# Test Plan for School Management System – Focused Modules

### 📄 ****Project Title:**** School Management System

### 👤 ****Prepared by:**** Abdur Rouf

**Date:** May 2025

## ****1. Introduction****

This test plan outlines the strategy, scope, resources, schedule, and methodology for **manual testing** of the School Management System (SMS) project. To verify the functional correctness, data consistency, user access, and usability of the core modules such as the **Exam Management**, **Leave Management**, and **Class Routine** modules are functioning as expected and are user-friendly, reliable, and error-free.

## ****2. Scope****

### In Scope:

**Exam Section**

Exam Template

Exam Create

Marks System

Marksheet Format Download

Teacher Mark System

Result Process

Processed Exam List

Archived Exam List

**Leave Management**

Leave Type

Leave Configuration

Leave Requisition List

**Class Routine**

Class Period

Class Routine

Class Routine for Teachers

### Out of Scope:

Accounts

Institute Setup

Student Admission

Staff & Teacher Management

Attendance

Report Generation

Calendar & SMS Configuration

Web/Bulk Manager

General Settings

## ****3. Test Objectives****

Validate all functionalities of the selected modules work as per requirements.

Ensure user inputs are properly handled, stored, and displayed.

Verify role-based access control (e.g., admin, teacher).

Check for user-friendly interfaces and error-free navigation.

Confirm results are processed correctly with accurate marks.

Ensure data consistency in leave requests and exam records.

Evaluate scheduling logic in the class routine section.

### 4. ****Test Strategy****

**Manual Testing** for UI and functionality

**Functional Testing** for each sub-module

**Boundary Value Testing** for marks input

**Role-Based Testing** (e.g., Admin, Teacher, HR)

**Negative Testing** to handle invalid data inputs

**Smoke Testing** after deployment updates

## ****4. Resources****

### 👤 Human Resources:

**Test Manager:** Abdur Rouf

**Test Lead:** Abdur Rouf

**Tester(s):** 1 Manual SQA Engineer

### 🖥️ Hardware Resources:

Hosted test/staging server

Tester PC

Cross-device access for checking mobile/desktop views

### 🛠️ Software Resources:

Browser tools (Chrome DevTools)

Test case documentation (Excel/Google Sheets)

API tool (Postman, if needed)

No automation tools involved

## ****5. Schedule****

| **Activity** | **Start Date** | **End Date** |
| --- | --- | --- |
| Test Planning | 01-May-2025 | 01-May-2025 |
| Test Design | 01-May-2025 | 04-May-2025 |
| Test Environment Setup | 01-May-2025 | 04-May-2025 |
| Test Case Development | 02-May-2025 | 07-May-2025 |
| Test Execution | 05-May-2025 | 15-May-2025 |
| Regression Testing | 10-May-2025 | 16-May-2025 |
| UAT (User Acceptance) | 17-May-2025 | 20-May-2025 |
| Test Closure | 21-May-2025 | 22-May-2025 |

## ****6. Test Environment****

**Development Environment:** Locally hosted on development servers

**Staging Environment:** A production-like environment for final testing

**Production Environment:** Deployed environment (not part of testing)

**Frontend:** Browser-based interface (React/Vue/etc.)

**Backend:** Node.js/Express or Laravel (not applicable)

**Test Tools (not used):** Postman (API), Chrome DevTools, Excel/TestRail (for test cases)

### ****7.Test Cases Overview****

#### 📘 Exam Section

| **Test Case ID** | **Description** | **Expected Result** |
| --- | --- | --- |
| EX-01 | Create an exam template | Template is saved and listed |
| EX-02 | Create a new exam with selected template | Exam is created and linked |
| EX-03 | Enter marks for students | Marks are saved correctly |
| EX-04 | Download marksheet format | File downloads in correct layout |
| EX-05 | Teacher enters student marks | Only permitted subjects available |
| EX-06 | Process exam results | Results processed without error |
| EX-07 | View processed exams list | All processed exams appear |
| EX-08 | Archive processed exam | Exam is moved to archive view |

#### 📗 Leave Management

| **Test Case ID** | **Description** | **Expected Result** |
| --- | --- | --- |
| LE-01 | Create/edit leave types | Types appear in dropdown |
| LE-02 | Configure leave rules | Configuration saved correctly |
| LE-03 | Submit leave requisition | Leave is submitted for approval |
| LE-04 | View requisition list | All requisitions are shown with status |

#### 📕 Class Routine

| **Test Case ID** | **Description** | **Expected Result** |
| --- | --- | --- |
| CR-01 | Add class period slots | Periods are added to schedule |
| CR-02 | Create a full class routine | Routine generated and displayed |
| CR-03 | View teacher-specific routine | Teacher sees their assigned classes only |

## ****8. Risks and Mitigation****

| **Risk** | **Impact** | **Mitigation** |
| --- | --- | --- |
| Incomplete or ambiguous requirements | High | Regular review meetings with dev team |
| Delay in development handover | High | Follow-up via sprint stand-ups or meetings |
| Unavailability of test environment | Medium | Use backup local environment or simulate data |
| Misalignment in expected result logic | Medium | Confirm with academic rules or stakeholders early |
| Data loss during result processing | High | Regular backups before test |
| Role access misconfiguration | Medium | Verify role matrix with each test |

## ****9. Entry and Exit Criteria****

### Entry Criteria:

Development for the tested modules is completed.

Code has been committed and tested by developers.

Testing environment is up and running.

Test cases are reviewed and approved.

All pre-requisite data (exam types, leave types, etc.) is set.

### 🚪 Exit Criteria:

All high and critical test cases executed successfully.

No open critical/severity-1 bugs.

UAT feedback has been implemented.

Final test summary is shared and approved.

## ****10. Estimation Techniques****

Using expert judgment and task breakdown, the estimated effort for manual testing is **30–36 person-hours** based on 3 main modules and multiple features per module.

## ****11. Test Case Prioritization****

| **Priority** | **Test Areas** |
| --- | --- |
| **High** | Result Processing, Mark Input by Teachers, Leave Submission Workflow |
| **Medium** | Class Routine creation, Exam Template structure, Leave Type settings |
| **Low** | Marksheet format download, Archived exam list view, UI layout adjustments |

## ****Test Deliverables****

Approved Test Plan Document

Detailed Test Cases in Excel/TestRail

Test Data Samples

Manual Test Execution Results

Bug Report Logs

Defect Reports (via Excel or bug tracking tool)

Final Test Summary Report