

VISVESVARAYA TECHNOLOGICAL UNIVERSITY,

BELAGAVI – 590 018



**MICROCONTROLLER AND EMBEDDED SYSTEMS
(21CS43)**

Submitted as subject assignment work

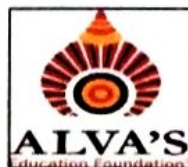
BY

MANJUNATH D C	4AL22CS406
MANJUNATH K	4AL22CS407
PRASAD K	4AL22CS408
S ROOPESH	4AL22CS409
SAMPATH G M	4AL22CS410
SANAGMESH S	4AL22CS411

Under the Guidance of

Mrs. Babitha Poojary

Assistant Professor



DEPARTMENT OF COMPUTER SCIENCE & ENGINEERING

ALVA'S INSTITUTE OF ENGINEERING AND TECHNOLOGY

MOODBIDRI-574225, KARNATAKA

2022– 2023

**ALVA'S INSTITUTE OF ENGINEERING AND TECHNOLOGY MIJAR,
MOODBIDRI D.K. -574225 KARNATAKA**



DEPARTMENT OF COMPUTER SCIENCE & ENGINEERING

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This is to certify that assignment work for the subject “**Micro Controller And Embedded Systems (21CS43)**” has been successfully completed and a report submitted by **Manjunath D C** bearing USN **4AL22CS406** during the academic year 2022–2023. It is certified that all corrections/suggestions indicated presentation session have been incorporated in the report and scored 09 Marks out of 10 and deposited in the departmental library.


Mrs. Babitha Poojary
Assistant Professor

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Mrs. Babitha Poojary
Assistant Professor

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MOODBIDRI D.K. -574225 KARNATAKA**



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Mrs. Babitha Poojary

Assistant Professor

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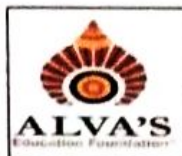
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Mrs. Babitha Poojary

Assistant Professor

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Mrs. Babitha Poojary

Assistant Professor

Introduction

In an era defined by technological innovation and efficiency-driven solutions, traditional methods of attendance tracking have given way to more advanced systems. The Radio Frequency Identification (RFID) Attendance System stands at the forefront of this transformation, revolutionizing how attendance is recorded, managed, and analyzed across various domains. This introduction provides a glimpse into the fundamental concepts and significance of the RFID Attendance System.

1.1 Evolution of Attendance Tracking

From manual paper-based registers to barcode scanners, the evolution of attendance tracking has been driven by the quest for accuracy, convenience, and automation. The limitations of manual processes, prone to errors and inefficiencies, have paved the way for technology-driven solutions that streamline administrative tasks and enhance data integrity. The RFID Attendance System represents a pivotal advancement in this journey, harnessing the power of radio frequency communication to redefine how attendance is captured and utilized.

1.2 Understanding RFID Technology

At its core, the RFID Attendance System operates on RFID technology, a wireless communication methodology that enables the identification and tracking of objects or individuals using radio waves. RFID systems consist of RFID tags, which are attached to objects or carried by individuals, and RFID readers that communicate with these tags. The technology enables seamless data exchange between the tags and readers, allowing for real-time identification and data capture.

1.3 The RFID Attendance System's Significance

The significance of the RFID Attendance System extends beyond mere automation. This system addresses the shortcomings of conventional methods and introduces a range of benefits that impact diverse sectors such as education, workplaces, and event management.

1.3.1 Accuracy and Data Integrity

Manual attendance tracking methods are susceptible to human errors, leading to inaccurate records. RFID technology eliminates this concern by providing a precise and reliable means of data capture. Each RFID tag carries a unique identifier, ensuring that the attendance of each individual is accurately recorded without the potential for duplication or manipulation.

1.3.2 Efficiency and Time Savings

Traditional attendance processes involve manual data entry, which consumes valuable time and human resources. The RFID Attendance System automates this process, instantly recording attendance as individuals pass through designated areas equipped with RFID readers. This automation not only reduces administrative workload but also minimizes disruptions to daily routines.