**COMPUTER SCIENCE DEPARTMENT**

# Total Marks:

**Obtained Marks:**

LAB: Database System

**Project Proposal: University Management System**

**Submitted To: Mam Kashia Riaz**

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**Project Members**

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| --- | --- | --- |
| **S.NO** | **Student Name** | **Reg.no** |
| **01** | **Ubaid Bin Waris** | **2212416** |
| **02** | **Mushahid Hussain** | **2212408** |
| **03** | **Muhammad Salman** | **2212400** |
| **04** | **Jehanzeb Khalid** | **2212391** |

**Project Title: University Management System**

**Introduction**

The University Management System (UMS) is designed to streamline and centralize the administrative and academic functions of a university, providing an integrated solution to handle various operations. This database project offers an efficient and user-friendly platform that supports the needs of students, faculty, and university administrators. The system's functionalities encompass essential areas such as student information management, course enrollment, class scheduling, faculty management, and grading.

**Functionalities and Usage**

1. **Student Information Management**

The system manages comprehensive student profiles, including personal details, academic records, and enrollment history. The profile links to all student-related data, such as course enrollments, grades, and attendance. This allows students to view their academic progress and update personal information when necessary.

1. **Course and Enrollment Management**

UMS offers course creation and enrollment functionalities. Courses are defined with details such as course ID, name, credits, and department. Students can browse available courses, check prerequisites, and enroll directly through the system. The enrollment process is streamlined with automated checks to prevent over-enrollment or registration conflicts.

1. **Faculty Management**

The system includes a faculty module to handle faculty profiles, teaching schedules, and assigned courses. Faculty members can update course materials, post announcements, and manage class rosters. The UMS also records faculty qualifications, department assignments, and research contributions, making it easier for university management to oversee faculty workload and performance.

1. **Class Scheduling and Room Management**

The UMS includes a scheduling tool to manage the allocation of classrooms and times for lectures, labs, and exams. This feature prevents scheduling conflicts by tracking room availability and ensuring that class sizes fit within room capacities. The system also generates timetables for both students and faculty, which can be viewed online.

1. **Grading and Assessment**

Faculty can use the grading module to enter student grades, track assessments, and calculate final scores. The system allows faculty to set grading rubrics and input assignment scores, while students can view their grades and feedback in real-time. The grading system also supports GPA calculations and provides academic reports at the end of each semester.

1. **Fee and Financial Management**

UMS includes a financial module to handle student tuition fees, scholarship disbursements, and financial aid applications. Students can view their fee status, make payments, and track financial aid. Administrators can manage scholarships, record fee payments, and generate billing reports for finance audits.

1. **Library and Resource Management**

The library module tracks book inventories, lending histories, and resource availability. Students can search for books, reserve resources, and view loan statuses. The module also tracks overdue returns, calculates fines, and allows library staff to update inventory.

By encompassing these core functionalities, the University Management System ensures that all essential processes are managed effectively, leading to enhanced productivity, better communication, and an overall improved university experience for all stakeholders.