# Test Plan Document for Airline Booking Application

## Objectives

* Validate all functional features: booking, registration, payment, check-in, etc.
* Ensure cross-platform and cross-browser compatibility.
* Test performance under expected and peak loads.
* Verify secure handling of user and payment data.
* Confirm system integration with APIs and third-party tools.

## Scope

* User registration and login
* Flight search and selection
* Booking and payment process
* Boarding pass generation
* Notifications (SMS, Email)
* Check-in process
* Admin flight management

## Test Strategy

* **Manual Testing**: For functional UI workflows
* **Automation Testing**: Sanity and regression using Selenium/TestNG
* **Performance Testing**: With JMeter
* **Security Testing**: Login, payments, data access control
* **UAT**: Conducted by business stakeholders

## Test Environment

* Browsers: Chrome, Firefox, Safari, Edge
* Devices: Desktop, Tablet, Mobile
* OS: Windows, macOS, Android, iOS
* Simulated data: User accounts, flights, payment details

## Test Scenarios

1. Search and filter flights
2. Book flights with valid/invalid inputs
3. Make payments (positive/negative cases)
4. Check-in and download boarding pass
5. Register/Login/Logout
6. Cancel/reschedule flights
7. Admin login and manage flight schedules

## Entry and Exit Criteria

**Entry:**

* Functional specifications approved
* Test environment ready
* Test cases reviewed

**Exit:**

* 100% test case execution
* All critical defects resolved
* Final test report submitted

## Deliverables

* Test Plan document
* Test cases and scenarios
* Defect report
* Test execution report
* Final test summary
* Automation scripts

## Roles and Responsibilities

* **QA Engineer**: Test case design, execution, defect logging
* **QA Lead**: Planning, reporting, coordination
* **Developers**: Bug fixing, unit testing
* **Product Owner**: Requirement clarification, UAT sign-off

## Timeline

| **Activity** | **Duration** |
| --- | --- |
| Requirement Analysis | 2 Days |
| Test Planning | 2 Days |
| Test Case Development | 2 Days |
| Environment Setup | 1 Day |
| Manual Testing | 7 Days |
| Regression/Automation | 5-7 Days |
| Defect Reporting & Closure | Ongoing |
| Final Report | 1 Day |

## Risks and Mitigations

| **Risk** | **Mitigation** |
| --- | --- |
| Environment setup delay | Coordination with DevOps early |
| API downtime | Use of mocks/stubs |
| Last-minute requirement changes | Reserve buffer time in schedule |