BidBox Test Plan

# 1. Introduction

## 1.1 Purpose

This document outlines the test strategy and test cases for the BidBox online auction platform.

## 1.2 Scope

Testing will cover all major functionalities including:  
- User Authentication  
- Auction Management  
- Bidding System  
- Payment Processing  
- User Dashboard

# 2. Test Environment

## 2.1 Frontend

Browser: Chrome (latest), Firefox (latest), Safari (latest)  
Screen Resolutions: Desktop (1920×1080), Tablet (768×1024), Mobile (375×667)  
React Developer Tools for component testing

## 2.2 Backend

Node.js v16+  
MongoDB v5+  
Postman for API testing

# 3. Test Cases

## 3.1 Authentication Tests

### TC-AUTH-01: User Login

Objective: Verify user login functionality

Steps:  
1. Navigate to login page  
2. Enter test credentials (test@gmail.com/Test1234)  
3. Click login button

Expected: User redirected to dashboard

### TC-AUTH-02: User Registration

Objective: Verify new user registration

Steps:  
1. Click "Sign Up" link  
2. Fill registration form  
3. Submit form

Expected: Account created, user redirected to dashboard

## 3.2 Auction Management Tests

### TC-AUC-01: Create Auction

Objective: Verify auction creation

Steps:  
1. Click "Create Auction"  
2. Fill auction details  
3. Upload image  
4. Submit form

Expected: New auction appears in listings

### TC-AUC-02: Browse Auctions

Objective: Verify auction browsing and filtering

Steps:  
1. Navigate to dashboard  
2. Use category filter  
3. Use search function

Expected: Relevant auctions displayed

## 3.3 Bidding Tests

### TC-BID-01: Place Bid

Objective: Verify bidding functionality

Steps:  
1. Select an auction  
2. Enter bid amount  
3. Submit bid

Expected: Bid recorded, highest bid updated

### TC-BID-02: Auction Timer

Objective: Verify auction countdown

Steps:  
1. Open active auction  
2. Monitor timer  
3. Wait for completion

Expected: Timer counts down, auction ends correctly

## 3.4 Payment Tests

### TC-PAY-01: Payment Processing

Objective: Verify payment workflow

Steps:  
1. Win auction  
2. Enter payment details  
3. Complete transaction

Expected: Payment processed, auction marked as completed

## 3.5 Security Tests

### TC-SEC-01: Authentication Protection

Objective: Verify protected routes

Steps:  
1. Access protected URL without login  
2. Access with invalid token

Expected: Redirect to login page

### TC-SEC-02: Input Validation

Objective: Verify input sanitization

Steps:  
1. Test form inputs with special characters  
2. Test SQL injection attempts

Expected: Proper validation, no vulnerabilities

# 4. Performance Tests

## 4.1 Load Testing

- Test concurrent user capacity  
- Monitor response times  
- Check database performance

## 4.2 Stress Testing

- Test system under heavy load  
- Monitor error handling  
- Check recovery process

# 5. UI/UX Testing

## 5.1 Responsive Design

- Test on different devices  
- Check layout adaptability  
- Verify touch interactions

## 5.2 Accessibility

- Test screen reader compatibility  
- Verify ARIA attributes  
- Check color contrast

# 6. Test Execution

## 6.1 Test Cycle

1. Development Testing  
2. Integration Testing  
3. System Testing  
4. User Acceptance Testing

## 6.2 Bug Reporting

- Severity levels defined  
- Use issue template  
- Include reproduction steps

# 7. Exit Criteria

- All critical tests passed  
- No high-priority bugs pending  
- Performance benchmarks met  
- Security requirements satisfied

# 8. Risk Analysis

1. Database connectivity issues  
2. Payment gateway integration  
3. Real-time bidding conflicts  
4. Browser compatibility issues

# 9. Test Deliverables

1. Test cases documentation  
2. Bug reports  
3. Performance test results  
4. Security audit report