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(Aziz Nagar, C.B.Post, Hyderabad -500075)

Department of Electronics and Communication Engineering



CERTIFICATE

This is to certify that the project report titled "Smart IOT Device for Women Safety" is being submitted by B.VINITHA

REDDY(16911A0405), D.PRIYANKA(16911A0413), G.SHASHI

KUMAR(16911A0419) of B.tech IV- II semester of Electronics &

Communication Engineering is a record bonafide work carried out by them. The results embodied in this report have not been submitted to any other University for the award of any degree.

INTERNAL GUIDE,

Mr. V.G.Siva kumar

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HEAD OF THE DEPARTMENT,

Dr. K. Vasanth

(Professor & HOD Dept Of ECE)

EXTERNAL EXAMINER,

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VIDYA JYOTHI INSTITUTE OF TECHNOLOGY (AUTONOMOUS)

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(Aziz Nagar, C.B.Post, Hyderabad -500075)

DEPARTMENT OF ELECTRONICS & COMMUNICATION ENGINEERING



CERTIFICATE

This is to certify that the project work entitled "Arduino based water quality and pH monitoring system" is bonafide work carried out by Mr. P. Shashank (16911A0446), Ms. P. Niharika (16911A0449), Mr. B. Sathweek (16911A0406) and Mr. M. Pavan (16911A0440) in partial fulfilment of the requirements for the award of degree of BACHELOR OF TECHNOLOGY IN ELECTRONICS AND COMMMUNICATION ENGINEERING to be awarded by the JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY, Hyderabad, under our guidance and supervision.

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Internal Guide

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PRINCIPAL LINE INCOME.

Department of Electronics and Communication Engineering



CERTIFICATE

This is to certify that the project work entitled "PROCESS ENHANCEMENT USING FPGA ON R-Pi" is a bonafide work carried out by S.SUPRIYA (16911A0454), J.BHARGAV(16911A0424), M.VENKATESH (16911A0438), B.MEGHANA (16911A0407) in partial fulfilment of the requirements for the award of degree of BACHELOR OF TECHNOLOGY IN ELECTRONICS AND COMMUNICATION ENGINEERING by the JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY, HYDERABAD, under the guidance and supervision.

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INTERNAL GUIDE

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Head of the department

Dr. K. Vasanth

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(Permanently Affiliated to JNTUH, NAAC accredited, Hyderabad)

Department of Electronics and Communication Engineering



CERTIFICATE

This is to certify that the project work entitled "VOICE INTERPRETED SMART HOME APPLIANCES" is a bonafide work carried out by N. Sreeja (16911A0444), B. Sowmya(16911A0409), Sagar Gupta (17915A0453), P. Sharath Chandra(16911A0447)in

partial fulfilment of the requirements for the award of degree of BACHELOR OF TECHNOLOGY IN ELECTRONICS AND COMMUNICATION ENGINEERING by the JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY, Hyderabad, under our guidance and supervision.

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Department of Electronics and Communication Engineering



This is to certify that the project work entitled "SMART GATE SYSTEM USING BLUETOOTH" is a bonafide work carried out by Ch.Jyothi Kiranmai (16911A0411), G. Shesha Sai(16911A04D0), K. Mamatha (17915A0402) in partial fulfilment of the requirements for the award of degree of BACHELOR OF TECHNOLOGY IN ELECTRONICS AND COMMUNICATION ENGINEERING by the JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY, Hyderabad, under our guidance and supervision.

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Department of Electrical and Communication Engineering



CERTIFICATE

This is to certify that the project work entitled "Implement Of Real Time Communication System For Disabled People" is a bonafied work carried out by G.Anusha(16911A0416), D.Sandeep(16911A0412) and K.Hemanth Kumar Reddy(16911A0430) in partial fulfilment of the requirements for the award of degree of BACHELOR OF TECHNOLOGY IN ELECTRONICS AND COMMUNICATION ENGINEERING by the JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY, Hyderabad, under our guidance and supervision.

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INTERNAL SUPERVISOR

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2016-2020

VIDYA JYOTHI INSTITUTE OF TECHNOLOGY

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Department of Electronics and Communication Engineering



CERTIFICATE

This is to certify that the project report titled "Cricket Score Forecaster Using Machine Learning" is being submitted by G.VAISHNAVI(16911A0415), P.AMULYA (16911A0451), of B.tech IV- II semester of *Electronics & Communication Engineering* is a record bonafide work carried out by them. The results embodied in this report have not been submitted to any other University for the award of any degree.

INTERNAL GUIDE,

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CERTIFICATE

This is to certify that the project work entitled "ENERGY EFFICIENCY OPTIMIZATION FOR DEVICE-TO-DEVICE COMMUNICATIONS IN 5G NETWORKS" is a bonafide work carried out by E.SREENATH(16911A04H4), ZAKEER MOHAMMAD(15911A0460), RAMGIRI VISHAL(16911A04G5) in partial fulfillment of the requirements for the award of degree of Bachelor of Technology in Electronics and Communication Engineering by the JAWAHARLAL NEHRU TECHNOLOGY UNIVERSITY, Hyderabad, under our guidance and supervision.

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Department of Electronics and Communication Engineering



CERTIFICATE

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2019 - 2020

VIDYA JYOTHI INSTITUTE OF TECHNOLOGY (AUTONOMOUS) DEPARTMENT OF ELECTRONICS & COMMUNICATION ENGINEERING



CERTIFICATE

This is to certify that the project work entitled "IOT WEATHER REPORTING SYSTEM USING RASPBERRY PI 3" is a bonafide work carried out by P. ANVESH(16911A0450),G.JAYASREE(16911A0421),MD.AJMALAHMED(16911A0441), R.CHANDULAL (17915A0406) in partial fulfilment of the requirements for the award of degree of BACHELOR OF TECHNOLOGY IN ELECTRONICS AND COMMUNICATION ENGINEERING by the JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY, Hyderabad, under our guidance and supervision.

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Department of Electronics and Communication
Engineering



CERTIFICATE

This is to certify that the project work entitled "HEALTH CHECK OF DEVICES ON SD-WAN FABRIC" is a bonafide work carried out by Mr.H.E. Tarun (16911A0422) in partial fulfilment of the requirements for the award of degree of BACHELOR OF TECHNOLOGY IN ELECTRONICS AND COMMUNICATION ENGINEERING by the JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY, Hyderabad, under our 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.

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INTERNAL GUIDE

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Department of Electronics and Communication Engineering



CERTIFICATE

This is to certify that the project report titled "Design and Fabrication of Microstrip Patch Antenna for WLAN Applications" is being submitted by K.AKHIL ANAND (17915A0426), V.SAIRAM (16911A0N4), P.ROHITH (16911A04M6), K.NAGARJUNA (16911A04K7) of B.tech IV- II semester of *Electronics & Communication Engineering* is a record bonafide work carried out by them. The results embodied in this report have not been submitted to any other University for the award of any degree.

INTERNAL GUIDE

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Department of Electronics and Communication Engineering



CERTIFICATE

This is to certify that the project report titled "Digital Notice Board System by Using Raspberrypi" is being submitted by G. NAVEEN (16911A0420), K. SHIVANI (16911A0427), K. MOUNISH (16911A0429), K. NANDINI (16911A0436) of B.tech IV - II semester of Electronics & Communication Engineering is a record bonafide work carried out by them. The results embodied in this report have not been submitted to any other University for the award of any degree.

INTERNAL GUIDE

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INTERNAL SUPERVISOR

Department of ECE

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Department of Electronics and Communication Engineering



CERTIFICATE

This is to certify that the project report titled "IoT Air and Sound Pollution Monitoring System" is being submitted by T.Praveen Reddy (16911A0455), U.Naveen (16911A0457), K.Anirudh Chowdhary (16911A0432), V.Srikanth (16911A0458) of B.tech IV- II semester of Electronics & Communication Engineering is a record bonafide work carried out by them. The results embodied in this report have not been submitted to any other University for the award of any degree.

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Department of Electronics and Communication Engineering



CERTIFICATE

This is to certify that the project report titled "DIGITIZING **DEVELOPMENT ENGINEER DISCUSSIONS"** is being submitted by Ms. KONNOJU VAISHNAVI (16911A0434) of B.tech IV- II semester of Electronics & Communication Engineering is a record bonafide work carried out by her. The results embodied in this report have not been submitted to any other University for the award of any degree.

INTERNAL GUIDE

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Dr. K. Vasanth (Professor & HOD Dept Of ECE)

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Department of Electronics and Communication Engineering



CERTIFICATE

This is to certify that the project report titled "Automatic accident detection and remote alarm device" is being submitted by M.Kishore kumar(16911A0437), M.Bharath(16911A0439), V.Sindhuja (16911A0459) of B.tech IV- I semester of Electronics & Communication Engineering is a record of bonafide work carried out by them. The results embodied in this report have not been submitted to any other University for the award of any degree.

INTERNAL GUIDE

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INTERNAL GUIDE

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DEPARTMENT OF ELECTRONICS & COMMUNICATION ENGINEERING



CERTIFICATE

This is to certify that the project work entitled "Arduino based water quality and pH monitoring system" is bonafide work carried out by Mr. P. Shashank (16911A0446), Ms. P. Niharika (16911A0449), Mr. B. Sathweek (16911A0406) and Mr. M. Pavan (16911A0440) in partial fulfilment of the requirements for the award of degree of BACHELOR OF TECHNOLOGY IN ELECTRONICS AND COMMMUNICATION ENGINEERING to be awarded by the JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY, Hyderabad, under our guidance and supervision.

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2019 - 2020

VIDYA JYOTHI INSTITUTE OF TECHNOLOGY (AUTONOMOUS) DEPARTMENT OF ELECTRONICS & COMMUNICATION ENGINEERING



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(An Autonomous institution)

(Permanently Affiliated to JNTUH, NAAC accredited, Hyderabad)

Department of Electronics and Communication Engineering



CERTIFICATE

This is to certify that the project work entitled "VOICE INTERPRETED SMART HOME APPLIANCES" is a bonafide work carried out by N. Sreeja (16911A0444), B. Sowmya(16911A0409), Sagar Gupta (17915A0453), P. Sharath Chandra(16911A0447)in

partial fulfilment of the requirements for the award of degree of BACHELOR OF TECHNOLOGY IN ELECTRONICS AND COMMUNICATION ENGINEERING by the JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY, Hyderabad, under our guidance and supervision.

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INTERNALSUPERVISOR

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DEPARTMENT OF ELECTRONICS & COMMUNICATION ENGINEERING



CERTIFICATE

This is to certify that the project work entitled "Arduino based water quality and pH monitoring system" is bonafide work carried out by Mr. P. Shashank (16911A0446), Ms. P. Niharika (16911A0449), Mr. B. Sathweek (16911A0406) and Mr. M. Pavan (16911A0440) in partial fulfilment of the requirements for the award of degree of BACHELOR OF TECHNOLOGY IN ELECTRONICS AND COMMMUNICATION ENGINEERING to be awarded by the JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY, Hyderabad, under our guidance and supervision.

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Internal Guide

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2019 - 2020

VIDYA JYOTHI INSTITUTE OF TECHNOLOGY (AUTONOMOUS) DEPARTMENT OF ELECTRONICS & COMMUNICATION ENGINEERING



CERTIFICATE

This is to certify that the project work entitled "IOT WEATHER REPORTING SYSTEM USING RASPBERRY PI 3" is a bonafide work carried out by P. ANVESH(16911A0450),G.JAYASREE(16911A0421),MD.AJMALAHMED(16911A0441), R.CHANDULAL (17915A0406) in partial fulfilment of the requirements for the award of degree of BACHELOR OF TECHNOLOGY IN ELECTRONICS AND COMMUNICATION ENGINEERING by the JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY, Hyderabad, under our guidance and supervision.

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Department of Electronics and Communication Engineering



CERTIFICATE

This is to certify that the project report titled "Cricket Score Forecaster Using Machine Learning" is being submitted by G.VAISHNAVI(16911A0415), P.AMULYA (16911A0451), of B.tech IV- II semester of *Electronics & Communication Engineering* is a record bonafide work carried out by them. The results embodied in this report have not been submitted to any other University for the award of any degree.

INTERNAL GUIDE,

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Dr. K. Vasanth (Professor & HOD Dept of ECE)

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Alamas

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CERTIFICATE

This is to certify that the project work entitled "PROCESS ENHANCEMENT USING FPGA ON R-Pi" is a bonafide work carried out by S.SUPRIYA (16911A0454), J.BHARGAV(16911A0424), M.VENKATESH (16911A0438), B.MEGHANA (16911A0407) in partial fulfilment of the requirements for the award of degree of BACHELOR OF TECHNOLOGY IN ELECTRONICS AND COMMUNICATION ENGINEERING by the JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY, HYDERABAD, under the guidance and supervision.

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CERTIFICATE

This is to certify that the project report titled "IoT Air and Sound Pollution Monitoring System" is being submitted by T.Praveen Reddy (16911A0455), U.Naveen (16911A0457), K.Anirudh Chowdhary (16911A0432), V.Srikanth (16911A0458) of B.tech IV- II semester of Electronics & Communication Engineering is a record bonafide work carried out by them. The results embodied in this report have not been submitted to any other University for the award of any degree.

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CERTIFICATE

This is to certify that the project report titled "Automatic accident detection and remote alarm device" is being submitted by M.Kishore kumar(16911A0437), M.Bharath(16911A0439), V.Sindhuja (16911A0459) of B.tech IV- I semester of Electronics & Communication Engineering is a record of bonafide work carried out by them. The results embodied in this report have not been submitted to any other University for the award of any degree.

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CERTIFICATE

This is to certify that the project report titled **DIABETES PREDICTION USING DIFFERENT MACHINE LEARNING TECHNIQUES** is being submitted by **GAYATHRI. M (16911A0492), CH D. VIJAY KUMAR (16911A0466), B. GIRISH (16911A0463), CH VENKAT TEJA (16911A0467)** in Bachelor of Technology, IV-II semester of *Electronics & Communication Engineering* is a record bona fide work carried out by them. The results embodied in this report have not been submitted to any other University for the award of any degree.

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Department of Electronics and Communication Engineering



CERTIFICATE

This is to certify that the project report titled "GARBAGE COLLECTION AND MONITORING ROBOT USING WIRELESS COMMUNICATION" is being submitted by K.DIVYAVANI (17915A0412), THOTA ARUN (16911A04B4), BOINI VARUN (16911A0465), PETER MOSHE (17915A0409) of B.tech IV- II semester of *Electronics & Communication Engineering* is a record bonafide work carried out by them. The results embodied in this report have not been submitted to any other University for the award of any degree.

INTERNAL GUIDE,

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Department of Electronics and Communication Engineering



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INTERNAL GUIDE

MR. S. UPENDRA

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Department of Electronics and Communication Engineering



CERTIFICATE

This is to certify that the project entitled "ELECTRONIC PROTECTION FOR EXAM PAPER LEAKAGE", being submitted by D. PRANITHA (16911A0469), D.SUPRIYA (16911A0468), M. RAHUL YADAV (16911A0486), and V. SHRAVAN REDDY (16911A0488) in partial fulfillment of the requirements for the award of the Degree of BACHELOR OF TECHNOLOGY in ELECTRONICS AND COMMUNICATION ENGINEERING by the JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY, Hyderabad under our guidance and supervision. The results embodied in this project report have not been submitted to any other University or Institute for the award of any Degree or Diploma.

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Department of Electronics and Communication Engineering



CERTIFICATE

This is to certify that the project report titled "RASPBERRY PI BASED ANTI-THEFT SYSTEM" is being submitted by KORE SHASHI KUMAR (16911A0480), ERUPUTH NIKHITHA (16911A0470), JETTIGARI RAM PRASAD REDDY (16911A0476), GAYAM YASHWANTH REDDY (16911A0472) of B.tech IV-2 semester of *Electronics & Communication Engineering* is a record bonafide work carried out by them. The results embodied in this report have not been submitted to any other University for the award of any degree.

INTERNAL GUIDE,
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Department of Electronics and Communication Engineering



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INTERNAL GUIDE,
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Department of Electronics and Communication Engineering



CERTIFICATE

This is to certify that the project report titled "MICROSTRIP PATCH ANTENNA AT 28 GHZ FOR 5G APPLICATIONS" is being submitted by G.Sai Vamshi (16911A0473), S.Shruthi (17915A0414), P.Akshay Kumar (16911A04A1), K.Venkatesh (17915A0411) of B. tech IV-II semester of Electronics & Communication Engineering is a record bonafide work carried out by them. The results embodied in this report have not been submitted to any other university or institute for the award of any degree.

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CERTIFICATE

This is to certify that the project report titled "COLOUR DETECTION AND IDENTIFICATION FOR ROBOT DIRECTION CONTROL USING IMAGE PROCESSING" is being submitted by M. AJAY KUMAR (16911A0491), S. FIRDOUS AFREEN (16911A04A9), G. BHAGAVAN (16911A0474), K. NAVA SURYA REDDY (16911A0479) of B.tech IV- I semester of *Electronics & Communication Engineering* is a record bonafide work carried out by them. The results embodied in this report have not been submitted to any other University for the award of any degree.

INTERNAL GUIDE,

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CERTIFICATE

This is to certify that the project report titled "Futuristic Design Of Breathe

To Voice Conversion Technology For Dumb People" is being submitted by P.NASREEN (16911A0496), J.SUDHA DEVI (16911A0475), M.ANVITHA ERLINDA(16911A0483) of B. tech IV- I semester of Electronics & Communication Engineering is a record bonafide work carried out by them. The results embodied in this report have not been submitted to any other University for the award of any degree.

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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 report titled "IMAGE PROCEESSING BASED FIRE DETECTION USING RASPBERRY PI" is being submitted by Mr. Kaipa Uday Kumar Reddy (16911A0478), Mr. Lambadi Santhosh (16911A0482) and, Mr. Mangalagiri Phani Sai (16911A0487) of B.tech IV-II semester of Electronics & Communication Engineering is a record bonafide work carried out by them. The results embodied in this report have not been submitted to any other University for the award of any degree.

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Department of Electronics and Communication Engineering



CERTIFICATE

This is to certify that the project report titled "COLOUR DETECTION AND IDENTIFICATION FOR ROBOT DIRECTION CONTROL USING IMAGE PROCESSING" is being submitted by M. AJAY KUMAR (16911A0491), S. FIRDOUS AFREEN (16911A04A9), G. BHAGAVAN (16911A0474), K. NAVA SURYA REDDY (16911A0479) of B.tech IV- I semester of *Electronics & Communication Engineering* is a record bonafide work carried out by them. The results embodied in this report have not been submitted to any other University for the award of any degree.

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CERTIFICATE

This is to certify that the project report titled "RASPBERRY PI BASED ANTI-THEFT SYSTEM" is being submitted by KORE SHASHI KUMAR (16911A0480), ERUPUTH NIKHITHA (16911A0470), JETTIGARI RAM PRASAD REDDY (16911A0476), GAYAM YASHWANTH REDDY (16911A0472) of B.tech IV-2 semester of *Electronics & Communication Engineering* is a record bonafide work carried out by them. The results embodied in this report have not been submitted to any other University for the award of any degree.

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CERTIFICATE

This is to certify that the project report titled "Ultrasonic Blind Stick with GPS" is being submitted by RACHA GANESH (16911A04A4), M.SAI KUMAR REDDY (16911A0489), MADHU KUNCHALA (16911A0481), P.N.PRANAY (16911A0494) of B.tech IV- 2 semester of Electronics & Communication Engineering is a record bonafide work carried out by them. The results embodied in this report have not been submitted to any other University for the award of any degree.

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Department of Electronics and Communication Engineering



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Department of Electronics and Communication Engineering



CERTIFICATE

This is to certify that the project report titled "Futuristic Design Of Breathe

To Voice Conversion Technology For Dumb People" is being submitted by P.NASREEN (16911A0496), J.SUDHA DEVI (16911A0475), M.ANVITHA ERLINDA(16911A0483) of B. tech IV- I semester of Electronics & Communication Engineering is a record bonafide work carried out by them. The results embodied in this report have not been submitted to any other University for the award of any degree.

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Department of Electronics and Communication Engineering



CERTIFICATE

This is to certify that the project entitled "ELECTRONIC PROTECTION FOR EXAM PAPER LEAKAGE", being submitted by D. PRANITHA (16911A0469), D.SUPRIYA (16911A0468), M. RAHUL YADAV (16911A0486), and V. SHRAVAN REDDY (16911A0488) in partial fulfillment of the requirements for the award of the Degree of BACHELOR OF TECHNOLOGY in ELECTRONICS AND COMMUNICATION ENGINEERING by the JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY, Hyderabad under our guidance and supervision. The results embodied in this project report have not been submitted to any other University or Institute for the award of any Degree or Diploma.

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Department of Electronics and Communication Engineering



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Department of Electronics and Communication Engineering



CERTIFICATE

This is to certify that the project work entitled Hand Gesture Controlled Robot using Arduino is a bonafide work carried out by Pavan Kumar Pathepur (16911A0497), Divya Mudireddy (16911A0490), Anand Surya (16911A04A7), Omprakash Siripolu (17915A0413) in partial fulfilment of the requirements for the award of degree of BACHELOR OF TECHNOLOGY IN ELECTRONICS AND COMMUNICATION ENGINEERING by the JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY, Hyderabad, under our guidance and supervision.

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Department of Electronics and Communication Engineering



CERTIFICATE

This is to certify that the project report titled "RAILWAY TRACK CRACK DETECTION" is being submitted by N.BHANU PRAKASH REDDY (16911A0493), P.SUPRAJA(16911A0499),

SHASHANK SAURAV(16911A04B0) of B.tech IV- II semester of *Electronics & Communication Engineering* is a record bonafide work carried out by them. The results embodied in this report have not been submitted to any other University for the award of any degree.

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This is to certify that the project work entitled "AUTOMATIC BILLING IN SHOPPING TROLLEY USING RFID" is being submitted by BODA DEEPIKA (16911A0464), PATLOLLA ANVITHA (16911A0498), KONDA DEEPTHI (16911A0477), GOGULOTH SAI KUMAR (17915A0410) in partial fulfillment of the requirements for the award of degree of BACHELOR OF TECHNOLOGY IN ELECTRONICS AND COMMUNICATION ENGINEERING by the JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY, Hyderabad, under our 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.

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This is to certify that the project report titled "Smart Footstep power generation using RFID for charging" is being submitted by K.AKHILA (16911A04L2), M.S.M.HUSSAIN(16911A04L7), K.GANESH(17915A0425), G.S AI PRASAD(14911A0472) of B.tech IV- I semester of *Electronics & Communication Engineering* is a record bonafide work carried out by them. The results embodied in this report have not been submitted to any other University for the award of any degree.

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Department of Electronics and Communication Engineering



CERTIFICATE

This is to certify that the project work entitled "IMPLEMENTATION OF UART PROTOCAL BASED ON FIFO TECHNIQUE USING FIFO" is a bonafied work carried out by V Sravani (17915A0415), S Anusha (15911A0453), R Siva Karthik (16911A04G6), K Sai Teja (16911A04D9), P Pavan (17915A0405) in partial fulfilment of the requirement for the award of degree of Bachelor of Technology in Electronics and Communication Engineering by JAWAHARLAL NEHRU TECHNOLOGY UNIVERSITY, Hyderabad under out guidance and supervision.

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"SAFETY This is to certify that the project work entitled IMPROVEMENT OF FISHERMEN USING ARDUINO UNO" is a bonafide work carried out by Mr.V.Mahesh (16911A04P3), Mr.C.Sai Kumar (16911A04K0), Mr.K.Anil Kumar (15911A0472), Mr.M Sharath Chandra (16911A04L4) in partial fulfillment of the requirements for the of BACHELOR TECHNOLOGY **OF** award Degree ELECTRONICS AND COMMUNICATION ENGINEERING by the JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY, HYDERABAD, under the guidance and supervision.

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This is to certify that the project report entitled "Smart security device for women" is a bonafide work submitted by K. Charishma (16911A04E2), K. Pavan Krishna Rathod(16911A04E1), K. Madhu (15915A0416) of B.tech IV- II semester of Electronics & Communication Engineering is a record bonafide work carried out by them. The results embodied in this report have not been submitted to any other University for the award of any degree or diploma

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Department of Electronics and Communication Engineering



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This is to certify that the project report titled "FOOD STORAGE MONITORING AND SERVING PEOPLE USING IOT" is being submitted by V.SAI PRIYA (16911A04P4), P. SUSHMA REDDY (16911A04P9), Y. KARTHIK REDDY (16911A04P7), E.RAJ KUMAR(16915A0418) of B.tech IV- I semester of Electronics & Communication Engineering is a record bonafide work carried out by them. The results embodied in this report have not been submitted to any other University for the award of any degree.

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Department of Electronics and Communication Engineering



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This is to certify that the project work entitled "IOT BASED DIGITAL METER" is a bonafide work carried out by C. SATVIKA (16911A04C5), PEMMAKA NIRANJAN REDDY (16911A04G0), VUJINI NITHIN RAJ (16911A04J0), MUTHYALA RAJESH

(16915A0433) in partial fulfillment of the requirement for the award of degree of Bachelor of Technology in Electronics and Communication Engineering by JAWAHARLAL NEHRU TECHNOLOGY UNIVERSITY, Hyderabad, under our guidance and supervision.

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IT, Hyderabad

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This is to certify that the project work entitled "SMART GATE SYSTEM USING BLUETOOTH" is a bonafide work carried out by Ch.Jyothi Kiranmai (16911A0411), G. Shesha Sai(16911A04D0), K. Mamatha (17915A0402) in partial fulfilment of the requirements for the award of degree of BACHELOR OF TECHNOLOGY IN ELECTRONICS AND COMMUNICATION ENGINEERING by the JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY, Hyderabad, under our guidance and supervision.

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HEAD OF THE DEPARTMENT

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VJIT, Hyderabad

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2019 - 2020

VIDYA JYOTHI INSTITUTE OF TECHNOLOGY (AUTONOMOUS) DEPARTMENT OF ELECTRONICS & COMMUNICATION ENGINEERING



CERTIFICATE

This is to certify that the project work entitled "IOT WEATHER REPORTING SYSTEM USING RASPBERRY PI 3" is a bonafide work carried out by P. ANVESH(16911A0450),G.JAYASREE(16911A0421),MD.AJMALAHMED(16911A0441), R.CHANDULAL (17915A0406) in partial fulfilment of the requirements for the award of degree of BACHELOR OF TECHNOLOGY IN ELECTRONICS AND COMMUNICATION ENGINEERING by the JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY, Hyderabad, under our guidance and supervision.

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Head of the Department

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Department of Electronics and Communication Engineering



CERTIFICATE

This is to certify that the project report titled "IMPLEMENTATION OF 32-BIT MIPS BASED ON RISC PROCESSOR BY USING VHDL PROSESSOR" is being submitted by B.UMA (17915A0408), S.DHARMA TEJA (16911A04A8), A. SRI CHARAN (16911A0461) of B. Tech IV- II semester of Electronics & Communication Engineering is a record bonafide work carried out by them. The results embodied in this report have not been submitted to any other University for the award of any degree.

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(Aziz Nagar, C.B.Post, Hyderabad -500075)

Department of Electronics and Communication Engineering



CERTIFICATE

This is to certify that the project report titled "GARBAGE COLLECTION AND MONITORING ROBOT USING WIRELESS COMMUNICATION" is being submitted by K.DIVYAVANI (17915A0412), THOTA ARUN (16911A04B4), BOINI VARUN (16911A0465), PETER MOSHE (17915A0409) of B.tech IV- II semester of *Electronics & Communication Engineering* is a record bonafide work carried out by them. The results embodied in this report have not been submitted to any other University for the award of any degree.

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Dr.K. Vasanth (Professor & HOD Dept Of ECE)

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Department of Electronics and communication Engineering



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This is to certify that the project work entitled "AUTOMATIC BILLING IN SHOPPING TROLLEY USING RFID" is being submitted by BODA DEEPIKA (16911A0464), PATLOLLA ANVITHA (16911A0498), KONDA DEEPTHI (16911A0477), GOGULOTH SAI KUMAR (17915A0410) in partial fulfillment of the requirements for the award of degree of BACHELOR OF TECHNOLOGY IN ELECTRONICS AND COMMUNICATION ENGINEERING by the JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY, Hyderabad, under our 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 SUPERVISOR

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VJIT, Hyderabad

HEAD OF THEDEPARTMENT

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(An Autonomous Institution)

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Department of Electronics and Communication Engineering



CERTIFICATE

This is to certify that the project report titled "MICROSTRIP PATCH ANTENNA AT 28 GHZ FOR 5G APPLICATIONS" is being submitted by G.Sai Vamshi (16911A0473), S.Shruthi (17915A0414), P.Akshay Kumar (16911A04A1), K.Venkatesh (17915A0411) of B. tech IV-II semester of Electronics & Communication Engineering is a record bonafide work carried out by them. The results embodied in this report have not been submitted to any other university or institute for the award of any degree.

INTERNAL GUIDE

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Department of Electronics and Communication Engineering



CERTIFICATE

This is to certify that the project report titled "GARBAGE COLLECTION AND MONITORING ROBOT USING WIRELESS COMMUNICATION" is being submitted by K.DIVYAVANI (17915A0412), THOTA ARUN (16911A04B4), BOINI VARUN (16911A0465), PETER MOSHE (17915A0409) of B.tech IV- II semester of *Electronics & Communication Engineering* is a record bonafide work carried out by them. The results embodied in this report have not been submitted to any other University for the award of any degree.

INTERNAL GUIDE,

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Dr.K. Vasanth (Professor & HOD Dept Of ECE)

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Department of Electronics and Communication Engineering



CERTIFICATE

This is to certify that the project work entitled Hand Gesture Controlled Robot using Arduino is a bonafide work carried out by Pavan Kumar Pathepur (16911A0497), Divya Mudireddy (16911A0490), Anand Surya (16911A04A7), Omprakash Siripolu (17915A0413) in partial fulfilment of the requirements for the award of degree of BACHELOR OF TECHNOLOGY IN ELECTRONICS AND COMMUNICATION ENGINEERING by the JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY, Hyderabad, under our guidance and supervision.

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(Permanently Affiliated To JNTUH, NAAC accredited, Hyd)

Department of Electronics and Communication Engineering



CERTIFICATE

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INTERNAL GUIDE

Mr.G. Parameswar (PhD) (Asst.Professor Dept Of ECE) HEAD OF THE DEPARTMENT

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EXTERNAL EXAMINER

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Department of Electronics and Communication Engineering



CERTIFICATE

This is to certify that the project work entitled "IMPLEMENTATION OF UART PROTOCAL BASED ON FIFO TECHNIQUE USING FIFO" is a bonafied work carried out by V Sravani (17915A0415), S Anusha (15911A0453), R Siva Karthik (16911A04G6), K Sai Teja (16911A04D9), P Pavan (17915A0405) in partial fulfilment of the requirement for the award of degree of Bachelor of Technology in Electronics and Communication Engineering by JAWAHARLAL NEHRU TECHNOLOGY UNIVERSITY, Hyderabad under out 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.

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EXTERNAL EXAMINER

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Department of Electronics and Communication Engineering



CERTIFICATE

This is to certify that the project entitled "DESIGN AND VERIFICATION OF APB PROTOCOL IN AMBA USING SYSTEM VERILOG" is done by G. DUSHYANTH (16911A04C9), P.SAI SRINATH(16911A04G3) and P.L.S SUBRAMANESHWARA RAO (16911A04F8), B.HEMANTH SRUJAN(17915A0416) submitted to the faculty of Electronics & Communication Engineering in partial fulfilment of the requirements for the Degree of BACHELOR OF TECHNOLOGY in ELECTRONICS AND COMMUNICATION ENGINEERING for the academic year of 2019-2020

Signature of the Guide Mr. SHUBANVALLI SHAIK M.Tech, Asst. Professor Dept. of ECE Signature of the HOD DR. K. VASANTH Ph. D Professor & HOD Dept. of ECE

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Department of Electronics and Communication Engineering



CERTIFICATE

This is to certify that the project work entitled "Face Recognition using Raspberry pi" is a bonafide work carried out by G.Dharani Santhoshi (16911A04D2), T.Maheshbabu (16911A04H6), D.Hari Krishna (17915A0417), S.Manogn a Reddy (16911A04H2) of B.Tech IV-II semester of Electronics and Communication Engineering is a record bonafide work carried by them. 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

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Wir. K. Vasanth HOD & Professor Dept.of ECE

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Department of Electronics and Communication Engineering



CERTIFICATE

This is to certify that the project work entitled "SMART FARMING USING IoT" is done by M. Pallavi (16911A04F0), P. Nikhila Reddy (16911A04F7), J. Vishal (179115A0418) submitted to the faculty of Electronics and communication Engineering in partial fulfilment of the requirements for the Degree of BACHELOR OF TECHNOLOGY in ELECTRONICS AND COMMUNICATION ENGINEERING for the academic year of 2019-2020

Signature of the Guide

Mr. D. NARESH KUMAR M. Tech,

Asst. Professor Dept. of ECE

Signature of the HOD

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CERTIFICATE

This is to certify that the project report titled "DISEASE PREDICTION USING MACHINE LEARNING" is being submitted by CHITYALA RANI (16911A04C6), A.ETHISH KUMAR (16911A04C1), K.BHANU PRASAD (16911A04E3), M.SRINIVAS (17915A0420) of B.tech IV-semester of *Electronics & Communication Engineering* is a record bonafide work carried out by them. The results embodied in this report have not been submitted to any other University for the award of any degree.

INTERNAL GUIDE,

Mr. PRADEEP KUMAR (Asst.Professor Dept Of ECE) HEAD OF THE DEPARTMENT,

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CERTIFICATE

This is to certify that the project report titled "Automatic Accident Notification Model" is being submitted by T.NAVYA REDDY (17915A0423), S.SAHITHI (16911A0H1) of B.tech IV- II semester of Electronics & Communication Engineering is a record bonafide work carried out by them. The results embodied in this report have not been submitted to any other University for the award of any degree.

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Department of Electronics and Communication Engineering



CERTIFICATE

This is to certify that the project report titled "Smart Footstep power generation using RFID for charging" is being submitted by K.AKHILA (16911A04L2), M.S.M.HUSSAIN(16911A04L7), K.GANESH(17915A0425), G.S AI PRASAD(14911A0472) of B.tech IV- I semester of *Electronics & Communication Engineering* is a record bonafide work carried out by them. The results embodied in this report have not been submitted to any other University for the award of any degree.

INTERNAL GUIDE

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Dept Of ECE)

HEAD OF THE DEPARTMENT

Dr. K. Vasanth (Professor & HOD)

Vidya lyothi hasinate of Technology, bitter (VIII), C.B. Post, Mitter and T.S.

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(Aziz Nagar, C.B.Post, Hyderabad -500075)

Department of Electronics and Communication Engineering



CERTIFICATE

This is to certify that the project report titled "GAS LEVEL DETECTION AND AUTOMATIC BOOKING USING IOT" is being submitted by N.MAMATHA(17915A0427), K.VISHNU(16911A04K9), T.RAKESH(17915A0431), MD.RAHAMAN(16911A04M0) of B.tech IV- II semester of *Electronics & Communication Engineering* is a record bonafide work carried out by them. The results embodied in this report have not been submitted to any other University for the award of any degree.

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(Professor & HOD Dept Of ECE)

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Department of Electronics and Communication Engineering



CERTIFICATE

This is to certify that the project report titled "Intelligent Traffic Light Scheduling Using Image Processing" is being submitted by B.GOVARDHAN (16911A0J8), P.SAI CHANDRA REDDY (17915A0429), G.ANURAG (16911A04K2), J.ANIL KUMAR (16911A04K6) of B.tech IV- II semester of Electronics & Communication Engineering is a record bonafide work carried out by them. The results embodied in this report have not been submitted to any other University for the award of any degree.

INTERNAL GUIDI

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(Professor Dept of ECE)

HEAD OF THE DEPARTMENT

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EXTERNAL EXAMINER

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Department of Electronics and Communication Engineering



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INTERNAL GUIDE

Mrs.M.RENUKA

HEAD OF DEPARTMENT

DR.K.VASANTH

(Asst.Professor, Dept Of ECE)

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II

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Himmyntrager (Vill), C B. Post

(AUTONOMOUS)

AZIZ NAGAR-500075, HYDERABAD DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING.



CERTIFICATE

This is to certify that the project entitled' "

", done by

bearing was bearing, submit

to the faculty of Electronics and Communication Engineering, in partial fulfillment of the requirements for the Degree of with specialization in

from Jawaharlal Nehru Technological University Hyderabad, during the

year 2019-2020.

Mr. CH. SANDEEP

Assistant Professor

Supervisor

Mr. G. SRINIVASA RAO

Associate Professor

M. Tech Project Coordinator

HOD, ECE

EXTERNAL EXAMINER

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Department of Electronics and Communication Engineering



CERTIFICATE

This is to certify that the project report titled "SMART-QUADCOPTER SURVEILLANCE SYSTEM USING OBJECT DETECTION" is being submitted by P.MITHUN RAJ (16911A04A0), Y.SANJANA REDDY (16911A04C0), V.SHRAVAN (16911A04B5), P.SURENDRA (16911A04A2) of B.tech IV- II semester of Electronics & Communication Engineering is a record bonafide work carried out by them. The results embodied in this report have not been submitted to any other University for the award of any degree.

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Department of Electronics and Communication Engineering



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Department of Electronics and Communication Engineering



CERTIFICATE

This is to certify that the project report titled "Ultrasonic Blind Stick with GPS" is being submitted by RACHA GANESH (16911A04A4), M.SAI KUMAR REDDY (16911A0489), MADHU KUNCHALA (16911A0481), P.N.PRANAY (16911A0494) of B.tech IV- 2 semester of Electronics & Communication Engineering is a record bonafide work carried out by them. The results embodied in this report have not been submitted to any other University for the award of any degree.

Mr. G.RAVIKUMAR

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Dr. K. Vasanth

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Department of Electronics and Communication Engineering



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Head of the Department

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Department of Electronics and Communication Engineering



CERTIFICATE

This is to certify that the project report titled "IMPLEMENTATION OF 32-BIT MIPS BASED ON RISC PROCESSOR BY USING VHDL PROSESSOR" is being submitted by B.UMA (17915A0408), S.DHARMA TEJA (16911A04A8), A. SRI CHARAN (16911A0461) of B. Tech IV- II semester of Electronics & Communication Engineering is a record bonafide work carried out by them. The results embodied in this report have not been submitted to any other University for the award of any degree.

HEAD OF THE DEPARTMENT,

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Dr. K. Vasanth (Professor & HOD Dept OECE)

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(Aziz Nagar, C.B.Post, Hyderabad -500075)

Department of Electronics and Communication Engineering



CERTIFICATE

This is to certify that the project report titled "COLOUR DETECTION AND IDENTIFICATION FOR ROBOT DIRECTION CONTROL USING IMAGE PROCESSING" is being submitted by M. AJAY KUMAR (16911A0491), S. FIRDOUS AFREEN (16911A04A9), G. BHAGAVAN (16911A0474), K. NAVA SURYA REDDY (16911A0479) of B.tech IV- I semester of *Electronics & Communication Engineering* is a record bonafide work carried out by them. The results embodied in this report have not been submitted to any other University for the award of any degree.

INTERNAL GUIDE,

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Mr. P. Ganeshan (Professor Dept Of ECE)

Dr. K. Vasanth (Professor & HOD Dept Of ECE)

EXTERNAL EXAMINER

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PRINCIPAL
Vidya Jyodd Institute of Technolog
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Department of Electronics and Communication Engineering



CERTIFICATE

This is to certify that the project report titled "RAILWAY TRACK CRACK DETECTION" is being submitted by N.BHANU PRAKASH REDDY (16911A0493), P.SUPRAJA(16911A0499),

SHASHANK SAURAV(16911A04B0) of B.tech IV- II semester of *Electronics & Communication Engineering* is a record bonafide work carried out by them. The results embodied in this report have not been submitted to any other University for the award of any degree.

INTERNAL GUIDE,

Mr. S. SARVANAN (Asst.Professor Dept Of ECE)

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EXTERNAL EXAMINER,

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Department of Electronics and Communication Engineering



CERTIFICATE

This is to certify that the project report titled "Real Time Smart Attendance Posting Using Image Processing" is being submitted by S RAM GANESH(16911A04B1),ORRAY BHAVANA(16911A04M4),V MRUDULA(16911A04B6),V SRUJANA(16911A04B9) of B.tech IV-II semester of *Electronics & Communication Engineering* is a record bonafide work carried out by them. The results embodied in this report have not been submitted to any other University for the award of any degree.

INTERNAL GUIDE

Dr. M. Vadivel (Professor Dept Of ECE) HEAD OF THE DEPARTMENT

Dr. K. Vasanth (Professor & HOD Dept Of ECE)

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Department of Electronics and Communication Engineering



CERTIFICATE

This is to certify that the project report titled "GARBAGE COLLECTION AND MONITORING ROBOT USING WIRELESS COMMUNICATION" is being submitted by K.DIVYAVANI (17915A0412), THOTA ARUN (16911A04B4), BOINI VARUN (16911A0465), PETER MOSHE (17915A0409) of B.tech IV- II semester of *Electronics & Communication Engineering* is a record bonafide work carried out by them. The results embodied in this report have not been submitted to any other University for the award of any degree.

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Department of Electronics and Communication Engineering



CERTIFICATE

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Department of Electronics and Communication Engineering



CERTIFICATE

This is to certify that the project report titled "Real Time Smart Attendance Posting Using Image Processing" is being submitted by S RAM GANESH(16911A04B1),ORRAY BHAVANA(16911A04M4),V MRUDULA(16911A04B6),V SRUJANA(16911A04B9) of B.tech IV-II semester of *Electronics & Communication Engineering* is a record bonafide work carried out by them. The results embodied in this report have not been submitted to any other University for the award of any degree.

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Dr. M. Vadivel (Professor Dept Of ECE) HEAD OF THE DEPARTMENT

Dr. K. Vasanth (Professor & HOD Dept Of ECE)

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Department of Electronics and Communication Engineering



CERTIFICATE

This is to certify that the project work report entitled "PREDICTION OF EQUIPMENT **FAILURE** USING MACHINE LEARNING", being submitted by Ms. V.SUSHMITHA(16911A04B7), Ms. D.HARSHITHA RAJ(16911A04K1), Ms. P.NAZIMA(16911A04M7), Ms. P.VASANTHI(16911A04N0) in partial fulfilment of the requirements for the award of the Degree of BACHELOR OF TECHNOLOGY IN **ELECTRONICS** AND COMMUNICATION ENGINEERING by JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY, Hyderabad under our guidance and supervision. The results embodied in this project report have not been submitted to any other University or Institute for the award of any Degree or Diploma.

INTERNAL SUPERVISOR

Mrs. M. Lalitha Soumya

(Asst. Professor, Dept. of ECE)

Dr. K. Vasanth

(HOD & Professor, Dept. of ECE)

EXTERNAL EXAMINER

Himmystrager (VIII), C B. Post

(An Autonomous Institution)

(Permanently Affiliated to JNTUH, NAAC accredited, Hyderabad)

Department of Electronics and Communication Engineering



CERTIFICATE

This is to certify that the project entitled "ELECTRONIC PROTECTION FOR EXAM PAPER LEAKAGE", being submitted by D. PRANITHA (16911A0469), D.SUPRIYA (16911A0468), M. RAHUL YADAV (16911A0486), and V. SHRAVAN REDDY (16911A0488) in partial fulfillment of the requirements for the award of the Degree of BACHELOR OF TECHNOLOGY in ELECTRONICS AND COMMUNICATION ENGINEERING by the JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY, Hyderabad under our guidance and supervision. The results embodied in this project report have not been submitted to any other University or Institute for the award of any Degree or Diploma.

INTERNAL GUIDE

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Mr! K. Vasanth
Department of ECE
VJIT, Hyderabad

EXTERNAL EXAMINER

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Department of Electronics and Communication Engineering



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Dr. K. Vasanth (Professor & HOD Dept Of ECE)

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Department of Electronics and Communication Engineering



CERTIFICATE

This is to certify that the project report titled "SMART-QUADCOPTER SURVEILLANCE SYSTEM USING OBJECT DETECTION" is being submitted by P.MITHUN RAJ (16911A04A0), Y.SANJANA REDDY (16911A04C0), V.SHRAVAN (16911A04B5), P.SURENDRA (16911A04A2) of B.tech IV- II semester of Electronics & Communication Engineering is a record bonafide work carried out by them. The results embodied in this report have not been submitted to any other University for the award of any degree.

INTERNAL GUIDE,

HEAD OF THE DEPARTMENT,

Dr. S. Thulasi prasad (Professor Dept Of ECE) Dr. R. Vasanth (Professor & HOD Dept Of ECE)

EXTERNAL EXAMINER

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Department of Electronics and Communication Engineering



CERTIFICATE

This is to certify that the project report titled "DISEASE PREDICTION USING MACHINE LEARNING" is being submitted by CHITYALA RANI (16911A04C6), A.ETHISH KUMAR (16911A04C1), K.BHANU PRASAD (16911A04E3), M.SRINIVAS (17915A0420) of B.tech IV-semester of *Electronics & Communication Engineering* is a record bonafide work carried out by them. The results embodied in this report have not been submitted to any other University for the award of any degree.

INTERNAL GUIDE,

Mr. PRADEEP KUMAR (Asst. Professor Dept Of ECE) HEAD OF THE DEPARTMENT,

Dr. K. Vasanth (Professor & HOD Dept Of ECE)

EXTERNAL EXAMINER,

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Department of Electronics and Communication Engineering



CERTIFICATE

This is to certify that the project entitled "AN AUTOMATIC DRIVER DROWSINESS ALERT SYSTEM USING ARDUINO" is a bonafide work carried out by Bandi Ramya(16911A04C3), Deepthi (15911A04D9), Hemanth (16911A04D7), Praneeth(16911A04G9) in partial fulfillment of the requirements for the award of degree of BACHELOR OF TECHNOLOGY in ELECTRONICS AND COMMUNICATION ENGINEERING by the JAWAHARLAL NEHRU TECHNOLOGY UNIVERSITY, Hyderabad, under our guidance and supervision.

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INTERNAL GUIDE

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ior, K. Vasanth
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Department of Electronics and Communication Engineering



CERTIFICATE

This is to certify that the project work entitled "IOT BASED DIGITAL METER" is a bonafide work carried out by C. SATVIKA (16911A04C5), PEMMAKA NIRANJAN REDDY (16911A04G0), VUJINI NITHIN RAJ (16911A04J0), MUTHYALA RAJESH

(16915A0433) in partial fulfillment of the requirement for the award of degree of Bachelor of Technology in Electronics and Communication Engineering by JAWAHARLAL NEHRU TECHNOLOGY UNIVERSITY, Hyderabad, under our guidance and supervision.

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IT, Hyderabad

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CERTIFICATE

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INTERNAL GUIDE,

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Department of Electronics and Communication Engineering



CERTIFICATE

This is to certify that the project entitled "Automatic Facial Expressions and Identification of different face reactions using Convolutional Neural Network" is done by R. Nikhil Kumar – 16911A04G4, E. Akhil Prasad – 16911A04C7submitted to the faculty of Electronics & Communication Engineering in partial fulfilment of the requirements for the Degree of BACHELOR OF TECHNOLOGY

inELECTRONICSANDCOMMUNICATION

ENGINEERING for the academic year of 2019-2020

Signature of the Guide

Pradeep Kumar

Assoc. Professor Dept. of ECE

Signature of the HOD

DR.K. VASANTH Ph. D

Professor & HOD Dept. of ECE

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Department of Electronics and Communication Engineering



CERTIFICATE

This is to certify that the project entitled "DESIGN AND VERIFICATION OF APB PROTOCOL IN AMBA USING SYSTEM VERILOG" is done by G. DUSHYANTH (16911A04C9), P.SAI SRINATH(16911A04G3) and P.L.S SUBRAMANESHWARA RAO (16911A04F8), B.HEMANTH SRUJAN(17915A0416) submitted to the faculty of Electronics & Communication Engineering in partial fulfilment of the requirements for the Degree of BACHELOR OF TECHNOLOGY in ELECTRONICS AND COMMUNICATION ENGINEERING for the academic year of 2019-2020

Signature of the Guide Mr. SHUBANVALLI SHAIK M.Tech, Asst. Professor Dept. of ECE Signature of the HOD DR. K. VASANTH Ph. D Professor & HOD Dept. of ECE

EXTERNAL EXAMINER

Vidya lycotal locations of Technology Vidya lycotal locations of Technology (Vill), C. B. Prod. Himmy Market 73.

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Department of Electronics and Communication Engineering



This is to certify that the project work entitled "SMART GATE SYSTEM USING BLUETOOTH" is a bonafide work carried out by Ch.Jyothi Kiranmai (16911A0411), G. Shesha Sai(16911A04D0), K. Mamatha (17915A0402) in partial fulfilment of the requirements for the award of degree of BACHELOR OF TECHNOLOGY IN ELECTRONICS AND COMMUNICATION ENGINEERING by the JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY, Hyderabad, under our guidance and supervision.

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Department of Electronics and Communication Engineering



CERTIFICATE

This is to certify that the project report titled "VEHICLE TRACKING SYSTEM USING IOT" is being submitted by G. DEEKSHITHA (16911A04D3), G. BHAVANA (16911A04D1), K. RAJESH (16911A04E0), P. YESHWANTH (16911A04F5) of B.tech IV- I semester of *Electronics & Communication Engineering* is a record bonafide work carried out by them. The results embodied in this report have not been submitted to any other University for the award of any degree.

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Dr. K. Vasanth

(Professor & HOD Dept Of ECE)

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Department of Electronics and Communication Engineering



CERTIFICATE

This is to certify that the project work entitled "Face Recognition using Raspberry pi" is a bonafide work carried out by G.Dharani Santhoshi (16911A04D2), T.Maheshbabu (16911A04H6), D.Hari Krishna (17915A0417), S.Manogn a Reddy (16911A04H2) of B.Tech IV-II semester of Electronics and Communication Engineering is a record bonafide work carried by them. The results embodied in this report have not been submitted to any other university or institute for the award of any degree or diploma.

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Mrs. A.Pavithra
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Head of the Department

Wir. K. Vasanth HOD & Professor Dept.of ECE

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Department of Electronics and Communication Engineering



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Department of Electronics and Communication Engineering



CERTIFICATE

This is to certify that the project report titled "Arduino Based Child Rescue System From Borewell" is being submitted by M.MOUNIKA (16911A04F1), S.MANICHANDANA (16911A04H3), J.RAKSHIT (16911A04D5) of B.tech IV-I semester of Electronics & Communication Engineering is a record bonafide work carried out by them. The results embodied in this report have not been submitted to any other University for the award of any degree.

Mrs.K.Kavita (Asst.Professor Dept Of ECE) HEAD OF THE DEPARTMENT,

Dr. K. Vasanth (Professor & HOD Dept Of ECE)

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Department of Electronics and Communication Engineering



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This is to certify that the project entitled "AN AUTOMATIC DRIVER DROWSINESS ALERT SYSTEM USING ARDUINO" is a bonafide work carried out by Bandi Ramya(16911A04C3), Deepthi (15911A04D9), Hemanth (16911A04D7), Praneeth(16911A04G9) in partial fulfillment of the requirements for the award of degree of BACHELOR OF TECHNOLOGY in ELECTRONICS AND COMMUNICATION ENGINEERING by the JAWAHARLAL NEHRU TECHNOLOGY UNIVERSITY, Hyderabad, under our guidance and supervision.

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INTERNAL GUIDE

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Department of Electronics and Communication Engineering



CERTIFICATE

This is to certify that the project work entitled "IMPLEMENTATION OF UART PROTOCAL BASED ON FIFO TECHNIQUE USING FIFO" is a bonafied work carried out by V Sravani (17915A0415), S Anusha (15911A0453), R Siva Karthik (16911A04G6), K Sai Teja (16911A04D9), P Pavan (17915A0405) in partial fulfilment of the requirement for the award of degree of Bachelor of Technology in Electronics and Communication Engineering by JAWAHARLAL NEHRU TECHNOLOGY UNIVERSITY, Hyderabad under out guidance and supervision.

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INTERNAL GUIDE,

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EXTERNAL EXAMINER.

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Myderabad-75

(An Autonomous Institution) (Permanently affiliated to JNTUH, NAAC accreditation, Hyderabad) Department of Electronics and Communication Engineering



CERTIFICATE

This is to certify that the project report entitled "Smart security device for women" is a bonafide work submitted by K. Charishma (16911A04E2), K. Pavan Krishna Rathod(16911A04E1), K. Madhu (15915A0416) of B.tech IV- II semester of Electronics & Communication Engineering is a record bonafide work carried out by them. The results embodied in this report have not been submitted to any other University for the award of any degree or diploma

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Head of the Department

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(Professor and HOD Dept. of ECE)

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CERTIFICATE

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(M. E, Ph. D)

Head of the Department

Dr. K. Vasanth

(Professor and HOD Dept. of ECE)

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Department of Electronics and Communication Engineering



CERTIFICATE

This is to certify that the project report titled "DISEASE PREDICTION USING MACHINE LEARNING" is being submitted by CHITYALA RANI (16911A04C6), A.ETHISH KUMAR (16911A04C1), K.BHANU PRASAD (16911A04E3), M.SRINIVAS (17915A0420) of B.tech IV-semester of *Electronics & Communication Engineering* is a record bonafide work carried out by them. The results embodied in this report have not been submitted to any other University for the award of any degree.

INTERNAL GUIDE,

Mr. PRADEEP KUMAR (Asst.Professor Dept Of ECE) HEAD OF THE DEPARTMENT,

Dr. K. Vasanth (Professor & HOD Dept Of ECE)

EXTERNAL EXAMINER,

Vidya lyothi institute of Technolos Himpetingar (Vill), C.B. Pon

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(An Autonomous Institution)

(Permanently Affiliated to JNTUH, NAAC accredited, Hyderabad)

Department Of Electronics And Communication Engineering



CERTIFICATE

This is to certify that the project entitled "IMAGE TO TEXT CONVERSION USING OCR AND IMAGE PROCESSING", done by L.Madhuri(16911A04E5), M.Spoorti Bharati(16911A04E7), S.Sri Harshita(16911A04H0), V.Harish(16911A04H9) submitted to the faculty of Electronics & Communication Engineering, in partial fulfilment of the requirements for the Degree of BACHELOR OF TECHNOLOGY in ELECTRONICS AND COMMUNICATION ENGINEERING for the academic year of 2019-2020.

Signature of the Guide

Mr. V. Sridhar

Assoc. professor Dept of ECE

Signature of the Head of the Department

Professor & HOD Dept of ECE

EXTERNAL EXAMINER

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Himstysineger (VIII), C B. Post.

(An Autonomous Institution)

(Permanently Affiliated to JNTUH, NACC accredited, Hyderabad)

Department of Electronics and Communication Engineering



CERTIFICATE

This is to certify that the project entitled "MODEL AND IMPLEMENTATION OF ROBOTIC ARM USING ANDROIDO" is a bonafied work carried out by, M.Harsha vardhan reddy (16911A04E6), P.Mani shankar(16911A04G2), K.Sai teja(16911A04G8) and Suhas hrithik(16911A04H5) in partial fulfilment of the requirements for the award of degree of BACHELOR OF TECHNOLOGY IN ELECTRONICS AND COMMUNICATION ENGINEERING by the JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY, Hyderabad, under our guidance and supervision.

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INTERNAL SUPERVISOR HEAD OF DEPARTMENT

Department of ECE

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Signature of the Guide

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This is to certify that the project work entitled "SMART FARMING USING IoT" is done by M. Pallavi (16911A04F0), P. Nikhila Reddy (16911A04F7), J. Vishal (179115A0418) submitted to the faculty of Electronics and communication Engineering in partial fulfilment of the requirements for the Degree of BACHELOR OF TECHNOLOGY in ELECTRONICS AND COMMUNICATION ENGINEERING for the academic year of 2019-2020

Signature of the Guide

Mr. D. NARESH KUMAR M. Tech,

Asst. Professor Dept. of ECE

Signature of the HOD

DR!K. VASANTH Ph. D

Professor & HOD Dept. of ECE

External Examiner

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Department of Electronics and Communication Engineering



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Mrs.K.Kavita (Asst.Professor Dept Of ECE) HEAD OF THE DEPARTMENT,

Dr. K. Vasanth (Professor & HOD Dept Of ECE)

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Department of Electronics and Communication Engineering



CERTIFICATE

This is to certify that the project report titled "VEHICLE TRACKING SYSTEM USING IOT" is being submitted by G. DEEKSHITHA (16911A04D3), G. BHAVANA (16911A04D1), K. RAJESH (16911A04E0), P. YESHWANTH (16911A04F5) of B.tech IV- I semester of *Electronics & Communication Engineering* is a record bonafide work carried out by them. The results embodied in this report have not been submitted to any other University for the award of any degree.

INTERNAL GUIDE,

Mr. XXXX Shale Magny

(Asst.Professor Dept Of ECE)

HEAD OF THE DEPARTMENT,

Dr. K. Vasanth

(Professor & HOD Dept Of ECE)

EXTERNAL EXAMINER.

DOSTANTO AS

Viciya Iyoud Institute of Technology Himmystoszar (Vill), C.B. Poss

Myderabad-75

(An Autonomous Institution)

(Permanently affiliated to JNTUH, NAAC accredited, Hyderabad)

Department of Electronics and Communication Engineering



CERTIFICATE

This is to certify that the project work entitled "SMART FARMING USING IoT" is done by M. Pallavi (16911A04F0), P. Nikhila Reddy (16911A04F7), J. Vishal (179115A0418) submitted to the faculty of Electronics and communication Engineering in partial fulfilment of the requirements for the Degree of BACHELOR OF TECHNOLOGY in ELECTRONICS AND COMMUNICATION ENGINEERING for the academic year of 2019-2020

Signature of the Guide

Mr. D. NARESH KUMAR M. Tech,

Asst. Professor Dept. of ECE

Signature of the HOD

DR!K. VASANTH Ph. D

Professor & HOD Dept. of ECE

External Examiner

Vidya Iyothi Institute of Technology Himsystenger (Vill), C.B. Post

Mydarabai-75.

(An Autonomous Institution)

(Permanently Affiliated to JNTUH, NAAC accredited, Hyderabad)

Department of Electronics and Communication Engineering



CERTIFICATE

This is to certify that the project entitled "DESIGN AND VERIFICATION OF APB PROTOCOL IN AMBA USING SYSTEM VERILOG" is done by G. DUSHYANTH (16911A04C9), P.SAI SRINATH(16911A04G3) and P.L.S SUBRAMANESHWARA RAO (16911A04F8), B.HEMANTH SRUJAN(17915A0416) submitted to the faculty of Electronics & Communication Engineering in partial fulfilment of the requirements for the Degree of BACHELOR OF TECHNOLOGY in ELECTRONICS AND COMMUNICATION ENGINEERING for the academic year of 2019-2020

Signature of the Guide Mr. SHUBANVALLI SHAIK M.Tech, Asst. Professor Dept. of ECE Signature of the HOD DR. K. VASANTH Ph. D Professor & HOD Dept. of ECE

EXTERNAL EXAMINER

Vidya lycotal locations of Technology Vidya lycotal locations of Technology (Vill), C. B. Prod. Himmy Market 73.

(An Autonomous Institution)

(Permanently affiliated to JNTUH, NAAC accreditation, Hyderabad)

Department of Electronics and Communication Engineering



CERTIFICATE

This is to certify that the project work entitled "IOT BASED DIGITAL METER" is a bonafide work carried out by C. SATVIKA (16911A04C5), PEMMAKA NIRANJAN REDDY (16911A04G0), VUJINI NITHIN RAJ (16911A04J0), MUTHYALA RAJESH

(16915A0433) in partial fulfillment of the requirement for the award of degree of Bachelor of Technology in Electronics and Communication Engineering by JAWAHARLAL NEHRU TECHNOLOGY UNIVERSITY, Hyderabad, under our 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

Department of ECE VJIT, Hyderabad

Department of ECE

IT, Hyderabad

EXTERNAL EXAMINER

Yidya Iyothi lastings of Technology Hinneyetneger (VIII), C.B. Pon

(An Autonomous Institution)

(Permanently Affiliated to JNTUH, NACC accredited, Hyderabad)

Department of Electronics and Communication Engineering



CERTIFICATE

This is to certify that the project entitled "MODEL AND IMPLEMENTATION OF ROBOTIC ARM USING ANDROIDO" is a bonafied work carried out by, M.Harsha vardhan reddy (16911A04E6), P.Mani shankar(16911A04G2), K.Sai teja(16911A04G8) and Suhas hrithik(16911A04H5) in partial fulfilment of the requirements for the award of degree of BACHELOR OF TECHNOLOGY IN ELECTRONICS AND COMMUNICATION ENGINEERING by the JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY, Hyderabad, under our guidance and supervision.

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INTERNAL SUPERVISOR HEAD OF DEPARTMENT

Department of ECE

Department of ECE

VJIT, Hyderabad VJIT, Hyderabad

EXTERNAL EXAMINER

Vidya Jyoshi Ingines

(An Autonomous Institution)

(Permanently Affiliated to JNTUH, NAAC accredited, Hyderabad)

Department of Electronics and Communication Engineering



CERTIFICATE

This is to certify that the project entitled "DESIGN AND VERIFICATION OF APB PROTOCOL IN AMBA USING SYSTEM VERILOG" is done by G. DUSHYANTH (16911A04C9), P.SAI SRINATH(16911A04G3) and P.L.S SUBRAMANESHWARA RAO (16911A04F8), B.HEMANTH SRUJAN(17915A0416) submitted to the faculty of Electronics & Communication Engineering in partial fulfilment of the requirements for the Degree of BACHELOR OF TECHNOLOGY in ELECTRONICS AND COMMUNICATION ENGINEERING for the academic year of 2019-2020

Signature of the Guide Mr. SHUBANVALLI SHAIK M.Tech, Asst. Professor Dept. of ECE Signature of the HOD DR. K. VASANTH Ph. D Professor & HOD Dept. of ECE

EXTERNAL EXAMINER

Vidya lycotal locations of Technology Vidya lycotal locations of Technology (Vill), C. B. Prod. Himmy Market 73.

(An Autonomous Institution)

(Permanently Affiliated to JNTUH, NAAC accredited, Hyderabad)

Department of Electronics and Communication Engineering



CERTIFICATE

This is to certify that the project entitled "Automatic Facial Expressions and Identification of different face reactions using Convolutional Neural Network" is done by R. Nikhil Kumar – 16911A04G4, E. Akhil Prasad – 16911A04C7submitted to the faculty of Electronics & Communication Engineering in partial fulfilment of the requirements for the Degree of BACHELOR OF TECHNOLOGY

inELECTRONICSANDCOMMUNICATION

ENGINEERING for the academic year of 2019-2020

Signature of the Guide

Pradeep Kumar

Assoc. Professor Dept. of ECE

Signature of the HOD

DR.K. VASANTH Ph. D

Professor & HOD Dept. of ECE

EXTERNAL EXAMINER

ii

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Vidya Iyotki Institute of Technolog
Hinspalmgur (VIII), C B. Post

Marchest 70

(An Autonomous Institution) (Permanently affiliated to JNTUH,NAAC accreditation,Hyderabad) Department of Electronics and Communication Engineering



CERTIFICATE

This is to certify that the project work entitled "ENERGY EFFICIENCY OPTIMIZATION FOR DEVICE-TO-DEVICE COMMUNICATIONS IN 5G NETWORKS" is a bonafide work carried out by E.SREENATH(16911A04H4), ZAKEER MOHAMMAD(15911A0460), RAMGIRI VISHAL(16911A04G5) in partial fulfillment of the requirements for the award of degree of Bachelor of Technology in Electronics and Communication Engineering by the JAWAHARLAL NEHRU TECHNOLOGY UNIVERSITY, Hyderabad, under our guidance and supervision.

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Internal Guide

Department Of ECE

VJIT, Hyderabad

Head of the Department

Department of ECE

VJIT, Hyderabad

EXTERNAL EXAMINER

Vidya Iyothi Institute of Technology Himeyatnagar (Vill), C B. Post

(An Autonomous Institution)

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Department of Electronics and Communication Engineering



CERTIFICATE

This is to certify that the project work entitled "IMPLEMENTATION OF UART PROTOCAL BASED ON FIFO TECHNIQUE USING FIFO" is a bonafied work carried out by V Sravani (17915A0415), S Anusha (15911A0453), R Siva Karthik (16911A04G6), K Sai Teja (16911A04D9), P Pavan (17915A0405) in partial fulfilment of the requirement for the award of degree of Bachelor of Technology in Electronics and Communication Engineering by JAWAHARLAL NEHRU TECHNOLOGY UNIVERSITY, Hyderabad under out guidance and supervision.

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Department of ECE VJIT, Hyderabad

Department of ECE JIT, Hyderabad

EXTERNAL EXAMINER

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Department of Electronics and Communication Engineering



CERTIFICATE

This is to certify that the project entitled "MODEL AND IMPLEMENTATION OF ROBOTIC ARM USING ANDROIDO" is a bonafied work carried out by, M.Harsha vardhan reddy (16911A04E6), P.Mani shankar(16911A04G2), K.Sai teja(16911A04G8) and Suhas hrithik(16911A04H5) in partial fulfilment of the requirements for the award of degree of BACHELOR OF TECHNOLOGY IN ELECTRONICS AND COMMUNICATION ENGINEERING by the JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY, Hyderabad, under our guidance and supervision.

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INTERNAL SUPERVISOR HEAD OF DEPARTMENT

Department of ECE

Department of ECE

VJIT, Hyderabad VJIT, Hyderabad

EXTERNAL EXAMINER

Vidya Jyoshi Ingines

(An Autonomous Institution)

(Permanently Affiliated to JNTUH, NAAC accredited, Hyderabad)

Department of Electronics and Communication Engineering



CERTIFICATE

This is to certify that the project entitled "AN AUTOMATIC DRIVER DROWSINESS ALERT SYSTEM USING ARDUINO" is a bonafide work carried out by Bandi Ramya(16911A04C3), Deepthi (15911A04D9), Hemanth (16911A04D7), Praneeth(16911A04G9) in partial fulfillment of the requirements for the award of degree of BACHELOR OF TECHNOLOGY in ELECTRONICS AND COMMUNICATION ENGINEERING by the JAWAHARLAL NEHRU TECHNOLOGY UNIVERSITY, Hyderabad, under our guidance and supervision.

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INTERNAL GUIDE

Dr.S. Tulasi Prasad (Ph. D) Department of ECE HEAD OF DEPARTMENT

ior, K. Vasanth
Department of ECE
VJIT, Hyderabad

EXTERNAL EXAMINER

Vidya Jyothi Institute of Technolog Himeyanagar (VIII), C.B. Pasi Historical-73

(An Autonomous Institution)

(Permanently Affiliated to JNTUH, NAAC accredited, Hyderabad)

Department Of Electronics And Communication Engineering



CERTIFICATE

This is to certify that the project entitled "IMAGE TO TEXT CONVERSION USING OCR AND IMAGE PROCESSING", done by L.Madhuri(16911A04E5), M.Spoorti Bharati(16911A04E7), S.Sri Harshita(16911A04H0), V.Harish(16911A04H9) submitted to the faculty of Electronics & Communication Engineering, in partial fulfilment of the requirements for the Degree of BACHELOR OF TECHNOLOGY in ELECTRONICS AND COMMUNICATION ENGINEERING for the academic year of 2019-2020.

Signature of the Guide

Mr. V. Sridhar

Assoc. professor Dept of ECE

Signature of the Head of the Department

Professor & HOD Dept of ECE

EXTERNAL EXAMINER

PRINCIPAL
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(Aziz Nagar, C.B.Post, Hyderabad -500075)

Department of Electronics and Communication Engineering



CERTIFICATE

This is to certify that the project report titled "Automatic Accident Notification Model" is being submitted by T.NAVYA REDDY (17915A0423), S.SAHITHI (16911A0H1) of B.tech IV- II semester of Electronics & Communication Engineering is a record bonafide work carried out by them. The results embodied in this report have not been submitted to any other University for the award of any degree.

INTERNAL GUIDE

Mr. Mirza Sajid Ali Baig (Asst.Professor Dept of ECE) HEAD OF THEDEPARTMENT

Dr.K. Vasanth

(Professor & HOD Dept of ECE)

EXTERNAL EXAMINER

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Vidya Iyothi Institute of Technology
Himmysungar (Vill), C B. Post.
Myslarshaf-75.

(An Autonomous Institution)

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Department of Electronics and Communication Engineering



CERTIFICATE

This is to certify that the project work entitled "Face Recognition using Raspberry pi" is a bonafide work carried out by G.Dharani Santhoshi (16911A04D2), T.Maheshbabu (16911A04H6), D.Hari Krishna (17915A0417), S.Manogn a Reddy (16911A04H2) of B.Tech IV-II semester of Electronics and Communication Engineering is a record bonafide work carried by them. 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

Mrs. A.Pavithra
Asst.Professor Dept.of ECE

Head of the Department

Wir. K. Vasanth HOD & Professor Dept.of ECE

EXTERNAL EXAMINER

PRINCIPAL
Vidya lyochi Institute of Technology
Histopismon (Vill), C B. Post.

(An Autonomous Institute)
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(Aziz Nagar, C.B.Post, Hyderabad -500075)

Department of Electronics and Communication Engineering



CERTIFICATE

This is to certify that the project report titled "Arduino Based Child Rescue System From Borewell" is being submitted by M.MOUNIKA (16911A04F1), S.MANICHANDANA (16911A04H3), J.RAKSHIT (16911A04D5) of B.tech IV-I semester of Electronics & Communication Engineering is a record bonafide work carried out by them. The results embodied in this report have not been submitted to any other University for the award of any degree.

Mrs.K.Kavita (Asst.Professor Dept Of ECE) HEAD OF THE DEPARTMENT,

Dr. K. Vasanth (Professor & HOD Dept Of ECE)

EXTERNAL EXAMINER.

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CERTIFICATE

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Internal Guide

Department Of ECE

VJIT, Hyderabad

Head of the Department

Department of ECE

VJIT, Hyderabad

EXTERNAL EXAMINER

Vidya Iyothi Institute of Technology Himeyatnagar (Vill), C B. Post

(An Autonomous Institution)

(Permanently Affiliated to JNTUH, NACC accredited, Hyderabad)

Department of Electronics and Communication Engineering



CERTIFICATE

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INTERNAL SUPERVISOR HEAD OF DEPARTMENT

Department of ECE

Department of ECE

VJIT, Hyderabad VJIT, Hyderabad

EXTERNAL EXAMINER

Vidya Jyoshi Ingines

(An Autonomous Institution)

Accredited by NAAC & NBA, Approved by A.I.C.T.E, New Delhi Permanently affiliated to JNTUH, NAAC accreditation, Hyderabad (Aziz Nagar, C.B Post Hyderabad -500075)

Department of Electronics and Communication Engineering



CERTIFICATE

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Internal Guide

Mrs. A.Pavithra
Asst.Professor Dept.of ECE

Head of the Department

Wir. K. Vasanth HOD & Professor Dept.of ECE

EXTERNAL EXAMINER

PRINCIPAL
Vidya lyochi Institute of Technology
Histopismon (Vill), C B. Post.

(An Autonomous Institution)

(Permanently Affiliated to JNTUH, NAAC accredited, Hyderabad)

Department Of Electronics And Communication Engineering



CERTIFICATE

This is to certify that the project entitled "IMAGE TO TEXT CONVERSION USING OCR AND IMAGE PROCESSING", done by L.Madhuri(16911A04E5), M.Spoorti Bharati(16911A04E7), S.Sri Harshita(16911A04H0), V.Harish(16911A04H9) submitted to the faculty of Electronics & Communication Engineering, in partial fulfilment of the requirements for the Degree of BACHELOR OF TECHNOLOGY in ELECTRONICS AND COMMUNICATION ENGINEERING for the academic year of 2019-2020.

Signature of the Guide

Mr. V. Sridhar

Assoc. professor Dept of ECE

Signature of the Head of the Department

Professor & HOD Dept of ECE

EXTERNAL EXAMINER

PRINCIPAL
Vidya Iyothi Institute of Technolog"
Himstysineger (VIII), C B. Post.

(An Autonomous Institution)

(Permanently affiliated to JNTUH, NAAC accreditation, Hyderabad)

Department of Electronics and Communication Engineering



CERTIFICATE

This is to certify that the project work entitled "IOT BASED DIGITAL METER" is a bonafide work carried out by C. SATVIKA (16911A04C5), PEMMAKA NIRANJAN REDDY (16911A04G0), VUJINI NITHIN RAJ (16911A04J0), MUTHYALA RAJESH

(16915A0433) in partial fulfillment of the requirement for the award of degree of Bachelor of Technology in Electronics and Communication Engineering by JAWAHARLAL NEHRU TECHNOLOGY UNIVERSITY, Hyderabad, under our guidance and supervision.

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Internal Guide

Department of ECE VJIT, Hyderabad

Department of ECE

IT, Hyderabad

EXTERNAL EXAMINER

Yidya Iyothi lastings of Technology Hinneyetneger (VIII), C.B. Pon

(An Autonomous Institute)

Accredited by NAAC & NBA, Approved By A.I.C.T.E., New Delhi, Permanently Affiliated to JNTU, Hyderabad) (Aziz Nagar, C.B.Post, Hyderabad -500075)

Department of Electronics and Communication Engineering



CERTIFICATE

This is to certify that the project report titled "ADVANCED TRAFFIC CONTROL WITH MOVABLE ROAD DIVIDER" is being submitted by A.AJAY KUMAR (16911A04J2), S.SAGAR (16911A04N8) G.SHASHANK(16911A04K4), J.SHEKHAR(16911A04K5) of B.tech IV- I semester of Electronics & Communication Engineering is a record bonafide work carried out by them. The results embodied in this report have not been submitted to any other University for the award of any degree.

INTERNAL GUIDE

Dr. VG. Sivakumar

(Associate Professor, Dept Of ECE)

HEAD OF THE DEPARTMENT

Dr. K. Vasanth

(Professor & HOD Dept Of ECE)

EXTERNAL EXAMINER

Histogram (Vill), C.B. Post

(An Autonomous Institution)

(Permanently Affiliated to JNTUH, NAAC accredited, Hyderabad)
Department of Electronics and Communication Engineering



CERTIFICATE

This is to certify that the project work entitled "HEART DISEASE PREDICTION" is a bonafied work and carried out by B.RAJKUMAR (16911A04J6), K.ANIRUDH KUMAR REDDY (16911A04L1), N.SHIVA PRASAD (16911A04M3), G.MANEESHWAR REDDY (16911A04Q0) in partial fulfillment of the requirements for the award of the degree of BACHELOR OF TECHNOLOGY IN ELECTRONICS AND COMMUNICATION ENGINEERING by the JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY, Hyderabad, under our guidance and supervision.

The results embedded in the report have not been submitted to any other university or institute for any award of degree or diploma.

INTERNAL EXAMINER
Mr. MD.Akram Ahmed
Department of ECE VJIT

HEAD OF THE DEPARTMENT

Dr. Vasanth K.

Department of ECE VJIT

EXTERNAL EXAMINER

Vidya Jyothi Institute of Technology Himmysteeger (Vill), C.S. Post

Mysterabad-75.

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Department of Electronics and Communication Engineering



CERTIFICATE

This is to certify that the project report titled "Intelligent Traffic Light Scheduling Using Image Processing" is being submitted by B.GOVARDHAN (16911A0J8), P.SAI CHANDRA REDDY (17915A0429), G.ANURAG (16911A04K2), J.ANIL KUMAR (16911A04K6) of B.tech IV- II semester of *Electronics & Communication Engineering* is a record bonafide work carried out by them. The results embodied in this report have not been submitted to any other University for the award of any degree.

INTERNAL GUIDE

Dr.P.Ganesan

(Professor Dept of ECE)

HEAD OF THE DEPARTMENT

Dr. K. Vasanth

(Professor & HOD Dept of ECE)

EXTERNAL EXAMINER

Vidya Iyuthi Institute of Technology Himayatnagar (VIII), C.B. Post

Vidya Jyothi Institute of Technology

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Approved by AICTE, Accredited by NAAC & NBA, Permanently Affiliated by JNTUH
Aziz Nagar, Hyderabad -500075



CERTIFICATE

This is to certify that the project work entitled "COAL MINE ACCIDENTS DETECTION AND AUTOMATION SYSTEM" is a bonafied work carried out by M. AMBIKA (16911A04L8), C. CHANDRA SAI (16911A04J9), V.SRIDHAR (16911A04P6), M. MARUTHI SAI RAJ (16911A04L6) in partial fulfillment of the requirements for the award of degree of BACHELOR OF TECHNOLOGY IN ELECTRONICS AND COMMUNICATION ENGINEERING by the JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY, Hyderabad, under our 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

Department of ECE

VJIT, Hyderabad

Head of the Department

Department of ECE VJIT, Hyderabad

External Examiner

PRINCIPAL

Vidya lyothi institute of Technolog

(An Autonomous Institution)

Accredited by NBA, Approved by AICTE, New Delhi & Permanently Affiliated to JNTUH

Department of Electronics And Communication Engineering



CERTIFICATE

"SAFETY This is to certify that the project work entitled IMPROVEMENT OF FISHERMEN USING ARDUINO UNO" is a bonafide work carried out by Mr.V.Mahesh (16911A04P3), Mr.C.Sai Kumar (16911A04K0), Mr.K.Anil Kumar (15911A0472), Mr.M Sharath Chandra (16911A04L4) in partial fulfillment of the requirements for the of BACHELOR TECHNOLOGY **OF** award Degree ELECTRONICS AND COMMUNICATION ENGINEERING by the JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY, HYDERABAD, under the guidance and supervision.

The results embodied in this project report have not been submitted to any other University of Institute for the award of any Degree or Diploma.

INTERNAL GUIDE

HEAD OF DEPARTMENT

Department of ECE

VJIT, Hyderabad

Department of ECE

VJIT Hyderabad

EXTERNAL EXAMINER

PRINCIPAL
Toys Jyothi Institute of Technology
Himayatmagar (Vill), C B. Post
Hyderabad-75

(An Autonomous Institution)

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Department of Electronics and Communication Engineering



CERTIFICATE

This is to certify that the project work report entitled "PREDICTION OF EQUIPMENT **FAILURE** USING MACHINE LEARNING", being submitted by Ms. V.SUSHMITHA(16911A04B7), Ms. D.HARSHITHA RAJ(16911A04K1), Ms. P.NAZIMA(16911A04M7), Ms. P.VASANTHI(16911A04N0) in partial fulfilment of the requirements for the award of the Degree of BACHELOR OF TECHNOLOGY IN **ELECTRONICS** AND COMMUNICATION ENGINEERING by JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY, Hyderabad under our guidance and supervision. The results embodied in this project report have not been submitted to any other University or Institute for the award of any Degree or Diploma.

INTERNAL SUPERVISOR

Mrs. M. Lalitha Soumya

(Asst. Professor, Dept. of ECE)

Dr. K. Vasanth

(HOD & Professor, Dept. of ECE)

EXTERNAL EXAMINER

Himmystrager (VIII), C B. Post

(An Autonomous Institute)

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Department of Electronics and Communication Engineering



CERTIFICATE

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INTERNAL GUIDI

Dr.P.Ganesan

(Professor Dept of ECE)

HEAD OF THE DEPARTMENT

(Professor & HOD Dept of ECE)

EXTERNAL EXAMINER

Vidya lyothi Institute of Technology Himayetneger (VIII), C.B. Post

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Department of Electronics and Communication Engineering



CERTIFICATE

This is to certify that the project report titled "ADVANCED TRAFFIC CONTROL WITH MOVABLE ROAD DIVIDER" is being submitted by A.AJAY KUMAR (16911A04J2), S.SAGAR (16911A04N8) G.SHASHANK(16911A04K4), J.SHEKHAR(16911A04K5) of B.tech IV- I semester of Electronics & Communication Engineering is a record bonafide work carried out by them. The results embodied in this report have not been submitted to any other University for the award of any degree.

INTERNAL GUIDE

Dr. VG. Sivakumar

(Associate Professor, Dept Of ECE)

HEAD OF THE DEPARTMENT

Dr. K. Vasanth

(Professor & HOD Dept Of ECE)

EXTERNAL EXAMINER

Histogram (Vill), C.B. Post

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Department of Electronics and Communication Engineering



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Department of Electronics and Communication Engineering



CERTIFICATE

This is to certify that the project report titled "Intelligent Traffic Light Scheduling Using Image Processing" is being submitted by B.GOVARDHAN (16911A0J8), P.SAI CHANDRA REDDY (17915A0429), G.ANURAG (16911A04K2), J.ANIL KUMAR (16911A04K6) of B.tech IV- II semester of Electronics & Communication Engineering is a record bonafide work carried out by them. The results embodied in this report have not been submitted to any other University for the award of any degree.

INTERNAL GUIDI

Dr.P.Ganesan

(Professor Dept of ECE)

HEAD OF THE DEPARTMENT

(Professor & HOD Dept of ECE)

EXTERNAL EXAMINER

Vidya lyothi Institute of Technology Himayetneger (VIII), C.B. Post

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Department of Electronics and Communication Engineering



CERTIFICATE

This is to certify that the project report titled "Design and Fabrication of Microstrip Patch Antenna for WLAN Applications" is being submitted by K.AKHIL ANAND (17915A0426), V.SAIRAM (16911A0N4), P.ROHITH (16911A04M6), K.NAGARJUNA (16911A04K7) of B.tech IV- II semester of *Electronics & Communication Engineering* is a record bonafide work carried out by them. The results embodied in this report have not been submitted to any other University for the award of any degree.

INTERNAL GUIDE

Mr. G.Sreenivasa Rao

(Assoc.Professor Dept of ECE)

HEAD OF THE DEPARTMENT

Dr. K. Vasanth

(Professor & HOD Dept of ECE)

EXTERNAL EXAMINER

Vidya Iyothi Institute of Technology Histogrammar (Vill), C.B. Fort

biselected-75.

(An Autonomous Institution)

(Permanently Affiliated to JNTUH, NAAC accredited, Hyderabad)

Department of Electronics and Communication Engineering



CERTIFICATE

This is to certify that the project entitled "UNDERWATER WIRELESS OPTICAL COMMUNICATION USING LED/LASER", is a bonafide work carried out by V.APOORVA(16911A04P5), M.MAHESHWAR REDDY(16911A04M2), R.NAVEEN(16911A04N3), K.V.RAHUL (16911A04K8) submitted to the faculty of Electronics and Communication engineering in partial fulfillment of the requirements for the degree of BACHELOR OF TECHNOLOGY in ELECTRONICS AND COMMUNICATION ENGINEERING by the JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY, Hyderabad, under our guidance and supervision.

The results emboided in this report have not been submitted to any other university or institute for the award of any degree or diploma.

Signature of the Guide

Signature of the Head of the Department

Department of ECE

Department of ECE

VJIT

VJIT

EXTERNAL EXAMINER

PRINCIPAL
Vidya Jyothi Institute of Technology
Himseyatungar (Vill), C B. Post

(An Autonomous Institute)

Accredited by NAAC & NBA, Approved by A.I.C.T.E., New Delhi, Permanently Affiliated to JNTU, Hyderabad)

(Aziz Nagar, C.B.Post, Hyderabad -500075)

Department of Electronics and Communication Engineering



CERTIFICATE

This is to certify that the project report titled "GAS LEVEL DETECTION AND AUTOMATIC BOOKING USING IOT" is being submitted by N.MAMATHA(17915A0427), K.VISHNU(16911A04K9), T.RAKESH(17915A0431), MD.RAHAMAN(16911A04M0) of B.tech IV- II semester of *Electronics & Communication Engineering* is a record bonafide work carried out by them. The results embodied in this report have not been submitted to any other University for the award of any degree.

INTERNAL GUIDE

Mrs.M.RENUKA

HEAD OF DEPARTMENT

DR.K.VASANTH

(Asst.Professor, Dept Of ECE)

(Professor & HOD Dept Of ECE)

EXTERNAL EXAMINER

II

PRINCIPAL
Vidya Sycial Institute of Technolog
Himmyntrager (Vill), C B. Post

(An Autonomous Institution)

(Permanently Affiliated to JNTUH, NAAC accredited, Hyderabad)
Department of Electronics and Communication Engineering



CERTIFICATE

This is to certify that the project work entitled "HEART DISEASE PREDICTION" is a bonafied work and carried out by B.RAJKUMAR (16911A04J6), K.ANIRUDH KUMAR REDDY (16911A04L1), N.SHIVA PRASAD (16911A04M3), G.MANEESHWAR REDDY (16911A04Q0) in partial fulfillment of the requirements for the award of the degree of BACHELOR OF TECHNOLOGY IN ELECTRONICS AND COMMUNICATION ENGINEERING by the JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY, Hyderabad, under our guidance and supervision.

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INTERNAL EXAMINER
Mr. MD.Akram Ahmed
Department of ECE VJIT

HEAD OF THE DEPARTMENT

Dr. Vasanth K.

Department of ECE VJIT

EXTERNAL EXAMINER

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(Aziz Nagar, C.B.Post, Hyderabad -500075)

Department of Electronics and Communication Engineering



CERTIFICATE

This is to certify that the project report titled "Smart Footstep power generation using RFID for charging" is being submitted by K.AKHILA (16911A04L2), M.S.M.HUSSAIN(16911A04L7), K.GANESH(17915A0425), G.S AI PRASAD(14911A0472) of B.tech IV- I semester of *Electronics & Communication Engineering* is a record bonafide work carried out by them. The results embodied in this report have not been submitted to any other University for the award of any degree.

INTERNAL GUIDE

Mr. G. Ravi Kishore

(Asst.Professor Dept Of ECE)

Dept Of ECE)

HEAD OF THE DEPARTMENT

Dr. K. Vasanth (Professor & HOD)

Vidya lyothi hasinate of Technology, bitter (VIII), C.B. Post, bitter and 75.

EXTERNAL EXAMINER

(An Autonomous Institution)

(Permanently Affiliated to JNTUH, NAAC accredited, Hyderabad)

Department of Electronics and Communication Engineering



CERTIFICATE

This is to certify that the project entitled "MULTIRESOLUTION PALM IMAGE FUSION APPROACH FOR IMAGE ENHANCEMENT", is a bonafied work carried out by Mr.MOHAMMAD ASIF (16911A04L9),Mr.MOHD ABDUL SHAROOQ (16911A04M1),Mr.L.ROHITH(16911A04L3),Mr.S.SANJU(16911A04N5)submitted to the faculty of Electronics and Communication Engineering in partial fulfillment of the requirements for the degree of BACHELOR OF TECHNOLOGY in ELECTRONICS AND COMMUNICATION ENGINEERING by the JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY, Hyderabad, under the guidance and supervision.

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Internal Guide

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Department of ECE

VJIT, Hyderabad

External Examiner

Institute of Technolog

(An Autonomous Institution)

Accredited by NBA, Approved by AICTE, New Delhi & Permanently Affiliated to JNTUH

Department of Electronics And Communication Engineering



CERTIFICATE

"SAFETY This is to certify that the project work entitled IMPROVEMENT OF FISHERMEN USING ARDUINO UNO" is a bonafide work carried out by Mr.V.Mahesh (16911A04P3), Mr.C.Sai Kumar (16911A04K0), Mr.K.Anil Kumar (15911A0472), Mr.M Sharath Chandra (16911A04L4) in partial fulfillment of the requirements for the of BACHELOR TECHNOLOGY **OF** award Degree ELECTRONICS AND COMMUNICATION ENGINEERING by the JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY, HYDERABAD, under the guidance and supervision.

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INTERNAL GUIDE

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Department of ECE

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EXTERNAL EXAMINER

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Hyderabad-75

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INTERNAL GUIDE,

HEAD OF THE DEPARTMENT,

Mr. Rajendra Prasad (Assoc. Professor Dept. Of ECE) Dr. K. Vasanth (Professor & HOD Dept. Of ECE)

EXTERNAL EXAMINER

Vidya Iyodhi Institute of Technolog Himmysterger (Vill), C.B. Post Myderabari 75

Vidya Jyothi Institute of Technology

Autonomous

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Aziz Nagar, Hyderabad -500075



CERTIFICATE

This is to certify that the project work entitled "COAL MINE ACCIDENTS DETECTION AND AUTOMATION SYSTEM" is a bonafied work carried out by M. AMBIKA (16911A04L8), C. CHANDRA SAI (16911A04J9), V.SRIDHAR (16911A04P6), M. MARUTHI SAI RAJ (16911A04L6) in partial fulfillment of the requirements for the award of degree of BACHELOR OF TECHNOLOGY IN ELECTRONICS AND COMMUNICATION ENGINEERING by the JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY, Hyderabad, under our guidance and supervision.

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Internal Guide

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Department of ECE VJIT, Hyderabad

External Examiner

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Dept Of ECE)

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EXTERNAL EXAMINER

Vidya Jyothi Institute of Technology

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Head of the Department

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External Examiner

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Department of Electronics and Communication Engineering



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INTERNAL GUIDE

Mrs.M.RENUKA

HEAD OF DEPARTMENT

DR.K.VASANTH

(Asst.Professor, Dept Of ECE)

(Professor & HOD Dept Of ECE)

EXTERNAL EXAMINER

II

PRINCIPAL
Vidya Sycial Institute of Technolog
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Signature of the Head of the Department

Department of ECE

Department of ECE

VJIT

VJIT

EXTERNAL EXAMINER

PRINCIPAL
Vidya Jyothi Institute of Technology
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INTERNAL EXAMINER
Mr. MD.Akram Ahmed
Department of ECE VJIT

HEAD OF THE DEPARTMENT

Dr. Vasanth K.

Department of ECE VJIT

EXTERNAL EXAMINER

Vidya Iyothi Institute of Technology Himnysteeger (Viii), C.S. Post

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Department of Electronics and Communication Engineering



CERTIFICATE

This is to certify that the project report titled "Real Time Smart Attendance Posting Using Image Processing" is being submitted by S RAM GANESH(16911A04B1),ORRAY BHAVANA(16911A04M4),V MRUDULA(16911A04B6),V SRUJANA(16911A04B9) of B.tech IV-II semester of *Electronics & Communication Engineering* is a record bonafide work carried out by them. The results embodied in this report have not been submitted to any other University for the award of any degree.

INTERNAL GUIDE

Dr. M. Vadivel (Professor Dept Of ECE) HEAD OF THE DEPARTMENT

Dr. K. Vasanth (Professor & HOD Dept Of ECE)

EXTERNAL EXAMINER

A Man-B

PRINCIPAL

Volya Syodid Institute of Technolog

(An Autonomous Institute)

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Department of Electronics and Communication Engineering



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INTERNAL GUIDE

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(Assoc.Professor Dept of ECE)

HEAD OF THE DEPARTMENT

Dr. K. Vasanth

(Professor & HOD Dept of ECE)

EXTERNAL EXAMINER

Vidya Iyothi Institute of Technology Histogramma (Vill), C.B. Fort

biselected-75.

(An Autonomous Institution)

Approved by AICTE, New Delhi, Accredited by NBA & Permanently Affiliated to JNTUH, Aziz Nagar, Himayath Nagar(V), CB Post, Hyderabad-500075

Department of Electronics and Communication Engineering



CERTIFICATE

This is to certify that the project work report entitled "PREDICTION OF EQUIPMENT **FAILURE** USING MACHINE LEARNING", being submitted by Ms. V.SUSHMITHA(16911A04B7), Ms. D.HARSHITHA RAJ(16911A04K1), Ms. P.NAZIMA(16911A04M7), Ms. P.VASANTHI(16911A04N0) in partial fulfilment of the requirements for the award of the Degree of BACHELOR OF TECHNOLOGY IN **ELECTRONICS** AND COMMUNICATION ENGINEERING by JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY, Hyderabad under our guidance and supervision. The results embodied in this project report have not been submitted to any other University or Institute for the award of any Degree or Diploma.

INTERNAL SUPERVISOR

Mrs. M. Lalitha Soumya

(Asst. Professor, Dept. of ECE)

Dr. K. Vasanth

(HOD & Professor, Dept. of ECE)

EXTERNAL EXAMINER

Himmystrager (VIII), C B. Post

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(Aziz Nagar, C.B.Post, Hyderabad -500075)

Department of Electronics and Communication Engineering



CERTIFICATE

This is to certify that the project report titled "WEIGHTED HYBRID MACHINE LEARNING TECHNIQUE TO PREDICT RAINFALL FOR HYDERABAD" is being submitted by P. SHIVA PRIYA (16911A04M8), P. DEEKSHITHA (16911A04M9), T. HARSHITHA (16911A04P1) of B.tech IV- I semester of *Electronics & Communication Engineering* is a record bonafide work carried out by them. The results embodied in this report have not been submitted to any other University for the award of any degree.

INTERNAL GUIDE,

Dr. K. Vasanth
(Professor & HOD Dept Of ECE)

HEAD OF THE DEPARTMENT,

Dr. K. Vasanth (Professor & HOD Dept Of ECE)

EXTERNAL EXAMINER

Valys Synthi Institute of Technolog Himmystager (Viii), C. R. Deco

(An Autonomous Institute)

Accredited by NAAC & NBA, Approved By A.I.C.T.E., New Delhi, Permanently Affiliated to JNTU, Hyderabad)
(Aziz Nagar, C.B.Post, Hyderabad -500075)

Department of Electronics and Communication Engineering



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INTERNAL GUIDE,

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Valys Synthi Institute of Technolog Himmystager (Viii), C. R. Deco

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INTERNAL GUIDE

HEAD OF THE DEPARTMENT,

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EXTERNAL EXAMINER

Vidya Iyodhi Institute of Technolog Himmysterger (Vill), C.B. Post Myderabari 75

(An Autonomous Institution)

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INTERNAL SUPERVISOR

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Dr. K. Vasanth

(HOD & Professor, Dept. of ECE)

EXTERNAL EXAMINER

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Department of Electronics and Communication Engineering



CERTIFICATE

This is to certify that the project report titled "Credit Card Fraud Detection Using

Machine Learning" is being submitted by P.V.SAI SUMANTH (16911A04N1), R.KARTHIK GOUD (16911A04N2), SHRI DEVESH RAJ KANIKARAM (16911A04N7), T.HRITHIK (16911A04N9) of B.Tech IV- II semester of *Electronics & Communication Engineering* is a record bonafide work carried out by them. The results embodied in this report have not been submitted to any other University for the award of any degree.

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Department of Electronics and Communication Engineering



CERTIFICATE

This is to certify that the project report titled "Design and Fabrication of Microstrip Patch Antenna for WLAN Applications" is being submitted by K.AKHIL ANAND (17915A0426), V.SAIRAM (16911A0N4), P.ROHITH (16911A04M6), K.NAGARJUNA (16911A04K7) of B.tech IV- II semester of *Electronics & Communication Engineering* is a record bonafide work carried out by them. The results embodied in this report have not been submitted to any other University for the award of any degree.

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Department of Electronics and Communication Engineering



CERTIFICATE

This is to certify that the project entitled "MULTIRESOLUTION PALM IMAGE FUSION APPROACH FOR IMAGE ENHANCEMENT", is a bonafied work carried out by Mr.MOHAMMAD ASIF (16911A04L9),Mr.MOHD ABDUL SHAROOQ (16911A04M1),Mr.L.ROHITH(16911A04L3),Mr.S.SANJU(16911A04N5)submitted to the faculty of Electronics and Communication Engineering in partial fulfillment of the requirements for the degree of BACHELOR OF TECHNOLOGY in ELECTRONICS AND COMMUNICATION ENGINEERING by the JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY, Hyderabad, under the guidance and supervision.

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CERTIFICATE

This is to certify that the project report titled "ADVANCED TRAFFIC CONTROL WITH MOVABLE ROAD DIVIDER" is being submitted by A.AJAY KUMAR (16911A04J2), S.SAGAR (16911A04N8) G.SHASHANK(16911A04K4), J.SHEKHAR(16911A04K5) of B.tech IV- I semester of Electronics & Communication Engineering is a record bonafide work carried out by them. The results embodied in this report have not been submitted to any other University for the award of any degree.

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This is to certify that the project report titled "MATRIX UI ENHANCEMENT- NETWORK DATA PROCESSING AND ANALYTICS" is being submitted by THAMMALI SINDHU (16911A04P0) of B. tech IV- I semester of Electronics & Communication Engineering is a record bonafide work carried out by them. The results embodied in this report have not been submitted to any other University for the award of any degree.

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CERTIFICATE

This is to certify that the project report titled "WEIGHTED HYBRID MACHINE LEARNING TECHNIQUE TO PREDICT RAINFALL FOR HYDERABAD" is being submitted by P. SHIVA PRIYA (16911A04M8), P. DEEKSHITHA (16911A04M9), T. HARSHITHA (16911A04P1) of B.tech IV- I semester of *Electronics & Communication Engineering* is a record bonafide work carried out by them. The results embodied in this report have not been submitted to any other University for the award of any degree.

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Department of Electronics And Communication Engineering



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"SAFETY This is to certify that the project work entitled IMPROVEMENT OF FISHERMEN USING ARDUINO UNO" is a bonafide work carried out by Mr.V.Mahesh (16911A04P3), Mr.C.Sai Kumar (16911A04K0), Mr.K.Anil Kumar (15911A0472), Mr.M Sharath Chandra (16911A04L4) in partial fulfillment of the requirements for the of BACHELOR TECHNOLOGY **OF** award Degree ELECTRONICS AND COMMUNICATION ENGINEERING by the JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY, HYDERABAD, under the guidance and supervision.

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This is to certify that the project report titled "FOOD STORAGE MONITORING AND SERVING PEOPLE USING IOT" is being submitted by V.SAI PRIYA (16911A04P4), P. SUSHMA REDDY (16911A04P9), Y. KARTHIK REDDY (16911A04P7), E.RAJ KUMAR(16915A0418) of B.tech IV- I semester of Electronics & Communication Engineering is a record bonafide work carried out by them. The results embodied in this report have not been submitted to any other University for the award of any degree.

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Aziz Nagar, Hyderabad -500075



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This is to certify that the project work entitled "COAL MINE ACCIDENTS DETECTION AND AUTOMATION SYSTEM" is a bonafied work carried out by M. AMBIKA (16911A04L8), C. CHANDRA SAI (16911A04J9), V.SRIDHAR (16911A04P6), M. MARUTHI SAI RAJ (16911A04L6) in partial fulfillment of the requirements for the award of degree of BACHELOR OF TECHNOLOGY IN ELECTRONICS AND COMMUNICATION ENGINEERING by the JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY, Hyderabad, under our guidance and supervision.

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Department of Electronics and Communication Engineering



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This is to certify that the project work entitled "HEART DISEASE PREDICTION" is a bonafied work and carried out by B.RAJKUMAR (16911A04J6), K.ANIRUDH KUMAR REDDY (16911A04L1), N.SHIVA PRASAD (16911A04M3), G.MANEESHWAR REDDY (16911A04Q0) in partial fulfillment of the requirements for the award of the degree of BACHELOR OF TECHNOLOGY IN ELECTRONICS AND COMMUNICATION ENGINEERING by the JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY, Hyderabad, under our guidance and supervision.

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