

# Learning Management System (LMS)

## 1. Project Overview

**Institute Name:** Department of IT

### Objective:

Implement a web-based Learning Management System (LMS) for conducting quizzes and tests to:

- Eliminate manual checking of assessments
- Prevent cheating during tests
- Generate instant results
- Maintain secure and centralized student records
- Empower students: Access study materials, attempt tests online, track progress, and view past results.
- Reduce administrative burden: Allow admins to manage courses, classes, users, reports, and announcements from a single platform.

## 2. Login Page Requirements

### User Input Fields:

- **Username/Email Field** (Accepts username or email)
- **Password Field** Secure (password entry)

### Buttons:

**Login Button** (Authenticate user) otherwise **Error Messages:** Display: Invalid username/password. Try again.

### Redirects (Role-Based):

- After login, users are redirected based on role:
  - **Admin to Admin Dashboard**
  - **Instructor to Instructor Dashboard**
  - **Student to Student Dashboard**

## 3. System User Roles

Role	Permissions / Capabilities
Admin	Create/manage tests, view test results, manage users (Student, Instructor), manage courses and classes, upload MCQs (CSV/DOCX), monitor live student activity, export reports (Excel/PDF)

<b>Instructor</b>	Create questions (MCQs), manage question bank, schedule quizzes/exams, view result analysis
<b>Student</b>	Attempt assigned tests/quizzes, view results after submission

#### 4. Security Features

- **Browser Lock:** Auto-submit the test if the browser is minimized or the user switches tabs.
- **Disable Copy-Paste & Right-Click:** Prevent students from copying questions/answers or using right-click functionality.
- **One Tab Enforcement:** Ensure that only one active browser tab is allowed during the test.
- **Full Summary:** Provide a detailed report of the student's activity during the test (answers, time spent, any suspicious actions).
- **Short Summary:** Provide a concise report with overall test performance and Total Marks and Obtained Marks and Remarks

#### 5. Question paper Format & Configuration

- **Question Types:** MCQs (future support: blanks, true/false, descriptive)
- **Randomized Questions:** Each student gets questions in a different order
- **Timer:** Countdown timer per student
- **Auto-Marking:** Immediate result calculation after submission
- **Activation/Deactivation:** Admin/Instructor controls test availability

#### ADMIN PANEL

##### 1.1. Dashboard Overview:

- **Total Users:**
- **Active Tests:**
- **Total Questions:**
- **Completed Tests:**

##### 1.2. Admin Announcements:

##### 1.3. Recent Activity: Shows latest updates and actions performed by users

#### Functional Features / Navigation:

- **Manage Course:** Add, edit, and assign courses to classes
- **Manage Class:** Create and manage class sections and assign instructors
- **Manage User:** Add/edit/delete users (Admin, Instructor, Student), assign roles and permissions

- **Question Bank:** Upload, edit, and categorize questions (MCQs/Text/Image)
- **Reports:** View, analyze, and export test reports (Excel/PDF)
- **Announcements:** Post important messages for users
- **Page Settings:** Customize portal appearance and configurations
- **Sign out:** Logout from admin dashboard

#### **Data Presentation:**

- All data displayed in tabular format for clarity and ease of management
- Dashboard statistics provide real-time insights

### **INSTRUCTOR PANEL**

#### **Functional Features / Navigation:**

- **Add Questions:** Create MCQs (text/image-based), categorize by course/topic/difficulty
- **Question Bank:** View, edit, delete, search, and filter questions
- **Announcements:** Post material / Assignment / task for students:
  - **Upload**
  - **Task**
- **Submissions:** View student submissions, track completion
- **Result Analysis:** Analyze performance, scores, averages, and question-wise performance
- **Logout:** Securely exit the instructor panel

#### **Data Presentation:**

- Data displayed in tabular format for clarity
- Dashboard shows key statistics for quick insights

### **STUDENT PANEL**

#### **Dashboard Overview:**

- **Announcements**

#### **Functional Features / Navigation:**

- **Study Material:** Access course notes, uploaded resources, and reference material
- **Submissions:** Submit assignments or documents online and track status
- **Exams:** Attempt scheduled quizzes/tests with countdown timer and auto-save features
- **My Results:** View completed test results and performance summary / reports
- **Logout:** Securely exit the student portal

#### **Data Presentation:**

- Exam lists, submissions, and results displayed in tabular format
- Dashboard shows announcements and important notifications

### **Instructions**

- The system must support **dynamic addition of tests, courses, classes, and users** from Admin Panel.
- **All data centralized and secure**, with exportable reports generation for completed exams including marks, answers, and remarks in Excel/PDF.
- Objective and True/False/Blanks questions auto-marked with **instant results**. subjective questions assessed later by instructors; combined total displayed to students.
- **Test security features** implemented: browser lock, copy-paste disable, one-tab enforcement.
- The LMS is **future-deployable** on a live server for remote access by students and instructors. at the initial stage it will be **run locally on localhost** during development without failures.
- Built for **scalability**: additional question types, courses, or integrations can be added in the future.