



**VASAVI COLLEGE OF ENGINEERING**  
**DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING**  
**CERTIFICATE**

This is to certify that the Major-Project Report on “**Minimization of Power Dissipation in VLSI circuits using Low Power Techniques**” is submitted by **Kupirala Sai Samyuktha** bearing hall ticket number **1602-21-744-002** in partial fulfilment of the requirements for the award of the degree of **Master of Engineering in Electronics and Communication Engineering** from Vasavi College of Engineering, Hyderabad for the academic year 2021-2023 is record of bonafide work carried out by them under our guidance and Supervision.

**Signature of Internal Guide**

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Associate prof, Dept. Of ECE

Vasavi College of Engineering,

Hyderabad

**Signature of M.E Co-ordinator**

**Dr. N.S.S. REDDY**

Project Co-ordinator

Vasavi College of Engineering,

Hyderabad

**Signature of HOD**

**Dr. E. SREENIVASA RAO**

Head of the Dept.

Vasavi College of Engineering,

Hyderabad

**Signature of the External Examiner**



**VASAVI COLLEGE OF ENGINEERING**

**DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING**

**CERTIFICATE**

This is to certify that the Major-project Report on **“Testing and Validation Of Serial Interface Protocols”** is submitted by **Eddula Sahithi** bearing hall ticket number **1602-21-744-004** in partial fulfillment of the requirements for the award of the degree of **Master of Engineering in Electronics and Communication Engineering** from Vasavi College of Engineering, Hyderabad for the academic year 2021-2023 is a record of meritorious work carried out by them under our guidance and supervision.

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Hyderabad

**Signature of the External examiner**

DEPARTMENT OF ELECTRONICS AND COMMUNICATION  
ENGINEERING (ES & VLSID)  
VASAVI COLLEGE OF ENGINEERING



CERTIFICATE

This is to certify that the project report entitled “DESIGN AND IMPLEMENTATION OF LOW-COST CONTROL SYSTEM FOR MULTI-STAGE LIGHTING AND CONTROL VALVES FOR MUSICAL FOUNTAIN” submitted by **VARAYURI SUSHMA** bearing hall ticket number **1602-21-744-003** in the partial fulfilment of the requirement for the award of the degree of Master of Engineering with EMBEDDED SYSTEMS AND VLSI DESIGN (ES&VLSID) as a specialization in Vasavi College of Engineering, Osmania University, Hyderabad is a record of bonafide work carried out by her during academic year 2022-23.

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**Dr. N SIVA SANKARA  
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**Dr. E. SRINIVASA RAO**

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Hyderabad

Signature of the External  
Examiner

# VASAVI COLLEGE OF ENGINEERING

(Affiliated to OU University, Hyderabad)

Ibrahim Bagh Rd, Ibrahim Bagh, Hyderabad, Telangana



## CERTIFICATE

This is to certify that the project report entitled “**CENTRALIZED MULTI DRONE BATTERY MANAGEMENT TRAY COMMUNICATION SYSTEM**” submitted by **Ms. MEDICHETTI DEVARSHINI (1602-21-744-101)**, a student in Department of Electronics and Communication Engineering in the partial fulfillment of the requirement for the award of the degree of Master of Engineering with Communication Engineering & Signal Processing (CESP) as a specialization in Vasavi College of Engineering, Osmania University, Hyderabad is a record of bonafide work carried by her during academic year 2022-23.

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**Dr. P. CHANDRA SHEKAR**  
Technical Advisor  
7S Technologies.,  
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Signature of Project Supervisor  
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**Dr. K. VEERA SWAMY**  
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Signature of the HOD

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# **Online Voting System Using Blockchain**

A dissertation submitted in partial fulfillment of the academic requirement for  
the award of the degree of

**BACHELOR OF ENGINEERING**

In

**ELECTRONICS AND COMMUNICATION ENGINEERING**

By

<b>GADEELA NIKHITHA</b>	<b>1602-19-735-304</b>
<b>YARLANKI HEMANTH</b>	<b>1602-19-735-013</b>
<b>KOPPULA SUSHRUTH</b>	<b>1602-19-735-055</b>

Under the guidance of  
**Mrs. S. Aruna Deepthi**  
Asst. Professor, E.C.E



**Department of Electronics and Communication Engineering**  
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**2019-2023**



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This is to certify that the project work titled “Online Voting System Using Blockchain” submitted by

<b>GADEELA NIKHITHA</b>	<b>1602-19-735-304</b>
<b>YARLANKI HEMANTH</b>	<b>1602-19-735-013</b>
<b>KOPPULA SUSHRUTH</b>	<b>1602-19-735-055</b>

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*S. A. Deepthi*  
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*E.S.R.*  
Head of the Department  
Dr . E.SREENIVASA RAO  
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# **Design of Compact Microstrip Magic Tee for Monopulse Tracking and Radar Application.**

A dissertation submitted in partial fulfilment of the academic requirement  
for the award of the degree of

**BACHELOR OF ENGINEERING**

**In**

**ELECTRONICS AND COMMUNICATION ENGINEERING**

**By**

**Juveria Nishath**

**1602-19-735-023**

**Madhavaneni Sannith**

**1602-19-735-040**

**Tiruvaipati Sripad**

**1602-19-735-052**

Under the guidance of  
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This is to certify that the project work titled “*Design of Compact Microstrip Magic Tee for Monopulse Tracking and Radar Application*” submitted by

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<b>Tiruvaipati Sripad</b>	<b>1602-19-735-052</b>

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Associate Professor


E.C.E Department

  
Head of the Department

**Dr. E. SREENIVASA RAO**

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# **Design and Implementation of MOSFET based DC Electronic Load using MSP430 microcontroller.**

A dissertation submitted in partial fulfillment of the academic requirement for the award  
of the degree of

**BACHELOR OF ENGINEERING**

**In**

**ELECTRONICS AND COMMUNICATION ENGINEERING**

**By**

<b>S. Sri Krishna Kirthi</b>	<b>1602-19-735-049</b>
<b>T. Pavan Kalyan</b>	<b>1602-19-735-024</b>
<b>M. Sai Sravanthi</b>	<b>1602-19-735-301</b>

Under the guidance of

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**May-2023**



**Department of Electronics and Communication Engineering Vasavi College  
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This is to certify that the project work titled “Design and Implementation of MOSFET based DC Electronic Load using MSP430.” submitted by

<b>S. Sri Krishna Kirthi</b>	<b>1602-19-735-049</b>
<b>T. Pavan Kalyan</b>	<b>1602-19-735-024</b>
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# **Analysis and Verification of Dual-Port RAM for High-Speed Applications**

A dissertation submitted in partial fulfillment of the academic requirement for  
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**BACHELOR OF ENGINEERING**

**In**

**ELECTRONICS AND COMMUNICATION ENGINEERING**

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**CERTIFICATE**

This is to certify that the project work titled “**Analysis and Verification of Dual-Port RAM for High-Speed Applications**” submitted by

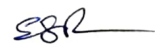
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External Examiner

  
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# **Nonlinear Dynamic System Identification Using Chebyshev Functional Link Spline Neural Filter**

A dissertation submitted in partial fulfillment of the academic requirement for  
the award of the degree of

**BACHELOR OF ENGINEERING**

**In**

**ELECTRONICS AND COMMUNICATION ENGINEERING**

**By**

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**M.A. Sai Shree**

**1602-19-735-002**

Under the guidance of

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This is to certify that the project work titled “**Nonlinear Dynamic System Identification Using Chebyshev Functional Link Spline Neural Filter**” submitted by

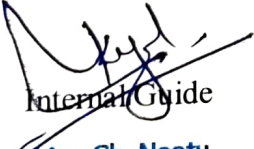
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# **Novel approach for Medical Image security using Image Encryption & Watermarking**

A dissertation submitted in partial fulfillment of the academic  
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**BACHELOR OF ENGINEERING**

**In**

**ELECTRONICS AND COMMUNICATION ENGINEERING**

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**2019-2023**



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This is to certify that the project work titled “**Novel approach for medical image security using image encryption & watermarking**” submitted by

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*S. A. Deepthi*  
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# **Implementation of 1-bit Hybrid Full Adder using 45nm CMOS Technology**

A dissertation submitted in partial fulfillment of the academic requirement for  
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**BACHELOR OF ENGINEERING**

**In**

**ELECTRONICS AND COMMUNICATION ENGINEERING**

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<b>V.K.H.Jaswanth</b>	<b>1602-19-735-011</b>
<b>P.E.Sai Ganesh Rao</b>	<b>1602-19-735-034</b>

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**2019-2023**



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This is to certify that the project work titled "Implementation of 1-bit Hybrid Full Adder using 45nm CMOS Technology" submitted by

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V.K.H.Jaswanth	1602-19-735-011
P.E.Sai Ganesh Rao	1602-19-735-034

students of Electronics and Communication Engineering Department, Vasavi College of Engineering in partial fulfillment of the requirement for the award of the degree of Bachelor of Engineering in Electronics and Communication Engineering is a record of the bonafide work carried out by them during the academic year 2022-2023. The result embodied in this project report has not been submitted to any other university or institute for the award of any degree



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External Examiner

# **ON CHANNEL ESTIMATION FOR OPTICAL OFDM**

A dissertation submitted in partial fulfillment of the academic requirement for  
the award of the degree of  
**BACHELOR OF ENGINEERING**

In  
**ELECTRONICS AND COMMUNICATION ENGINEERING**

By

<b>G. UDAYA BHANU</b>	<b>1602-19-735-009</b>
<b>CH. NAVEEN KUMAR</b>	<b>1602-19-735-022</b>
<b>KARRI VAMSI</b>	<b>1602-19-735-057</b>

Under the guidance of  
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**Department of Electronics and Communication Engineering**  
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**Department of Electronics and Communication Engineering**  
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This is to certify that the project work titled “**On Channel Estimation for Optical OFDM**” submitted by

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# **Nonlinear Dynamic System Identification Using Chebyshev Functional Link Spline Neural Filter**

A dissertation submitted in partial fulfillment of the academic requirement for  
the award of the degree of

**BACHELOR OF ENGINEERING**

**In**

**ELECTRONICS AND COMMUNICATION ENGINEERING**

**By**

**K. Manohar**

**1602-19-735-019**

**M.A. Sai Shree**

**1602-19-735-002**

Under the guidance of

**Mrs. Ch. Neetu**

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**Vasavi College of Engineering (Autonomous)**

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**IBRAHIMBAGH, HYDERABAD-500031**

**2019-2023**



**Department of Electronics and Communication Engineering**  
**Vasavi College of Engineering (Autonomous)**

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**CERTIFICATE**

This is to certify that the project work titled “**Nonlinear Dynamic System Identification Using Chebyshev Functional Link Spline Neural Filter**” submitted by

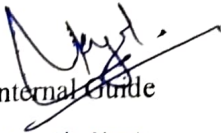
**K. Manohar**

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**1602-19-735-002**

students of Electronics and Communication Engineering Department, Vasavi College of Engineering in partial fulfillment of the requirement for the award of the degree of Bachelor of Engineering in Electronics and Communication Engineering is a record of the bonafide work carried out by them during the academic year 2022-2023. The result embodied in this project report has not been submitted to any other university or institute for the award of any degree

  
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Assistant Professor  
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Head of the Department  
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# **Adaptive Dynamic Bipartite Graph Matching: A Reinforcement Learning Approach**

A dissertation submitted in partial fulfilment of the academic requirement for  
the award of the degree of  
**BACHELOR OF ENGINEERING**  
In  
**ELECTRONICS AND COMMUNICATION ENGINEERING**

BY

<b>B. Akhila</b>	<b>1602-19-735-003</b>
<b>M. Haripriya</b>	<b>1602-19-735-012</b>
<b>N. Venkatesh</b>	<b>1602-19-735-059</b>

Under the guidance of

**Mrs.V.Aruna**

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This is to certify that the project work titled “**Adaptive Dynamic Bipartite Graph Matching: A Reinforcement Learning Approach**” submitted by

**B. Akhila** **1602-19-735-003**

**M. Haripriya** **1602-19-735-012**

**N. Venkatesh** **1602-19-735-059**

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External Examiner

Head of the Department  
**Dr. E.SREENIVASA RAO**  
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# **Design and Development of Graphical LCD Device Driver for Cortex-M4.**

A dissertation submitted in partial fulfilment of the academic requirement  
for the award of the degree of  
**BACHELOR OF ENGINEERING**

In

**ELECTRONICS AND COMMUNICATION ENGINEERING**

By

<b>N. Anagha</b>	<b>1602-19-735-004</b>
<b>B. Rupa Shree</b>	<b>1602-19-735-032</b>
<b>Prakshal Lohade</b>	<b>1602-19-735-025</b>

Under the guidance of

**Dr. N. Abid Ali Khan**

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**2019-2023**



**Department of Electronics and Communication Engineering**

**Vasavi College of Engineering (Autonomous)**

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**Date:**

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This is to certify that the project work titled “Design and Development of Graphical LCD Device Driver for Cortex-M4” submitted by

<b>N. Anagha</b>	<b>1602-19-735-004</b>
<b>B. Rupa Shree</b>	<b>1602-19-735-032</b>
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Internal Guide

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# **Heart Attack Risk Prediction using Machine Learning**

A dissertation submitted in partial fulfillment of the academic requirement  
for the award of the degree of

**BACHELOR OF ENGINEERING**

**In**

**ELECTRONICS AND COMMUNICATION ENGINEERING**

**By**

T. Sreeja 1602-19-735-048

Ch. Manoj Kumar 1602-19-735-020

S. Himaja 1602-19-735-014

Under the guidance of

**Dr.K.Deepthi**

**Assistant Professor, E.C.E**



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This is to certify that the project work titled “Heart Attack Risk Prediction using Machine Learning” submitted by

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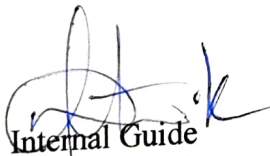
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# **IMPLEMENTATION OF AMERICAN SIGN LANGUAGE TO VOICE CONVERSION USING MACHINE LEARNING**

A dissertation submitted in partial fulfillment of the academic requirement for the  
award of the degree of  
**BACHELOR OF ENGINEERING**

**In**  
**ELECTRONICS AND COMMUNICATION ENGINEERING**

**By**

<b>Shaik Arif</b>	<b>1602-19-735-042</b>
<b>V Sumanasree</b>	<b>1602-19-735-054</b>
<b>M Vinay Kumar Reddy</b>	<b>1602-19-735-060</b>

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# **Semi-Blind Channel Estimation for Multiuser Massive MIMO Systems**

A dissertation submitted in partial fulfillment of the academic requirement  
for the award of the degree of  
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# **Design and Simulation of Multiplier and Accumulator Unit**

A dissertation submitted in partial fulfillment of the academic requirement for  
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**BACHELOR OF ENGINEERING**

**In**

**ELECTRONICS AND COMMUNICATION ENGINEERING**

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# **A High-Capacity Reversible Data Hiding Method in Encrypted Images Based on Block Shifting**

A dissertation submitted in partial fulfillment of the academic requirement for  
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**BACHELOR OF ENGINEERING**

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# **Implementation of Encoding and Decoding for binary BCH code with multiple error correction**

A dissertation submitted in partial fulfilment of the academic requirement for the award of the degree of

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# **Optimization of Hybrid Beamforming in Massive MIMO using Kalman's Test**

A dissertation submitted in partial fulfilment of the academic requirement for  
the award of the degree of

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# **Design of 2x2 Dual Polarized Circular Patch Antenna Array**

A dissertation submitted in partial fulfilment of the academic requirement for the  
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# **DESIGN AND ANALYSIS OF MIMO ANTENNA SYSTEM WITH ENHANCED ISOLATION TECHNIQUE**

A dissertation submitted in partial fulfillment of the academic requirement for  
the award of the degree of

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<b>N. MANASA</b>	<b>1602-19-735-303</b>
<b>G. MONEISH</b>	<b>1602-19-735-010</b>

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This is to certify that the project work titled “Design and Analysis of MIMO Antenna system with Enhanced Isolation Technique” submitted by

**B. SATHVIK RAO**

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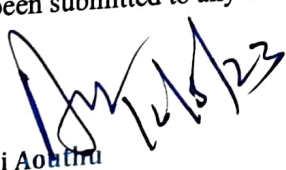
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# **SIMULATION, SYNTHESIS AND PERFORMANCE COMPARISON OF DIFFERENT ADDERS**

A dissertation submitted in partial fulfilment of the academic requirement for  
the award of the degree of  
**BACHELOR OF ENGINEERING**

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**By**

<b>Katakam Sai Charan</b>	<b>1602-19-735-033</b>
<b>Kannam Nikhil Kumar</b>	<b>1602-19-735-305</b>
<b>Sunchu Rohith Varma</b>	<b>1602-19-735-031</b>

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This is to certify that the project work titled “**SIMULATION, SYNTHESIS AND PERFORMANCE COMPARISON OF DIFFERENT ADDERS**” submitted by

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A PROJECT REPORT  
ON  
**COMPARISON OF DIFFERENT FULL ADDERS  
AND ITS APPLICATIONS**

A dissertation submitted in partial fulfillment of the academic  
requirement for the award of the degree of

**BACHELOR OF ENGINEERING**  
In  
**ELECTRONICS AND COMMUNICATION ENGINEERING**

By  
**CILVERI PRANEETH KUMAR** 1602-19-735-026  
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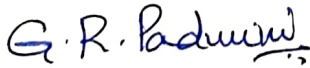
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<b>CILVERI PRANEETH KUMAR</b>	<b>1602-19-735-026</b>
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# **Diabetic Retinopathy Detection using Deep Learning Networks**

A dissertation submitted in partial fulfilment of the academic requirement  
for the award of the degree of

**BACHELOR OF ENGINEERING**

**In**

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This is to certify that the project work titled “**Lightweight Encryption Technique to Enhance Medical Image Security using Multiple Chaotic Maps**” submitted by

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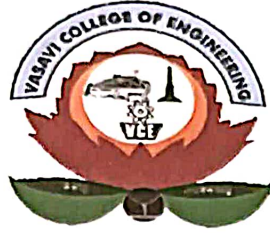
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This is to certify that the project work titled “**CPW Fed Dual Polarized H-Shaped Slot Microstrip Antenna for WLAN Applications**” submitted by


**JALAGAM ARAVIND**


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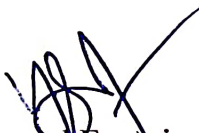
**GOSHAHAMAL  
UDAYKIRAN**

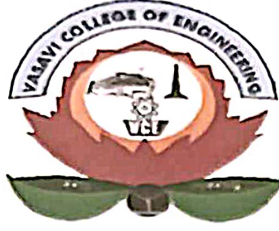
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IBRAHIMBAGH, HYDERABAD-500031**

**Date: 28-04-2023**

**CERTIFICATE**

This is to certify that the project work titled "Image Restoration using Compressive Sensing Techniques" submitted by

**Sri Vaishnavi kiran Nukala**

**1602-19-735-114**

**Shashi Teja Gali**

**1602-19-735-109**

students of Electronics and Communication Engineering Department, Vasavi College of Engineering in partial fulfillment of the requirement for the award of the degree of Bachelor of Engineering in Electronics and Communication Engineering is a record of the bonafide work carried out by them during the academic year 2022-2023. The result embodied in this project report has not been submitted to any other university or institute for the award of any degree

*S. A. Deepti*  
Internal Guide

**S.Aruna Deepti**  
Assistant Professor  
E.C.E Department

*ESR*  
Head of the Department

**Dr. E. SREENIVASA RAO**  
Professor and HOD  
E.C.E Department

*[Signature]*  
External Examiner

□



DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING  
VASAVI COLLEGE OF ENGINEERING  
(AUTONOMOUS)  
ACCREDITED BY NAAC WITH 'A++' GRADE  
IBRAHIMBAGH, HYDERABAD-031  
CERTIFICATE

This is to certify that it is a Bona-fide record of dissertation work entitled "Discrete Hartley Transform Based Orthogonal Frequency Division Multiplexing(OFDM) System." by


**T.MANISH RAO**

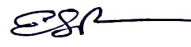
**1602-19-735-085**

**A.SATHWIKA**

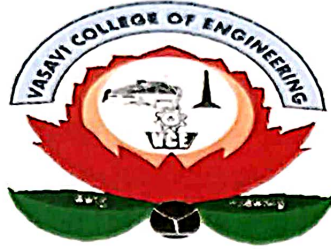
**1602-19-735-105**

students of Electronics and Communication Engineering Department, Vasavi College of Engineering in partial fulfillment for the award of the degree of **BACHELOR OF ENGINEERING (Electronics and Communication Engineering)** in Vasavi College of Engineering, Autonomous, Hyderabad, is a Bona-fide record of work carried by them under my guidance and supervision. The results embodied in this report have not been submitted to any other University or Institute for the award of any degree or diploma.

  
**Internal Guide:**  
**Dr.Ch. Vijaya Durga**  
Assistant Professor  
E.C.E Department

  
**Head of Department:**  
**Dr. E.Srinivasa Rao**  
Professor and HOD  
PROF. & HEAD  
DEPARTMENT OF E.C.E,  
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HYDERABAD-500 081;

  
External Examiner



**Department of Electronics and  
Communication Engineering  
Vasavi College of Engineering (Autonomous)**

*ACCREDITED BY NAAC WITH 'A++' GRADE*  
**IBRAHIMBAGH, HYDERABAD-500031**

**Date:**

**CERTIFICATE**


This is to certify that the project work titled “Wide Band Circularly Polarized Slotted Microstrip Antenna For Wireless Applications” submitted by


**Chilkuri Aditya** 1602-19-735-064


**Kanuri Krishna Vyas** 1602-19-735-080

**Devavat Shiva Hemanth Naik** 1602-19-735-110

students of Electronics and Communication Engineering Department, Vasavi College of Engineering in partial fulfillment of the requirement for the award of the degree of Bachelor of Engineering in Electronics and Communication Engineering is a record of the bonafide work carried out by them during the academic year 2022-2023. The result embodied in this project report has not been submitted to any other university or institute for the award of any degree.

  
**Internal Guide**  
**Dr. D.M.K. Chaitanya**  
Associate Professor  
E.C.E Department

  
**Head of the Department**  
**Dr . E. SREENIVASA RAO**  
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**External Examiner**



**Department of Electronics and Communication Engineering  
Vasavi College of Engineering (Autonomous)**

**ACCREDITED BY NAAC WITH 'A++' GRADE  
IBRAHIMBAGH, HYDERABAD-500031**

**Date:**

**CERTIFICATE**

This is to certify that the project work titled “Functional Link Expansion For Non-linear Modeling Of Audio and Speech Signals” submitted by

**Krishna Sriya Emani**

**1602-19-735-079**

**R. Satya Sai Teja**

**1602-19-735-106**

**P. Mahalaxmee**

**1602-19-735-083**

students of Electronics and Communication Engineering Department, Vasavi College of Engineering in partial fulfillment of the requirement for the award of the degree of Bachelor of Engineering in Electronics and Communication Engineering is a record of the bonafide work carried out by them during the academic year 2021-2022. The result embodied in this project report has not been submitted to any other university or institute for the award of any degree



Internal Guide

Neetu Chikyal

Assistant Professor

E.C.E



Head of the Department

**Dr .E.SREENIVASARAO**

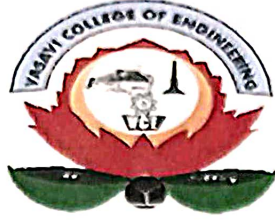
Professor and HOD

E.C.E Department  
PROF. & HEAD

**DEPARTMENT OF E.C.E.  
VASAVI COLLEGE OF ENGG.  
HYDERABAD-500 031.**



External Examiner



**Department of Electronics and Communication Engineering Vasavi  
College of Engineering (Autonomous)**

*ACCREDITED BY NAAC WITH 'A++' GRADE*  
**IBRAHIMBAGH, HYDERABAD-500031**

**Date:**

**CERTIFICATE**


This is to certify that the project work titled “**Smart cycle back camera and collision detection**” submitted by


**Meruva Manoj** 1602-19-735-084

**Manda Nithin** 1602-19-735-094

**Jajala Abhinav Reddy** 1602-19-735-062

students of Electronics and Communication Engineering Department, Vasavi College of Engineering in partial fulfillment of the requirement for the award of the degree of Bachelor of Engineering in Electronics and Communication Engineering is a record of the bonafide work carried out by them during the academic year 2022-2023. The result embodied in this project report has not been submitted to any other university or institute for the award of any degree

  
**Internal Guide**  
**Dr. Arun Kumar**  
**Professor**  
**E.C.E Department**

  
**Head of the Department**  
**Dr. E. Sreenivasa Rao**  
**Professor and HOD**  
**E.C.E Department**

  
**External Examiner**



**Department of Electronics and Communication Engineering**  
**Vasavi College of Engineering (Autonomous)**

*ACCREDITED BY NAAC WITH 'A++' GRADE*  
IBRAHIMBAGH, HYDERABAD-500031

Date:

**CERTIFICATE**

This is to certify that the project work titled “**ECG Based Biometric Authentication Technique**” submitted by

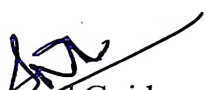
**Laxma Reddy**

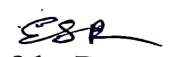
**1602-19-735-082**

**Avinash Chakka**

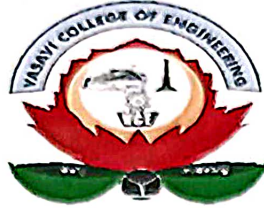
**1602-19-735-072**

students of Electronics and Communication Engineering Department, Vasavi College of Engineering in partial fulfillment of the requirement for the award of the degree of Bachelor of Engineering in Electronics and Communication Engineering is a record of the bonafide work carried out by them during the academic year 2022-2023. The result embodied in this project report has not been submitted to any other university or institute for the award of any degree

  
Internal Guide  
**Mr. S Naveen Kumar**  
Assistant Professor  
E.C.E Department

  
Head of the Department  
**Dr. E. SREENIVASA RAO**  
Professor and HOD  
E.C.E Department

  
External Examiner  
2



**Department of Electronics and Communication Engineering  
Vasavi College of Engineering (Autonomous)**

*ACCREDITED BY NAAC WITH 'A++' GRADE*  
**IBRAHIMBAGH, HYDERABAD-500031**

**Date: 11-05-2023**

**CERTIFICATE**

This is to certify that the project work titled “Verilog Implementation of Cryptography Using ECC Algorithm” submitted by

**P Lakshmi Narayana**

**1602-19-735-081**

**Seelam Mounika**

**1602-19-735-091**

**Vazir Sreeja**

**1602-19-735-113**

students of Electronics and Communication Engineering Department, Vasavi College of Engineering in partial fulfillment of the requirement for the award of the degree of Bachelor of Engineering in Electronics and Communication Engineering is a record of the bonafide work carried out by them during the academic year 2022-2023. The result embodied in this project report has not been submitted to any other university or institute for the award of any degree

Internal Guide

**K. Srikanth**

Assistant Professor

E.C.E Department

  
Head of the Department

**Dr. E. SREENIVASA RAO**

Professor and HOD

E.C.E Department

  
External Examiner



**Department of Electronics and Communication Engineering  
Vasavi College of Engineering (Autonomous)**

*ACCREDITED BY NAAC WITH 'A++' GRADE*  
**IBRAHIMBAGH, HYDERABAD-500031**

**Date:**

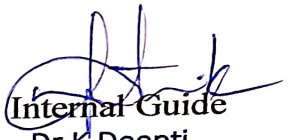
**CERTIFICATE**

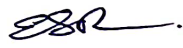
This is to certify that the project work titled “**Design and Implementation of Advanced eXtensible Interface Memory Map Based Dual Port Random Access**

**Memory using Verilog HDL.”** submitted by

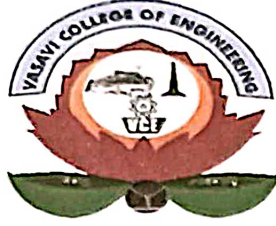
<b>Saikiran Rachakonda</b>	<b>1602-19-735-100</b>
<b>Sankeertan Oddaman</b>	<b>1602-19-735-103</b>
<b>Swathi Kasoju</b>	<b>1602-19-735-308</b>

student of Electronics and Communication Engineering Department, Vasavi College of Engineering in partial fulfillment of the requirement for the award of the degree of Bachelor of Engineering in Electronics and Communication Engineering is a record of the bonafide work carried out by them during the academic year 2022-2023. The result embodied in this project report has not been submitted to any other university or institute for the award of any degree

  
**Internal Guide**  
**Dr.K.Deepti**  
**Assistant Professor**  
**E.C.E Department**

  
**Head of the Department**  
**Dr . E.SREENIVASA RAO**  
**Professor and HOD**  
**E.C.E Department**

  
**External Examiner**



**Department of Electronics and Communication Engineering  
Vasavi College of Engineering (Autonomous)**

*ACCREDITED BY NAAC WITH 'A++' GRADE*

**IBRAHIMBAGH, HYDERABAD-500031**

**Date:**

**CERTIFICATE**

This is to certify that the project work titled "Face Gender Recognition Based on Face Recognition Feature Vectors" submitted by

**Srividya Battula**

**1602-19-735-116**

**Mohammad Ammer Sohail**


**1602-19-735-089**

**Chinnam Geethika**


**1602-19-735-075**

students of Electronics and Communication Engineering Department, Vasavi College of Engineering in partial fulfilment of the requirement for the award of the degree of Bachelor of Engineering in Electronics and Communication Engineering is a record of the bonafide work carried out by them during the academic year 2022-2023. The result embodied in this project report has not been submitted to any other university or institute for the award of any degree.

Internal Guide

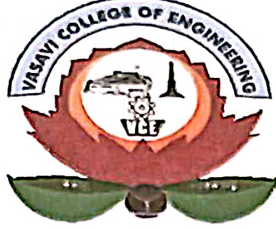
  
S. Naveen Kumar  
Assistant  
Professor

E.C.E Department

  
Head of the Department  
Dr. E. SREENIVASA  
RAO

Professor and HOD  
E.C.E Department

  
External Examiner



**Department of Electronics and Communication Engineering  
Vasavi College of Engineering (Autonomous)**

**ACCREDITED BY NAAC WITH 'A++' GRADE**

**IBRAHIMBAGH, HYDERABAD-500031**

**Date:**

**CERTIFICATE**

This is to certify that the project work titled “**AUGMENTED REALITY FOR REALTIME SPEECH RECOGNITION**” submitted by

**Nomula Aarthi Sai**

**1602-19-735-061**

**Gundeti Adi Dev**

**1602-19-735-063**

**Anugu Akash Reddy**

**1602-19-735-066**

students of Electronics and Communication Engineering Department, Vasavi College of Engineering in partial fulfillment of the requirement for the award of the degree of Bachelor of Engineering in Electronics and Communication Engineering is a record of the bonafide work carried out by them during the academic year 2022-2023. The result embodied in this project report has not been submitted to any other university or institute for the award of any degree

Internal Guide

**Ch.Neetu**

Associate Professor

E.C.E Department

Head of the Department

**Dr . E.SREENIVASA RAO**

Profssor and HOD

E.C.E Department

External Examiner



**Department of Electronics and Communication Engineering**  
**Vasavi College of Engineering (Autonomous)**

*ACCREDITED BY NAAC WITH 'A++' GRADE*  
**IBRAHIMBAGH, HYDERABAD-500031**

**Date: 28-04-2023**

**CERTIFICATE**

This is to certify that the project work titled "Channel Estimation for RIS Assisted Wireless Communication using Double-Structured Sparsity" submitted by

**Ahmed Salahuddin Suhaib** 1602-19-735-065

**Shaik Ismail** 1602-19-735-310

**Peddi Amokh** 1602-19-735-068

students of Electronics and Communication Engineering Department, Vasavi College of Engineering in partial fulfillment of the requirement for the award of the degree of Bachelor of Engineering in Electronics and Communication Engineering is a record of the bonafide work carried out by them during the academic year 2022-2023. The result embodied in this project report has not been submitted to any other university or institute for the award of any degree.

Internal Guide

M. Ramanjaneyulu

Assistant Professor

E.C.E Department

Head of the Department

Dr. E. SREENIVASA RAO

Professor and HOD

E.C.E Department

External Examiner



**Department of Electronics and Communication Engineering**  
**Vasavi College of Engineering (Autonomous)**

ACCREDITED BY NAAC WITH 'A++' GRADE  
IBRAHIMBAGH, HYDERABAD-500031

Date: 28-04-2023

**CERTIFICATE**

This is to certify that the project work titled "Time Lapse Photography Using Raspberry PI 3 Applied for Crop Disease Detection" submitted by

Mohammad Abdul Azeez 1602-19-735-088

Mohammad Shoeb Aqtar 1602-19-735-090

P.Nishank 1602-19-735-093

students of Electronics and Communication Engineering Department, Vasavi College of Engineering in partial fulfillment of the requirement for the award of the degree of Bachelor of Engineering in Electronics and Communication Engineering is a record of the bonafide work carried out by them during the academic year 2022-2023. The result embodied in this project report has not been submitted to any other university or institute for the award of any degree

Internal Guide

Dr. Arun Kumar

Assistant Professor

E.C.E Department

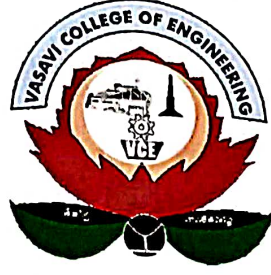
Head of the Department

Dr. E. SREENIVASA RAO

Professor and HOD

E.C.E Department

External Examiner



**Department of Electronics and Communication Engineering**

**Vasavi College of Engineering (Autonomous)**

*ACCREDITED BY NAAC WITH 'A++' GRADE*

**IBRAHIMBAGH, HYDERABAD-500031**

**Date: 28-04-2023**

**CERTIFICATE**

This is to certify that the project work titled "Face Gender Recognition Based on Face Recognition Feature Vectors" submitted by

<b>Ramasani Sowmith</b>	<b>1602-19-735-112</b>
<b>Nakod Venkatesh</b>	<b>1602-19-735-119</b>
<b>Chappidi Vyshnavi</b>	<b>1602-19-735-120</b>

students of Electronics and Communication Engineering Department, Vasavi College of Engineering in partial fulfillment of the requirement for the award of the degree of Bachelor of Engineering in Electronics and Communication Engineering is a record of the bonafide work carried out by them during the academic year 2022-2023. The result embodied in this project report has not been submitted to any other university or institute for the award of any degree

Internal Guide

**B. Uma Mahesh Babu**

Assistant Professor

E.C.E Department

Head of the Department

**Dr. E. SREENIVAS RAO**

Professor and HOD

E.C.E Department

External Examiner



**Department of Electronics and Communication Engineering**

**Vasavi College of Engineering (Autonomous)**

*ACCREDITED BY NAAC WITH 'A++' GRADE.*

**IBRAHIMBAGH, HYDERABAD**

Date: 11-May-2023

**CERTIFICATE**

This is to certify that the project work titled “**Design of a Dual-band MIMO Antenna for 5G Smartphone Applications**” submitted by

Rolla Hyndavi                      1602-19-735-077

P.Sahithya Devi                      1602-19-735-099

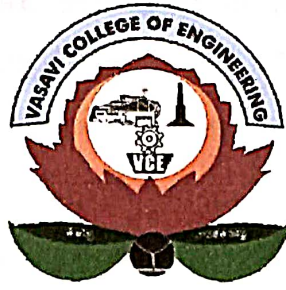
Praja Samatha Jade                      1602-19-735-095

students of Electronics and Communication Engineering Department, Vasavi College of Engineering in partial fulfillment of the requirement for the award of the degree of Bachelor of Engineering in Electronics and Communication Engineering is a record of the bonafide work carried out by them during the academic year 2022-2023. The result embodied in this project report has not been submitted to any other university or institute for the award of any degree

Internal Guide  
**Dr. D.M.K. Chaitanya**  
Associate Professor  
E.C.E Department

Head of the Department  
**Dr. E. SREENIVASARAO**  
Professor and HOD  
E.C.E Department

External Examiner



**Department of Electronics and Communication Engineering  
Vasavi College of Engineering (Autonomous)**

**ACCREDITED BY NAAC WITH 'A++' GRADE  
IBRAHIMBAGH, HYDERABAD-500031**

Date:

**CERTIFICATE**

This is to certify that the project work titled “**Human Action Recognition using Image Processing and Deep Learning**” submitted by

**L. Shravan Kumar**

**1602-19-735-111**

**M. Brunda**

**1602-19-735-307**

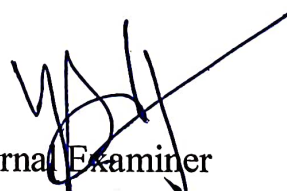
**B. Sushanth**

**1602-19-735-117**

students of Electronics and Communication Engineering Department, Vasavi College of Engineering in partial fulfillment of the requirement for the award of the degree of Bachelor of Engineering in Electronics and Communication Engineering is a record of the bonafide work carried out by them during the academic year 2022-2023. The result embodied in this project report has not been submitted to any other university or institute for the award of any degree.

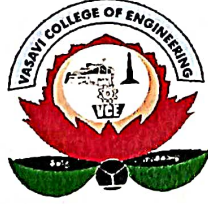
  
**Ms. R. Leelavathi**

Internal Guide  
Assistant Professor  
E.C.E Department

  
External Examiner

  
**Dr. E. SREENIVASA RAO**

Head of the Department  
Professor and Head  
E.C.E Department



**Department of Electronics and Communication  
Engineering**

**Vasavi College of Engineering (Autonomous)**

*ACCREDITED BY NAAC WITH 'A++' GRADE.*  
**IBRAHIMBAGH, HYDERABAD-500031**

**Date:**

**CERTIFICATE**


This is to certify that the project work titled "The Design of Parameter Test System for Lithium Battery based on STM32" submitted by


Cheepu Rishitha 1602-19-735-098


Merugu Amarnath 1602-19-735-067

Mihir Deshpande 1602-19-735-087

students of Electronics and Communication Engineering Department, Vasavi College of Engineering in partial fulfillment of the requirement for the award of the degree of Bachelor of Engineering in Electronics and Communication Engineering is a record of the bonafide work carried out by them during the academic year 2022-2023. The result embodied in this project report has not been submitted to any other university or institute for the award of any degree

  
Internal Guide 12.05.23  
Dr. N. Abid Ali Khan  
Assistant Professor  
E.C.E Department

  
Head of the Department  
Dr. E. SREENIVASA RAO  
Professor and HOD  
E.C.E Department

  
External Examiner



**Department of Electronics and Communication Engineering**  
**Vasavi College of Engineering (Autonomous)**

*ACCREDITED BY NAAC WITH 'A++' GRADE*  
IBRAHIMBAGH, HYDERABAD-500031

Date:

**CERTIFICATE**

This is to certify that the project work titled “ **Intelligent Traffic Light Control System** ” submitted by students of Electronics and Communication Engineering Department, Vasavi College of Engineering in partial fulfillment of the requirement for the award of the degree of Bachelor of Engineering in Electronics and Communication Engineering is a record of the bonafide work carried out by them during the academic year 2022-2023. The result embodied in this project report has not been submitted to any other university or institute for the award of any degree.

Navya Sree Katasani

Durgaprasad Tula

Manisha Kethavath

Internal Guide

Mrs. S. Jhansi Nagalakshmi

Asst Professor

E.C.E Department

1602-19-735-092

1602-19-735-073

1602-19-735-311

Head of the Department  
Dr . E.SREENIVASA RAO  
Professor and HOD  
E.C.E Department

External Examiner

**Department of Electronics and Communication Engineering**

**Vasavi College of Engineering (Autonomous)**

*ACCREDITED BY NAAC WITH 'A++' GRADE*

**IBRAHIMBAGH, HYDERABAD-500031**

**Date: -04-2023**

**CERTIFICATE**

This is to certify that the project work titled "Improved Sum-Min Decoding of LDPC Codes" submitted by

**Grace Redapangu**

**1602-19-735-076**

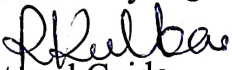
**Shainy Balda**

**1602-19-735-107**


**Abhiram Guda**

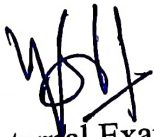
**1602-19-735-312**

Students of Electronics and Communication Engineering Department, Vasavi College of Engineering in partial fulfilment of the requirement for the award of the degree of Bachelor of Engineering in Electronics and Communication Engineering is a record of the bonafide work carried out by them during the academic year 2022-2023. The result embodied in this project report has not been submitted to any other university or institute for the award of any degree

  
Internal Guide

Vibha D.Kulkarni  
Assistant Professor  
E.C.E Department

  
Head of the Department  
Dr. E. SREENIVASA RAO  
Professor and HOD  
E.C.E Department

  
External Examiner

Department of Electronics and Communication Engineering

**Vasavi College of Engineering (Autonomous)**

*ACCREDITED BY NAAC WITH 'A++' GRADE*

**IBRAHIMBAGH, HYDERABAD-500031**

**Date:**

**CERTIFICATE**

This is to certify that the project work titled “**Design and Implementation of OFDM Using USRP2.0**” submitted by

**Allampally Eshwar**

**1602-19-735-074**

**Mettari Jashwanth**

**1602-19-735-078**

**Gowrishetty Sathwik**

**1602-19-735-104**

students of Electronics and Communication Engineering Department, Vasavi College of Engineering in partial fulfillment of the requirement for the award of the degree of Bachelor of Engineering in Electronics and Communication Engineering is a record of the bonafide work carried out by them during the academic year 2022-2023. The result embodied in this project report has not been submitted to any other university or institute for the award of any degree



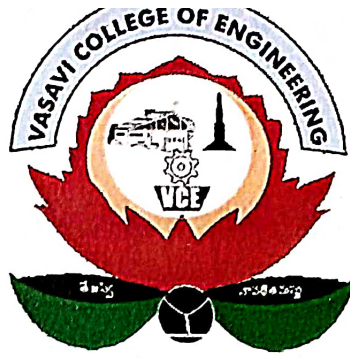
Internal Guide  
**Mr. M Ramanjaneyulu**  
Assistant Professor  
E.C.E Department



Head of the Department  
**Dr. E. SREENIVASA RAO**  
Professor and HOD  
E.C.E Department



External Examiner



## Department of Electronics and Communication Engineering

### Vasavi College of Engineering (Autonomous)

ACCREDITED BY NAAC WITH 'A++' GRADE

IBRAHIMBAGH, HYDERABAD-500031

Date:

### CERTIFICATE

This is to certify that the project work titled “Obstacle Detection and Recognition Using Raspberry Pi for Visually Challenged People” submitted by

**B SAI PRABHAT** 1602-19-735-101

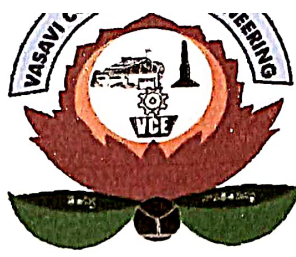
**S. SRIKAR** 1602-19-735-115

student of Electronics and Communication Engineering Department, Vasavi College of Engineering in partial fulfillment of the requirement for the award of the degree of Bachelor of Engineering in Electronics and Communication Engineering is a record of the bonafide work carried out by him during the academic year 2022-2023. The result embodied in this project report has not been submitted to any other university or institute for the award of any degree.

Head of the Department  
**Dr. E. SREENIVASA RAO**  
Professor and HOD  
E.C.E Department

Internal Guide  
**Dr. Arun Kumar**  
Professor  
E.C.E Department

External Examiner



**Department of Electronics and Communication Engineering**  
**Vasavi College of Engineering (Autonomous)**

**ACCREDITED BY NAAC WITH 'A++' GRADE**  
**IBRAHIMBAGH, HYDERABAD-500031**

Date: 13-05-2023

**CERTIFICATE**

This is to certify that the project work titled “**Integrated System for Automated Root File System Generation**” submitted by

**M. Rajesh**

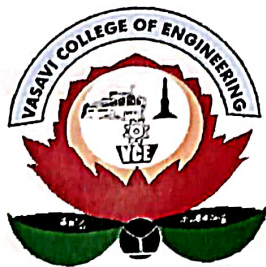
**1602-19-735-097**

Student of Electronics and Communication Engineering Department, Vasavi College of Engineering in partial fulfillment of the requirement for the award of the degree of Bachelor of Engineering in Electronics and Communication Engineering is a record of the bonafide work carried out by them during the academic year 2022-2023. The result embodied in this project report has not been submitted to any other university or institute for the award of any degree

Internal Guide  
**Dr. D.M.K. Chaitanya**  
Associate Professor  
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Head of the Department  
**Dr. E.SREENIVASA RAO**  
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E.C.E Department

External Examiner



**Department of Electronics and Communication Engineering**

**Vasavi College of Engineering (Autonomous)**

*ACCREDITED BY NAAC WITH 'A++' GRADE*

**IBRAHIMBAGH, HYDERABAD-500031**

**Date: 28-04-2023**

**CERTIFICATE**

This is to certify that the project work titled “Failure Analyser Using Stress Tool” submitted by

**Kumarankandath Athul Das**

**1602-19-735-071**

students of Electronics and Communication Engineering Department, Vasavi College of Engineering in partial fulfillment of the requirement for the award of the degree of Bachelor of Engineering in Electronics and Communication Engineering is a record of the bonafide work carried out by them during the academic year 2022-2023. The result embodied in this project report has not been submitted to any other university or institute for the award of any degree

Internal Guide

V. Krishna Mohan  
Assistant Professor  
E.C.E Department

Head of the Department

**Dr. E. SREENIVASA RAO**  
Professor and HOD  
E.C.E Department


External Examiner


DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING  
VASAVI COLLEGE OF ENGINEERING(AUTONOMOUS)  
ACCREDITED BY NAAC WITH 'A++' GRADE  
IBRAHIMBAGH, HYDERABAD-031



**CERTIFICATE**

This is to certify that it is a Bonafide record of dissertation work entitled “Digital Interface Validation” by V. KRISHNAVENI (Hall ticket Number 1602-19-735-309), in partial fulfillment for the award of the degree of BACHELOR OF ENGINEERING (Electronics and Communication Engineering) in Vasavi College of Engineering, Autonomous, Hyderabad, is a Bonafide record of work carried by them under my guidance and supervision. The results embodied in this report have not been submitted to any other University or Institute for the award of any degree.

Guide:   
Dr. Ch. Vijaya Durga  
Assistant Prof., Dept of ECE,  
Vasavi College of Engineering,  
Hyderabad.

  
Head of Department: Dr.  
E. Srinivasa Rao  
Prof., Head of Dept of ECE  
Vasavi College of Engineering,  
Hyderabad.

  
External Examiner



**Department of Electronics and Communication Engineering**

**Vasavi College of Engineering (Autonomous)**

*ACCREDITED BY NAAC WITH 'A++' GRADE.*

**IBRAHIMBAGH, HYDERABAD-500031**

**Date:**

**CERTIFICATE**

This is to certify that the project work titled “**Implementation of Chord Protocol Using Consistent Hashing**” submitted by

**P. V. L. Sravya Deepika** 1602-19-735-173

**P. Rahul** 1602-19-735-150

**B. Sushanth** 1602-19-735-168

students of Electronics and Communication Engineering Department, Vasavi College of Engineering in partial fulfillment of the requirement for the award of the degree of Bachelor of Engineering in Electronics and Communication Engineering is a record of the bonafide work carried out by them during the academic year 2022-2023. The result embodied in this project report has not been submitted to any other university or institute for the award of any degree.

Internal Guide  
**Mrs. S. Aruna Deepthi**  
Assistant Professor  
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## Department of Electronics and Communication Engineering

### Vasavi College of Engineering (Autonomous)

ACCREDITED BY NAAC WITH 'A++' GRADE

IBRAHIMBAGH, HYDERABAD-500031

#### CERTIFICATE

This is to certify that the project work titled “**Design and Analysis of 6T-SRAM bitcell in CMOS and FinFET technology**” submitted by

**Konda Sai Madhav**

**1602-19-735-156**

student of Electronics and Communication Engineering Department, Vasavi College of Engineering in partial fulfillment of the requirement for the award of the degree of Bachelor of Engineering in Electronics and Communication Engineering is a record of the bonafide work carried out by them during the academic year 2022-2023. The result embodied in this project report has not been submitted to any other university or institute for the award of any degree

*T. Kranthi Kumar*  
External Guide

Mr. Kranthi Kumar T

Sr II R&D Engg.  
Synopsis, HYD

*(Signature)*  
External Examiner: -

*K. Veera Swamy*  
Internal Guide

Dr. K. VEERA SWAMY

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*K. E. Sreenivasa Rao*  
Head of the Department

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**Department of Electronics and Communication Engineering**  
**Vasavi College of Engineering (Autonomous)**

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**IBRAHIMBAGH, HYDERABAD-500031**

**Date:**

**CERTIFICATE**

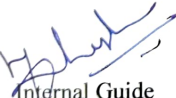
This is to certify that the project work titled “**Classification of Plant Seedlings using Convolutional Neural Networks**” submitted by

**Shaik Nafisa Kowsar** **1602-19-735-161**

**N. Sri Vimala Vaishnavi** **1602-19-735-165**

**N. Vijay** **1602-19-735-175**


students of Electronics and Communication Engineering Department, Vasavi College of Engineering in partial fulfillment of the requirement for the award of the degree of Bachelor of Engineering in Electronics and Communication Engineering is a record of the Bonafede work carried out by them during the academic year 2022-2023. The result embodied in this project report has not been submitted to any other university or institute for the award of any degree.

  
Internal Guide  
**MR. B. UMA MAHESH  
BABU**

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E.C.E Department

  
Head of the Department  
**Dr. E. SREENIVASA RAO**

Professor and HOD  
E.C.E Department

  
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**Department of Electronics and Communication Engineering**  
**Vasavi College of Engineering (Autonomous)**

*ACCREDITED BY NAAC WITH 'A++' GRADE*  
**IBRAHIMBAGH, HYDERABAD-500031**

Date:

**CERTIFICATE**


This is to certify that the project work titled “**Performance analysis and low power design of voltage level up shifters**” submitted by


**P. Abhigna** 1602-19-735-121


**G. Suresh Nitin** 1602-19-735-167

**V. Pavan Chary** 1602-19-735-147

students of Electronics and Communication Engineering Department, Vasavi College of Engineering in partial fulfillment of the requirement for the award of the degree of Bachelor of Engineering in Electronics and Communication Engineering is a record of the bonafide work carried out by them during the academic year 2022-2023. The result embodied in this project report has not been submitted to any other university or institute for the award of any degree

  
Internal Guide  
**Mr. H. Shravan Kumar**  
Assistant Professor  
E.C.E Department

  
Head of the Department  
**Dr. E. SREENIVASA RAO**  
Professor and HOD  
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External Examiner





**Department of Electronics and Communication Engineering**  
**Vasavi College of Engineering (Autonomous)**

*ACCREDITED BY NAAC WITH 'A++' GRADE*  
**IBRAHIMBAGH, HYDERABAD-500031**

**Date:**

**CERTIFICATE**


This is to certify that the project work titled “**CMOS inverter and ring oscillator circuit performance using double gate strained Si MOSFET**” submitted by


**Perala Dharmateja** **1602-19-735-314**


**B Naga Sai Yashwanth** **1602-19-735-142**

**Mohammed Feroz** **1602-19-735-141**

students of Electronics and Communication Engineering Department, Vasavi College of Engineering in partial fulfillment of the requirement for the award of the degree of Bachelor of Engineering in Electronics and Communication Engineering is a record of the bonafide work carried out by them during the academic year 2022-2023. The result embodied in this project report has not been submitted to any other university or institute for the award of any degree

  
Internal Guide  
**K RAMA KRISHNA REDDY**  
Assistant Professor  
E.C.E Department

  
Head of the Department  
**Dr. E. SREENIVASA RAO**  
Professor and HOD  
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**Department of Electronics and Communication Engineering**

**Vasavi College of Engineering (Autonomous)**

***ACCREDITED BY NAAC WITH 'A++' GRADE***

**IBRAHIMBAGH, HYDERABAD-  
500031**

**Date:**

**CERTIFICATE**

This is to certify that the project work titled “**Kidney Disease Detection and Classification Using CNN Models**” submitted by

**Rishi Kumar Bethi** 1602-19-735-151

**Vijay Gowtham Ranga** 1602-19-735-174

**Prani Sahith Kummari** 1602-19-735-149

students of Electronics and Communication Engineering Department, Vasavi College of Engineering in partial fulfillment of the requirement for the award of the degree of Bachelor of Engineering in Electronics and Communication Engineering is a record of the bonafide work carried out by them during the academic year 2022-2023. The result embodied in this project report has not been submitted to any other university or institute for the award of any degree

Internal Guide

**Dr.K. DEEPTI**

Associate Professor

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Head of the Department

**Dr.E.SREENIVASA RAO**

Professor and HOD

E.C.E Department

External Examiner



**Department of Electronics and Communication Engineering**

**Vasavi College of Engineering (Autonomous)**

*ACCREDITED BY NAAC WITH 'A++' GRADE*

**IBRAHIMBAGH, HYDERABAD-500031**

**Date:**

**CERTIFICATE**


This is to certify that the project work titled “**Reduction of PAPR in Optical OFDM system**” submitted by

**B. BHAVANI SUPRIYA      1602-19-735-126**

**N. SREEJA                      1602-19-735-162**

**I.VINEESHA                    1602-19-735-177**

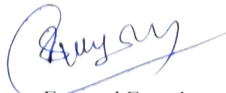
students of Electronics and Communication Engineering Department, Vasavi College of Engineering in partial fulfillment of the requirement for the award of the degree of Bachelor of Engineering in Electronics and Communication Engineering is a record of the bonafide work carried out by them during the academic year 2022-2023. The result embodied in this project report has not been submitted to any other university or institute for the award of any degree.

Internal Guide  
  
Dr. Ch. Vijaya Durga

Assistant Professor  
E.C.E Department

  
Head of the Department

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**Department of Electronics and Communication Engineering**  
**Vasavi College of Engineering (Autonomous)**

*ACCREDITED BY NAAC WITH 'A++' GRADE*

**IBRAHIMBAGH, HYDERABAD-500031**


Date:

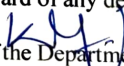
**CERTIFICATE**


This is to certify that the project work titled “**Proficient Technique for Satellite Image Enhancement Using Hybrid Transformation with FPGA**” submitted by

<b>P. Mohammad Reala</b>	<b>1602-19-735-140</b>
<b>L. Navinder</b>	<b>1602-19-735-143</b>
<b>A. Navya</b>	<b>1602-19-735-144</b>

students of Electronics and Communication Engineering Department, Vasavi College of Engineering in partial fulfillment of the requirement for the award of the degree of Bachelor of Engineering in Electronics and Communication Engineering is a record of the bonafide work carried out by them during the academic year 2022-2023. The result embodied in this project report has not been submitted to any other university or institute for the award of any degree

  
Internal Guide  
Mr. S Naveen Kumar  
Assistant Professor  
E.C.E Department

  
Head of the Department  
Dr. E. SREENIVASA RAO  
Professor and HOD  
E.C.E Department

  
External Examiner



**Department of Electronics and Communication Engineering**  
**Vasavi College of Engineering (Autonomous)**

*ACCREDITED BY NAAC WITH 'A++' GRADE*  
**IBRAHIMBAGH, HYDERABAD-500031**


**Date:**


**CERTIFICATE**


This is to certify that the project work titled **“Improved covid-19 detection using GAN - based augmentation and novel QuNet based classification”** submitted by

<b>G SAKETH REDDY</b>	<b>1602-19-735-159</b>
<b>D SWATHI</b>	<b>1602-19-735-317</b>
<b>M TEJAVARDHAN REEDY</b>	<b>1602-19-735-169</b>

students of Electronics and Communication Engineering Department, Vasavi College of Engineering in partial fulfillment of the requirement for the award of the degree of Bachelor of Engineering in Electronics and Communication Engineering is a record of the bonafide work carried out by them during the academic year 2022-2023. The result embodied in this project report has not been submitted to any other university or institute for the award of any degree

  
Internal Guide  
**Dr. K. Deepti**  
Assistant Professor  
E.C.E Department

  
Head of the Department  
**Dr. E. SREENIVASA RAO**  
Professor and HOD  
E.C.E Department

  
External Examiner



**Department of Electronics and Communication  
Engineering  
Vasavi College of Engineering (Autonomous)**


*ACCREDITED BY NAAC WITH 'A++' GRADE*  
**IBRAHIMBAGH, HYDERABAD-500031**


**CERTIFICATE**


I hereby attest that the project work entitled "Brain Tumour Segmentation using K-Means Clustering and Classification using Deep Learning" submitted by

<b>Akshaya Raichur</b>	<b>1602-19-735-123</b>
<b>Anush Abbagowni</b>	<b>1602-19-735-124</b>
<b>Karthik Arigela</b>	<b>1602-19-735-137</b>

This document, which serves as a record of the bona fide work completed by students of the Electronics and Communication Engineering Department at Vasavi College of Engineering during the academic year 2022–2023, partially satisfies the requirement for the award of the degree of Bachelor of Engineering in Electronics and Communication Engineering. This project report's outcome hasn't been submitted to another university or institute for the conferral of a degree.

  
Internal Guide  
**Dr. K. DEEPTHI**  
Associate Professor  
ECE Department

  
Head of the Department  
**Dr. E. SREENIVASA RAO**  
Professor and HOD  
E.C.E Department

  
External Examiner



**Department of Electronics and Communication Engineering**  
**Vasavi College of Engineering (Autonomous)**

*ACCREDITED BY NAAC WITH 'A++' GRADE*  
**IBRAHIMBAGH, HYDERABAD-500031**


**Date:**


**CERTIFICATE**


This is to certify that the project work titled “**Cyclic Gan Model to predict breast cancer data for pathological healthcare task**” submitted by

<b>Vaishnavi Kagita</b>	<b>1602-19-735-171</b>
<b>V. Sri Lekha</b>	<b>1602-19-735-163</b>
<b>Bussa Anusha</b>	<b>1602-19-735-125</b>

students of Electronics and Communication Engineering Department, Vasavi College of Engineering in partial fulfillment of the requirement for the award of the degree of Bachelor of Engineering in Electronics and Communication Engineering is a record of the bonafide work carried out by them during the academic year 2022-2023. The result embodied in this project report has not been submitted to any other university or institute for the award of any degree.

  
Internal Guide  
**Dr. K. Deepthi**  
Associate Professor  
E.C.E Department

  
Head of the Department  
**Dr. E. SREENIVASA RAO**  
Professor and HOD  
E.C.E Department

  
External Examiner



**Department of Electronics and Communication Engineering**  
**Vasavi College of Engineering (Autonomous)**

ACCREDITED BY NAAC WITH 'A++' GRADE  
IBRAHIMBAGH, HYDERABAD-500031

Date:

**CERTIFICATE**

This is to certify that the project work titled “**PARALLEL CRC GENERATION FOR HIGH-SPEED APPLICATIONS** ” submitted by

<b>CH. ADARSH</b>	<b>1602-19-735-122</b>
<b>Y. DINESH KUMAR REDDY</b>	<b>1602-19-735-130</b>
<b>G. JUGAL</b>	<b>1602-19-735-136</b>


students of Electronics and Communication Engineering Department, Vasavi College of Engineering in partial fulfillment of the requirement for the award of the degree of Bachelor of Engineering in Electronics and Communication Engineering is a record of the bonafide work carried out by them during the academic year 2022-2023. The result embodied in this project report has not been submitted to any other university or institute for the award of any degree.

  
Internal Guide

Mr.K.SRIKANTH  
Assistant Professor  
E.C.E Department

  
Head of the Department

Dr.E.SREENIVASA RAO  
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## Department of Electronics and Communication

### Engineering

## Vasavi College of Engineering (Autonomous)

ACCREDITED BY NAAC WITH 'A++' GRADE

IBRAHIMBAGH, HYDERABAD-500031

Date:xx/xx/xx

### CERTIFICATE

This is to certify that the project work titled “**BRIDGE INSPECTION THROUGH MACHINE LEARNING WITH IMPROVED VISIBILITY IMAGES**” submitted by

**K LOK VIKAS**

**1602-19-735-138**


**KADAM MAHESH**

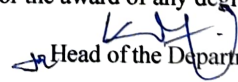
**1602-19-735-139**

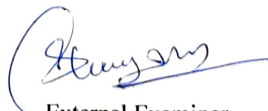
**M V VIPIN**

**1602-19-735-176**

students of Electronics and Communication Engineering Department, Vasavi College of Engineering in partial fulfillment of the requirement for the award of the degree of Bachelor of Engineering in Electronics and Communication Engineering is a record of the bonafide work carried out by them during the academic year 2022-2023. The result embodied in this project report has not been submitted to any other university or institute for the award of any degree

Internal Guide   
**Dr. K.VEERA SWAMY**  
Professor  
E.C.E Department

  
Head of the Department  
**Dr. E.SREENIVASA RAO**  
Professor and HOD  
E.C.E Department

  
External Examiner



## Department of Electronics and Communication Engineering

### Vasavi College of Engineering (Autonomous)

*ACCREDITED BY NAAC WITH 'A++' GRADE*

IBRAHIMBAGH, HYDERABAD-500031

Date:

### CERTIFICATE

This is to certify that the project work titled “Object detection using CenterNet” submitted by

**Greeshmanth Varma. K** 1602-19-735-131

**Pabba Harshith** 1602-19-735-133

**G. Sai Aakanksha** 1602-19-735-153

students of Electronics and Communication Engineering Department, Vasavi College of Engineering in partial fulfillment of the requirement for the award of the degree of Bachelor of Engineering in Electronics and Communication Engineering is a record of the bonafide work carried out by them during the academic year 2022-2023. The result embodied in this project report has not been submitted to any other university or institute for the award of any degree

Internal Guide  
**Mr. BALLA UMA MAHESH BABU**  
Assistant Professor  
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Head of the Department  
**Dr. E. SREENIVASA RAO**  
Professor and HOD  
E.C.E Department

External Examiner



**Department of Electronics and Communication Engineering**

**Vasavi College of Engineering (Autonomous)**

*ACCREDITED BY NAAC WITH 'A++' GRADE*

**IBRAHIMBAGH, HYDERABAD-500031**

**Date:**

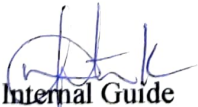
**CERTIFICATE**

This is to certify that the project work titled “**Low Power Voltage Controlled Oscillator for Biomedical Application**” submitted by


**P.SAI JYOTHI**                      **1602-19-735-155**

**CH.SRIHITHA**                      **1602-19-735-164**

students of Electronics and Communication Engineering Department, Vasavi College of Engineering in partial fulfillment of the requirement for the award of the degree of Bachelor of Engineering in Electronics and Communication Engineering is a record of the bonafide work carried out by them during the academic year 2022-2023. The result embodied in this project report has not been submitted to any other university or institute for the award of any degree

*for*  
  
Internal Guide  
**Ms. G. R. PADMINI**

Associate Professor  
E.C.E Department

  
External Examiner

Head of the Department

**Dr .E.SREENIVASA RAO**

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E.C.E Department



**Department of Electronics and Communication Engineering**  
**Vasavi College of Engineering (Autonomous)**

*ACCREDITED BY NAAC WITH 'A++' GRADE*  
**IBRAHIMBAGH, HYDERABAD-500031**

**Date:**

**CERTIFICATE**

This is to certify that the project work titled “**DESIGN AND COMPARISON OF PERFORMANCE OF DIFFERENT TYPES OF MULTIPLIERS**”

submitted by

**P. MADHAVAN**

**1602-19-735-313**

**K. CHARAN**

**1602-19-735-127**

**M. RAMCHARAN**

**1602-19-735-318**

students of Electronics and Communication Engineering Department, Vasavi College of Engineering in partial fulfillment of the requirement for the award of the degree of Bachelor of Engineering in Electronics and Communication Engineering is a record of the bonafide work carried out by them during the academic year 2022-2023. The result embodied in this project report has not been submitted to any other university or institute for the award of any degree.

Internal Guide

**Dr. N.S.S. REDDY**  
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Head of the Department

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Professor and HOD  
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**Department of Electronics and Communication Engineering**  
**Vasavi College of Engineering (Autonomous)**

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**IBRAHIMBAGH, HYDERABAD-500031**

**Date:**

**CERTIFICATE**


This is to certify that the project work titled “**RISC-V Multi-cycle Architecture Implementation**” submitted by

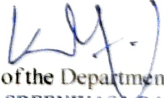
**P. VINEETH** **1602-19-735-178**

**A. NIKHIL** **1602-19-735-315**

**G. AJITH** **1602-19-735-316**

students of the Electronics and Communication Engineering Department, Vasavi College of Engineering in partial fulfilment of the requirement for the award of the degree of Bachelor of Engineering in Electronics and Communication Engineering is a record of the bonafide work carried out by them during the academic year 2022-2023. The result embodied in this project report has not been submitted to any other university or institute for the award of any degree

  
Internal Guide  
**Mr. K. Ramakrishna Reddy**  
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Head of the Department  
**Dr. E. SREENIVASA RAO**  
and HOD  
E.C.E Department

  
External Examiner



**Department of Electronics and Communication Engineering**  
**Vasavi College of Engineering (Autonomous)**

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**IBRAHIMBAGH, HYDERABAD-500031**

**Date:**

**CERTIFICATE**

This is to certify that the project work titled **“Machine Learning Model to Detect American Sign Language (ASL)”** submitted by

<b>P. HARSHITHA</b>	<b>1602-19-735-134</b>
<b>D. HEMACHARAN</b>	<b>1602-19-735-135</b>
<b>N. VISHWANATH</b>	<b>1602-19-735-180</b>

students of Electronics and Communication Engineering Department, Vasavi College of Engineering in partial fulfillment of the requirement for the award of the degree of Bachelor of Engineering in Electronics and Communication Engineering is a record of the bonafide work carried out by them during the academic year 2022-2023. The result embodied in this project report has not been submitted to any other university or institute for the award of any degree

*S. A. Deepthi*  
Internal Guide  
**Mrs. S. Aruna Deepthi**  
Assistant Professor  
E.C.E Department

*K. S. R.*  
Head of the Department  
**Dr. E. SREENIVASA RAO**  
Professor and HOD  
E.C.E Department

*[Signature]*  
External Examiner



**Department of Electronics and Communication Engineering**  
**Vasavi College of Engineering (Autonomous)**

*ACCREDITED BY NAAC WITH 'A++' GRADE*  
**IBRAHIMBAGH, HYDERABAD-500031**

**Date:**

**CERTIFICATE**

This is to certify that the project work titled “**Implementing Cooperative Sensing Algorithm for MIMO**” submitted by

<b>K. Chethan Das</b>	<b>1602-19-735-128</b>
<b>M. Pramod Reddy</b>	<b>1602-19-735-148</b>
<b>B. Tharun Kumar</b>	<b>1602-19-735-170</b>

students of Electronics and Communication Engineering Department, Vasavi College of Engineering in partial fulfillment of the requirement for the award of the degree of Bachelor of Engineering in Electronics and Communication Engineering is a record of the bonafide work carried out by them during the academic year 2022-2023. The result embodied in this project report has not been submitted to any other university or institute for the award of any degree

Internal Guide  
**Mrs. K.R. DEEPTHI**  
Associate Professor  
E.C.E Department

Head of the Department  
**Dr. E.SREENIVASA RAO**  
Professor and HOD  
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**Vasavi College of Engineering (Autonomous)**

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**IBRAHIMBAGH, HYDERABAD-500031**

**Date:**

**CERTIFICATE**

This is to certify that the project work titled “**USRP PACKET TRANSMITTER AND RECIEVER**” submitted by

**K. Deepak Reddy**

**1602-19-735-129**

**Pradyumna Harikeerthi**

**1602-19-735-132**

students of Electronics and Communication Engineering Department, Vasavi College of Engineering in partial fulfillment of the requirement for the award of the degree of Bachelor of Engineering in Electronics and Communication Engineering is a record of the bonafide work carried out by them during the academic year 2022-2023. The result embodied in this project report has not been submitted to any other university or institute for the award of any degree.

**Internal Guide**  
**Mrs. K.R. Deepthi**  
Associate Professor  
E.C.E Department

**Head of the Department**  
**Dr. E. SREENIVASA RAO**  
Professor and HOD  
E.C.E Department

**External Examiner**



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Date: 17/5/23

**CERTIFICATE**

This is to certify that the project work titled “**Impact of Temperature on Graded Channel Gate Stack Triple Material Double Gate Strained-Si Junctionless Mosfet**” submitted by

**VAMSHI CH**

1602-19-735-172

**R NIKHIL YADAV**

1602-19-735-146

**T SAI BALAJI**

1602-19-735-154

students of Electronics and Communication Engineering Department, Vasavi College of Engineering in partial fulfilment of the requirement for the award of the degree of Bachelor of Engineering in Electronics and Communication Engineering is a record of the bonafide work carried out by them during the academic year 2022-2023. The result embodied in this project report has not been submitted to any other university or institute for the award of any degree

Internal Guide

**G.R.Padmini**

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E.C.E Department

Head of the Department

**Dr . E.SREENIVASA RAO**

Professor and HOD

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**Date:**

**CERTIFICATE**

This is to certify that the project work titled “**Printed Monopole Antenna for Multiband Applications**” submitted by

<b>K. Navya</b>	<b>1602-19-735-145</b>
<b>Ch. Vishnu Teja</b>	<b>1602-19-735-179</b>
<b>K. Rishikesh Reddy</b>	<b>1602-19-735-152</b>

students of Electronics and Communication Engineering Department, Vasavi College of Engineering in partial fulfillment of the requirement for the award of the degree of Bachelor of Engineering in Electronics and Communication Engineering is a record of the bonafide work carried out by them during the academic year 2021-2022. The result embodied in this project report has not been submitted to any other university or institute for the award of any degree

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Dr.K.Krishna Kishore  
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Head of the Department  
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Professor & HoD  
E.C.E Department

External Examiner




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Engineering Vasavi College of Engineering (Autonomous)  
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HYDERABAD-500031

### CERTIFICATE

This is to certify that the Theme based project titled "Low cost Audio Spectrum Analyzer" submitted by

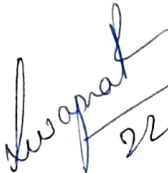
D.RAJASHEKAR	1602-19-735-029
N.PAVAN	1602-20-735-027
P.CHANDU	1602-20-735-011

students of Electronics and Communication Engineering Department, Vasavi College of Engineering in partial fulfillment of the requirement for the award of the degree of Bachelor of Engineering in Electronics and Communication Engineering is a record of the Bonafide work carried out by them during the academic year 2022-2023.

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**Dr.D.M.K.Chaitanya, Associate Professor**

  
**Dr.E.SREENIVASA RAO**  
HoD - E.C.E

  
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This is to certify that the Theme based project titled "Arduino Based Smart Irrigation System" submitted by

D RAM RUTHWIK

1602-20-735-033

N SANTHOSHI REDDY

1602-20-735-042

B SRILAKSHMI SHREYA

1602-20-735-051

students of Electronics and Communication Engineering Department, Vasavi College of Engineering in partial fulfillment of the requirement for the award of the degree of Bachelor of Engineering in Electronics and Communication Engineering is a record of the Bonafide work carried out by them during the academic year 2022-2023.

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*Dr. Srilakshmi Nouthu* 22/5/23  
**Dr. Srilakshmi Nouthu, Associate Professor**

*Dr. D.M.K. Chaitanya*  
**Dr. D.M.K. Chaitanya, Associate Professor**

*Dr. E. Sreenivasa Rao*  
**Dr. E. SREENIVASA RAO**  
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*Dr. Srilakshmi Nouthu*  
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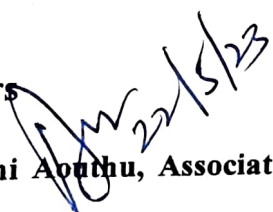
## CERTIFICATE


This is to certify that the Theme based project titled "MODELING OF ARDUINO BASED PREPAID ENERGY METER USING GSM TECH" submitted by

U.HERSHINI	1602-20-735-014
R. PRADAN SAM	1602-20-735-029
K. M. VIHASITHA	1602-20-735-057

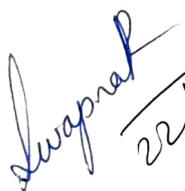
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Dr. D.M.K. Chaitanya, Associate Professor

  
Dr. E. SREENIVASA RAO  
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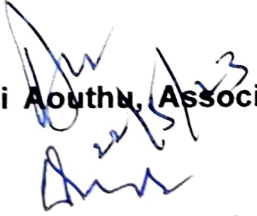

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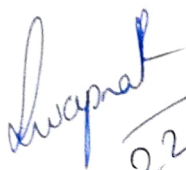
is to certify that the Theme based project titled "SUPPLY OF FERTILIZERS AND PESTICIDES USING ARDUINO" submitted by

- Hamza Hassan 1602-20-735-013
- R Ramya Reddy 1602-20-735-035

○ students of Electronics and Communication Engineering Department, Vasavi College of Engineering in partial fulfillment of the requirement for the award of the degree of Bachelor of Engineering in Electronics and Communication Engineering is a record of the Bonafide work carried out by them during the academic year 2022-2023.

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-  Dr. D.M.K. Chaitanya, Associate Professor

- 
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  - HoD-E.C.E

  
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This is to certify that the Theme based project titled "BIONIC HAND USING FLUX SENSORS" submitted by

S.ABHINAV	1602-20-735-002
Y.KRRISHNA VAMSHY	1602-20-735-016
J.NITISH KUMAR	1602-20-735-026

students of Electronics and Communication Engineering Department, Vasavi College of Engineering in partial fulfillment of the requirement for the award of the degree of Bachelor of Engineering in Electronics and Communication Engineering is a record of the Bonafide work carried out by them during the academic year 2022-2023.

Coordinators

 22/5/2023

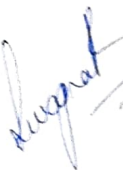
**Dr.Srilakshmi Aouthu, Associate Professor**



**Dr.D.M.K.Chaitanya, Associate Professor**



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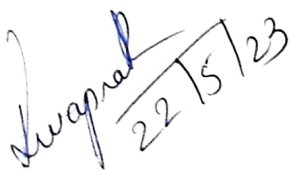
This is to certify that the Theme based project titled “Radar Implementation on Rover” submitted by

G Ravindra Reddy	1602-20-735-037
S Saicharan	1602-20-735-039
B Vinay Kumar	1602-20-735-058

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This is to certify that the Theme based project titled "I2C Master Controller using Verilog" submitted by

P Dhanushi 1602-20-735-012  
Ashwethana 1602-20-735-008

students of Electronics and Communication Engineering  
Department, Vasavi College of Engineering in partial fulfillment of  
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academic year 2022-2023.

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*[Signature]* 22/5/23  
**Dr. Srilakshmi Aouthu, Associate Professor**

*[Signature]*  
**Dr. D.M.K. Chaitanya, Associate Professor**

*[Signature]*  
**Dr. E. SREENIVASARAO**  
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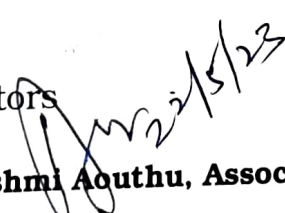
D.BHARGAV 1602-20-735-010

S.SREEHAS 1602-20-735-048

NAMBI VINAY 1602-20-735-303

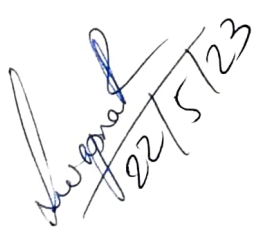
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HYDERABAD-500031

### CERTIFICATE

This is to certify that the Theme based project titled "I2C Master Controller using Verilog" submitted by

KARTHIKEYA KOTHA

1602-20-735-015

VNV SAI SAHIL

1602-20-735-040

YASASWINI LAKSHMI PAVANI

1602-20-735-059

students of Electronics and Communication Engineering Department, Vasavi College of Engineering in partial fulfillment of the requirement for the award of the degree of Bachelor of Engineering in Electronics and Communication Engineering is a record of the Bonafide work carried out by them during the academic year 2022-2023.

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## CERTIFICATE

This is to certify that the Theme based project titled “ELECTRONIC VOTING MACHINE USING VERILOG” submitted by

B.SANJANA	1602-20-735-302
K.BHAVIGNA	1602-20-735-305
A.SNEHA	1602-20-735-306


students of Electronics and Communication Engineering Department, Vasavi college of Engineering in partial fulfilment of the requirement for the award of the degree of Bachelor of engineering in Electronics and communication Engineering is a record of the Bonafied work carried out by them during the academic year 2022-2023.

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This is to certify that the Theme based project titled “ RADAR  
Detection System (with angle) using Arduino” submitted by

P. Pranith	1602-20-735-030
B. Ranadheer Goud	1602-20-735-036
P. Rithika Priya	1602-20-735-038

students of Electronics and Communication Engineering  
Department, Vasavi College of Engineering in partial fulfillment of  
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*Dr 22/5/2023*

*Dr 22/5/23*



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This is to certify that the Theme based project titled "Morse Code Encoder using Basys3" submitted by

N. Lakshmi Mounika	1602-20-735-018
V. Preethi Sudha	1602-20-735-031
MKS Shivani	1602-20-735-045

students of Electronics and Communication Engineering Department, Vasavi College of Engineering in partial fulfillment of the requirement for the award of the degree of Bachelor of Engineering in Electronics and Communication Engineering is a record of the Bonafide work carried out by them during the academic year 2022-2023.

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This is to certify that the Theme based project titled "Accident detection system" submitted by

K Ramya	1602-20-735-034
S Soumith	1602-20-735-046
JVS Vyshnavi	1602-20-735-055

students of Electronics and Communication Engineering Department, Vasavi College of Engineering in partial fulfillment of the requirement for the award of the degree of Bachelor of Engineering in Electronics and Communication Engineering is a record of the Bonafide work carried out by them during the academic year 2022-2023.

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*Swapna R*  
22/5/23

*ESR*  
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This is to certify that the Theme based project titled "Theft Detection System" submitted by

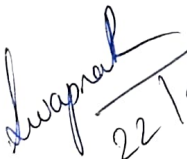
S.Nandini	1602-20-735-023
B.Pavani	1602-20-735-028
K.Sree chaitanya	1602-20-735-047

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**Dr.D.M.K.Chaitanya, Associate Professor**

  
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This is to certify that the Theme based project titled "Smart Vacuum Cleaner Robot" submitted by

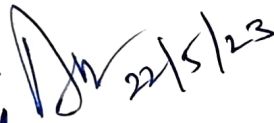
B Arthi	1602-20-735-007
Ayesha Afreen	1602-20-735-003
W Vaishnavi	1602-20-735-054

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Dr.D.M.K.Chaitanya, Associate Professor



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### CERTIFICATE

This is to certify that the Theme based project titled "Gesture Control  
Robot" submitted by

K. Balram	1602-20-735-009
P. Kushlu	1602-20-735-017
M. Nithin	1602-20-735-024

students of Electronics and Communication Engineering Department,  
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**CERTIFICATE**

This is to certify that the Theme based project titled “MICROCONTROLLER  
BASED ACCIDENT PREVENTION SYSTEM” submitted by


Y. HARSHITH	1602-20-735-050
V.UDAY SAI REDDY	1602-20-735-053
M.V. SRIVATSAV	1602-20-735-056

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**DR.D.M.K. CHATTANYA, Associate Professor**

  
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### CERTIFICATE

This is to certify that the THEME BASED PROJECT titled “Universal Asynchronous Receiver Transmitter using Verilog ” submitted by

MD HUZAIFA	1602-20-735-019
MD SOHAIL	1602-20-735-020
POTHIREDDY VARSHA REDDY	1602-20-735-301

students of Electronics and Communication Engineering Department, Vasavi College of Engineering in partial fulfillment of the requirement for the award of the degree of Bachelor of Engineering in Electronics and Communication Engineering is a record of the Bonafide work carried out by them during the academic year 2022-2023

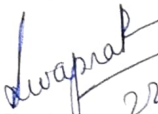
Coordinators

  
Dr.D.M.K.Chaitanya

Assistant Professor  
E.C.E Department

  
Dr.E.SREENIVASA RAO

HoD  
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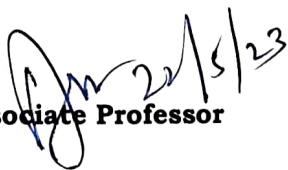
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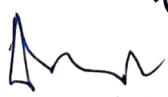
This is to certify that the Theme based project titled "I2C Master Controller using Verilog" submitted by

ABHILASH ANCHULA	1602-20-735-015
ANJIREDDY RIKKALA	1602-20-735-004
ARAVIND KRISHNA GUDURI	1602-20-735-006

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**Dr. Srilakshmi Aouthu, Associate Professor**

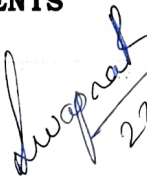
  
**Dr. D.M.K. Chaitanya, Associate Professor**

  
**Dr. E. SREENIVASA RAO**  
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This is to certify that the Theme based project titled "Traffic Light Controller using Verilog" submitted by

SRI CHARAN REDDY TEEGALA

1602-20-735-049

SWAPARNIK MADDIKUNTA

1602-20-735-052

YASHWANTH GOUD SURIGI

1602-20-735-060

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Coordinators

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Dr.D.M.K.Chaitanya, Associate Professor

*Dr. Srilakshmi Aouthu*  
22/5/23

*E.S.R.*  
**Dr.E.SREENIVASA RAO**  
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This is to certify that the Theme based project titled "HARDWARE IMPLEMENTATION OF  
A 8-POINT RADIX-2 FFT " submitted by

Mohammad Azeeza

1602-20-735-021

Nathadi Namratha

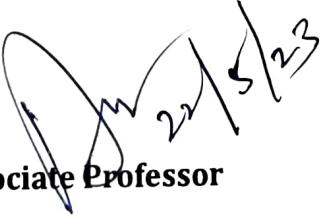
1602-20-735-022


Tharuni Naini

1602-20-735-304

students of Electronics and Communication Engineering Department, Vasavi College of Engineering in partial fulfillment of the requirement for the award of the degree of Bachelor of Engineering in Electronics and Communication Engineering is a record of the Bonafide work carried out by them during the academic year 2022-2023.

Coordinators

  
**Dr.Srilakshmi Aouthu, Associate Professor**

  
**Dr.D.M.K.Chaitanya, Associate Professor**

  
**Dr.E.SREENIVASA RAO**  
HoD - E.C.E

# Department of Electronics and Communication Engineering



Vasavi College of Engineering (Autonomous)

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## CERTIFICATE

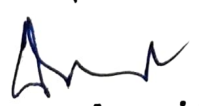
This is to certify that the Theme based project titled “I2C Master Controller using Verilog” submitted by

Anwesh Poodari	1602-20-735-005
Raja Kodam	1602-20-735-032
Santhosh Reddy Guntakandla	1602-20-735-041

students of Electronics and Communication Engineering Department, Vasavi College of Engineering in partial fulfillment of the requirement for the award of the degree of Bachelor of Engineering in Electronics and Communication Engineering is a record of the Bonafide work carried out by them during the academic year 2022-2023.


Coordinators

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**Dr.Srilakshmi Aouthu, Associate Professor**

  
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 22/5/23



Department of Electronics and Communication Engineering  
Vasavi College of Engineering (Autonomous)

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HYDERABAD-500031

### CERTIFICATE

This is to certify that the Theme based project titled “Low cost Audio Spectrum Analyzer” submitted by

V. NITHISH KUMAR

1602-20-735-025

SK.TAWFEEQ RIYAZ

1602-20-735-043


R. SHASHANK YADAV

1602-20-735-044


students of Electronics and Communication Engineering Department, Vasavi College of Engineering in partial fulfillment of the requirement for the award of the degree of Bachelor of Engineering in Electronics and Communication Engineering is a record of the Bonafide work carried out by them during the academic year 2022-2023.

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 22/5/23