# **System Requirement Sheet for Examination System Database**

## **Introduction**

This system manages exams, students, instructors, and courses in an academic environment to streamline exam creation, grading, and result management.

## **Functional Requirements**

* Provide a question pool with Multiple Choice, True/False, and Text questions, storing correct answers for MCQ/True/False and best accepted answers for Text questions.
* Allow instructors to create exams manually or randomly from the question pool, setting a degree for each question, with total degrees not exceeding the course's Max Degree.
* Store student answers and calculate results automatically for MCQ and True/False; use text functions and regular expressions to review Text answers, displaying valid/invalid answers for manual grading.
* Enable Training Manager to add/edit branches, tracks, intakes, and students with their personal data, intake, branch, and track.
* Allow instructors to select students for specific exams and define exam dates, start/end times.
* Store course information (name, description, Max/Min Degree), instructor assignments (one per course per year), and student results.

## **Technical Requirements**

* Use Indexes for performance optimization.
* Implement daily backup automatically.
* Use Constraints and Triggers to ensure data integrity.
* Use Stored Procedures, Functions, and Views to handle system tasks without requiring direct queries.
* Implement SQL users and permissions for Admin, Training Manager, Instructor, and Student roles.

## **User Roles**

* Admin: Manages system tasks (e.g., user accounts, backups).
* Training Manager: Adds/edits branches, tracks, intakes, and students with their data.
* Instructor: Creates exams, selects questions, assigns students, and reviews/grades answers.
* Student: Logs in to view and take exams within specified times.