remove Train Route:   * + Locate an existing train route from the list.   + Click on the route entry.   + Click on the "Remove" button.   + Confirm the removal action when prompted. |
| **Expected result(s)** | * Add Train Route:   + The new train route should be successfully added to the system.   + The details of the newly added route should be displayed in the route list. * Update Train Route:   + The route details should be successfully updated in the system.   + The updated route details should be reflected in the route list. * Remove Train Route:   + The selected route should be successfully removed from the system.   + The removed route details should no longer be displayed in the route list. |
| **Post-condition(s)** | None |
| **Actual result(s)** | * Add Train Route:   + The new train route should be successfully added to the system.   + The details of the newly added route should be displayed in the route list. * Update Train Route:   + The route details should be successfully updated in the system.   + The updated route details should be reflected in the route list. * Remove Train Route:   + The selected route should be successfully removed from the system.   + The removed route details should no longer be displayed in the route list. |
| **Test Case Result** | Trains schedules are managed successfully |

**Table 5.20**

| **Identifier** | TC - 20 (Set train schedule) |
| --- | --- |
| **Related requirements(s)** | None |
| **Short description** | This test case verifies the functionality of setting train schedules by adding, updating, or removing them from the system. |
| **Pre-condition(s)** | Admin must be logged in |
| **Input data** | Provide train id ,name departure /arrival time and new location to be changes |
| **Detailed steps** | 1. Add Train Schedule:    * Click on the "Add Schedule" button.    * Fill in the required details such as train number, departure time, arrival time, origin, destination, etc.    * Click on the "Save" button. 2. Update Train Schedule:    * Locate an existing train schedule from the list.    * Click on the schedule entry.    * Edit the schedule details as required.    * Click on the "Update" button. 3. Remove Train Schedule:    * Locate an existing train schedule from the list.    * Click on the schedule entry.    * Click on the "Remove" button.    * Confirm the removal action when prompted. |
| **Expected result(s)** | * Add Train Schedule:   + The new train schedule should be successfully added to the system.   + The details of the newly added schedule should be displayed in the schedule list. * Update Train Schedule:   + The schedule details should be successfully updated in the system.   + The updated schedule details should be reflected in the schedule list. * Remove Train Schedule:   + The selected schedule should be successfully removed from the system.   + The removed schedule details should no longer be displayed in the schedule list. |
| **Post-condition(s)** | None |
| **Actual result(s)** | * Add Train Schedule:   + The new train schedule should be successfully added to the system.   + The details of the newly added schedule should be displayed in the schedule list. * Update Train Schedule:   + The schedule details should be successfully updated in the system.   + The updated schedule details should be reflected in the schedule list. * Remove Train Schedule:   + The selected schedule should be successfully removed from the system.   + The removed schedule details should no longer be displayed in the schedule list. |
| **Test Case Result** | Trains schedule is managed successfully |

**SUMMARY OF TEST RESULTS**

| **Identifier** | Test cases run | Number of defects found | Number of defects corrected so far | Number of defects needs to be corrected |
| --- | --- | --- | --- | --- |
| **Module 1 (Registration)** | TC 1 | 1 | 1 | 0 |
| **Module 2 (Login)** | TC 2 | 1 | 1 | 0 |
| **Module 3 (Reset Password)** | TC 3 | 1 | 1 | 0 |
| **Module 4 (Booking Ticket)** | TC 4 | 0 | 0 | 0 |
| **Module 5 (Payment)** | TC 5 | 1 | 1 | 0 |
| **Module 6 (Download Ticket)** | TC 6 | 0 | 0 | 0 |
| **Module 7 (Cancel Ticket)** | TC 7 | 0 | 0 | 0 |
| **Module 8 (Feedback and Complaints)** | TC 8 | 0 | 0 | 0 |
| **Module 9 (Search Trains)** | TC 9 | 1 | 1 | 0 |
| **Module 10 (view Trains Schedules)** | TC 10 | 0 | 0 | 0 |
| **Module 11 (Track train)** | TC 11 | 1 | 1 | 0 |
| **Module 12 (Predict Departure and Arival time)** | TC 12 | 0 | 0 | 0 |
| **Module 13 (Admin dashboard)** | TC 13 | 1 | 1 | 0 |
| **Module 14 (Manage Train schedule)** | TC 14 | 0 | 0 | 0 |
| **Module 15 (Manage Passengers )** | TC 15 | 0 | 0 | 0 |
| **Module 16 (Manage Fare)** | TC 16 | 0 | 0 | 0 |
| **Module 17 (Manage Stations)** | TC 17 | 1 | 1 | 0 |
| **Module 18 (Manage Trains)** | TC 18 | 1 | 1 | 0 |
| **Module 19 (Add Train Route)** | TC 19 | 1 | 1 | 0 |
| **Module 20**  **(Train Schedule)** | TC 20 | 1 | 1 | 0 |
| **Complete System** | 20 | 11 | 11 | 0 |