

**Jyothi** Engineering College  
Reaccredited with **N&AC** (Grade A) and **NBA** Programmes\*

Approved by AICTE and Affiliated to APJ Abdul Kalam Technological University

A CENTRE OF EXCELLENCE IN SCIENCE AND TECHNOLOGY BY THE CATHOLIC ARCHDIOCESE OF TRICHUR

JYOTHI HILLS, VETTIKATTIRI P.O., CHERUTHURUTHY, THRISSUR, 679531 | Ph. +91 4884 259000 | info@jecc.ac.in | www.jecc.ac.in



\*NBA reaccredited BTech Programmes in Civil Engineering, Computer Science and Engineering, Electronics and Communication Engineering, Electrical and Electronics Engineering and Mechanical Engineering valid till 2025

# 1.3.2

# PROJECT

# CERTIFICATES

# Jyothi Engineering College

NAAC Accredited college with NEET Accredited programmes

## DEPARTMENT OF MECHATRONICS ENGINEERING



CREATING TECHNOLOGY  
LEADERS OF TOMORROW  
ESTD 2002

### CERTIFICATE


This is to certify that the report entitled “ **ELECTRO HYDRAULIC JACK FOR FOUR WHEELER** ” submitted by ALBY THOMAS ZACHARIA(JEC19MC005), ROHITH K K(JEC19MC037), S REGHURAJ(JEC19MC042) to the APJ Abdul Kalam Technological University in partial fulfillment of the requirements for the award of the Degree in Bachelor of Technology in **Mechatronics Engineering** is a bonafide record of the project work carried out by them under my/our guidance and supervision. This report in any form has not been submitted to any other University or Institute for any purpose.



**Dr. Anand Krishnan N**  
Assistant Professor  
Project Guide



**Dr. Anoop Jose Chittilapilly.**  
Associate Professor  
Head of the Department



**Dr. JOSE CHERATTIL**  
Principal  
Jyothi Engineering College  
Cheruthuruthy - 679531

# Jyothi Engineering College

NAAC Accredited college with **A++** Accredited programmes

## DEPARTMENT OF MECHATRONICS ENGINEERING



CREATING TECHNOLOGY  
LEADERS OF TOMORROW  
ESTD 2002

### CERTIFICATE

This is to certify that the report entitled “ **DESIGN AND DEVELOPMENT OF REMOTE REHABILITATION GLOVE** ” submitted by FAHAD(JEC19MC023), HAROON KABEER(JEC19MC025), MOHAMMED RIYAS(JEC19MC033), PAUL THOMAS NETTIKADAN(JEC19MC035) to the APJ Abdul Kalam Technological University in partial fulfillment of the requirements for the award of the Degree in Bachelor of Technology in **Mechatronics Engineering** is a bonafide record of the project work carried out by them under my/our guidance and supervision. This report in any form has not been submitted to any other University or Institute for any purpose.

**Mr. Johnny George**  
Assistant Professor  
Project Supervisor



**Dr. Anooja Jose Chittilapilly**  
Associate Professor  
Head of the Department



**Dr. JOSEPH THERATTIL**  
Principal  
Jyothi Engineering College  
Cheruthuruthy - 679531

# Jyothi Engineering College

NAAC Accredited college with **A++** Accredited programmes

## DEPARTMENT OF MECHATRONICS ENGINEERING



CREATING TECHNOLOGY  
LEADERS OF TOMORROW  
ESTD 2002

### CERTIFICATE

This is to certify that the report entitled “ **IOT BASED CHARGING STATION FOR ELECTRIC VEHICLES** ” submitted by AMAL VIJAY(JEC19MC008), ANANTH SHIV JS(JEC19MC011), BENAT JOSE(JEC19MC015), NEVIL GEO(JEC19MC034) to the APJ Abdul Kalam Technological University in partial fulfillment of the requirements for the award of the Degree in Bachelor of Technology in **Mechatronics Engineering** is a bonafide record of the project work carried out by them under my/our guidance and supervision. This report in any form has not been submitted to any other University or Institute for any purpose.

*JMK*  
Mr. Jinesh K J

Assistant Professor  
Project Guide



*Dr. Anoop Jose*  
Dr. Anoop Jose Chittilapilly.

Associate Professor  
Head of the Department



*Dr. Jose P. Therattil*  
Dr. JOSE P. THERATTIL  
Principal  
Jyothi Engineering College  
Cheruthuruthy - 679531

# Jyothi Engineering College

NAAC Accredited college with NBA Accredited programmes

## DEPARTMENT OF MECHATRONICS ENGINEERING



CREATING TECHNOLOGY  
LEADERS OF TOMORROW  
ESTD 2002

### CERTIFICATE

This is to certify that the report entitled " **LIBRARY ASSISTANCE ROBOT** " submitted by AKSHAY P G(JEC19MC003), DENNY ROBANS(JEC19MC016), DIVIN U VARGHESE(JEC19MC019) to the APJ Abdul Kalam Technological University in partial fulfillment of the requirements for the award of the Degree in Bachelor of Technology in **Mechatronics Engineering** is a bonafide record of the project work carried out by them under my guidance and supervision. This report in any form has not been submitted to any other University or Institute for any purpose.

Fr Ajeesh Babu Perinchery  
Assistant Professor  
Project Supervisor



Dr Anoop Jose Chittilappilly  
Associate Professor  
Head of the Department



Dr. ANOOP JOSE P THERATTIL  
Principal  
Jyothi Engineering College  
Cheruthuruthy - 679531

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## DEPARTMENT OF MECHATRONICS ENGINEERING



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LEADERS OF TOMORROW  
ESTD 2002

### CERTIFICATE

This is to certify that the report entitled “ **AUTONOMOUS LUGGAGE TROLLEY** ” submitted by DINTO AUGUSTINE(JEC19MC018), JOSEPH K.A.(JEC19MC028), MOHAMMAD AMEER(JEC19MC031) to the APJ Abdul Kalam Technological University in partial fulfillment of the requirements for the award of the Degree in Bachelor of Technology in **MECHATRONICS ENGINEERING** is a bonafide record of the project work carried out by them under my/our guidance and supervision. This report in any form has not been submitted to any other University or Institute for any purpose.

**Mr. ASHIK M.S**  
Assistant Professor  
Project Supervisor



**Dr. ANOOPA JOSE CHITTIAPPILLY**  
Associate Professor  
Head of the Department



*Handwritten signature in green ink*  
Dr. JOSE P. THEERATTIL  
Principal  
Jyothi Engineering College  
Cheruthuruthy, 679531



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## DEPARTMENT OF MECHATRONICS ENGINEERING



CREATING TECHNOLOGY  
LEADERS OF TOMORROW  
ESTD 2002

## CERTIFICATE

This is to certify that the report entitled “ **SMART AEROPONICS USING IOT** ” submitted by FRANCIS MENUHIN(JEC19MC024) , JINCE MATHEW(JEC19MC026) , JOSEPH PAUL(JEC19MC029) , MIKHIL MANOJ CHANDY(JEC19MC030) to the APJ Abdul Kalam Technological University in partial fulfillment of the requirements for the award of the Degree in Bachelor of Technology in **Mechatronics Engineering** is a bonafide record of the a project work carried out by them under my/our guidance and supervision. This report in any form has not been submitted to any other University or Institute for any purpose.

Mr. Sibin Johny  
Assistant Professor  
Project Supervisor



Dr. Anoop Jose Chittilappilly  
Associate Professor  
Head of the Department



Dr. JOSE P. CHERATTIL  
Principal  
Jyothi Engineering College  
Cheruthuruthy - 679531

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## DEPARTMENT OF MECHATRONICS ENGINEERING



CREATING TECHNOLOGY  
LEADERS OF TOMORROW  
ESTD 2002

### CERTIFICATE

This is to certify that the report entitled “ **DESIGN OF A NOVEL FRAMEWORK FOR AGRICULTURAL PURPOSE** ” submitted by ALLEN GEORGE JOSE(JEC19MC006), DERIK YAKOV JOBY(JEC19MC017), EBIN TOM(JEC19MC020), EMMANUAL JENSON(JEC19MC022) to the APJ Abdul Kalam Technological University in partial fulfillment of the requirements for the award of the Degree in Bachelor of Technology in **Mechatronics Engineering** is a bonafide record of the project work carried out by them under my/our guidance and supervision. This report in any form has not been submitted to any other University or Institute for any purpose.

**Dr. Vivek Lukose**  
Associate Professor  
Internal Supervisor



**Dr. Anoop Jose Chittilapilly**  
Associate Professor  
Head of the Department



Dr. JOSE P THERAVIL  
Principal  
Jyothi Engineering College  
Cheruthuruthy, TET  
679 531



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NAAC Accredited college with NIR Accredited programmes

## DEPARTMENT OF MECHATRONICS ENGINEERING



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ESTD 2002

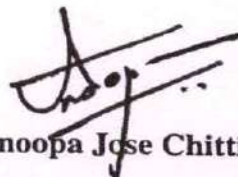
### CERTIFICATE

This is to certify that the report entitled " **DESIGN AND IMPLEMENTATION OF WALL CLIMBING ROBOT** " submitted by ALBIN DAVID C(JEC19MC004),AWIN SAJU(JEC19MC014),SAJAN T JOHN(JEC19MC038),JOEL VARGHESE(LJEC19MC045) to the APJ Abdul Kalam Technological University in partial fulfillment of the requirements for the award of the Degree in Bachelor of Technology in **Mechatronics Engineering** is a bonafide record of the project work carried out by them under my guidance and supervision. This report in any form has not been submitted to any other University or Institute for any purpose.




Ms Shamin Elizabeth Varkey

Assistant Professor  
Project Supervisor



Dr. Anoop Jose Chittilapilly

Associate Professor  
Head of the Department



Dr. JOSE P. THERATTIL  
Principal  
Jyothi Engineering College  
Cheruthuruthy - 679531

# Jyothi Engineering College

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## DEPARTMENT OF MECHATRONICS ENGINEERING



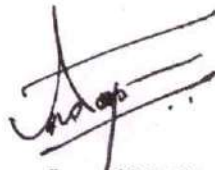
CREATING TECHNOLOGY  
LEADERS OF TOMORROW  
ESTD 2002

### CERTIFICATE

This is to certify that the report entitled "WATERBODY WASTE COLLECTOR" submitted by AJIN K J(JEC19MC002), AMAL KRISHNA(JEC19MC007), MOHAMMED FAHIM MOHAMMED NIZAR(JEC19MC032), SAJNA SUNNY T(JEC19MC039) to the APJ Abdul Kalam Technological University in partial fulfillment of the requirements for the award of the Degree in Bachelor of Technology in **Mechatronics Engineering** is a bonafide record of the project work carried out by them under my/our guidance and supervision. This report in any form has not been submitted to any other University or Institute for any purpose.

  
Ms. Nyni K.A  
Assistant Professor  
Project Guide



  
Dr. Anoop Jose Chittilappilly  
Associate Professor  
Head of the Department



  
Dr. JOSE THERATTIL  
Principal  
Jyothi Engineering College  
Cheruthuruthy - 679531

# Jyothi Engineering College

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## DEPARTMENT OF MECHATRONICS ENGINEERING



CREATING TECHNOLOGY  
LEADERS OF TOMORROW  
ESTD 2002

## CERTIFICATE

This is to certify that the report entitled “ **ATTACHABLE E-HAND BIKE FOR WHEELCHAIR** ” submitted by AJIN J ALAPPAT (JEC19MC001), ANAKHA SUBRAMANIAN (JEC19MC010), EMIL KITHO N C (JEC19MC021), ASWIN V (LJEC19MC044) to the APJ Abdul Kalam Technological University in partial fulfillment of the requirements for the award of the Degree in Bachelor of Technology in **Mechatronics Engineering** is a bonafide record of the project work carried out by them under my/our guidance and supervision. This report in any form has not been submitted to any other University or Institute for any purpose.

**Dr. Anoop Jose Chittilappilly**

**(Project Supervisor)  
Associate Professor  
Head of the Department**



**Dr. JOSE P. THERATTIL**  
Principal  
Jyothi Engineering College  
Cheruthuruthy - 679531

# Jyothi Engineering College

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## DEPARTMENT OF MECHATRONICS ENGINEERING



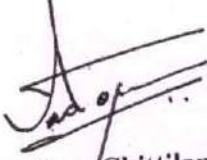
CREATING TECHNOLOGY  
LEADERS OF TOMORROW  
ESTD 2002

### CERTIFICATE


This is to certify that the report entitled “ **DESIGN AND DEVELOPMENT OF UNDERWATER ROBOT** ” submitted by ASWIN A VINOY(JEC19MC013), ROFFIN JOSEPH(JEC19MC036), SAVIYO THERATTIL(JEC19MC041), ANS ANTO P(LJEC19MC43) to the APJ Abdul Kalam Technological University in partial fulfillment of the requirements for the award of the Degree in Bachelor of Technology in **Mechatronics Engineering** is a bonafide record of the project work carried out by them under my/our guidance and supervision. This report in any form has not been submitted to any other University or Institute for any purpose.

  
Mr. Athul Krishna M.J.  
Assistant Professor  
Project Supervisor



  
Dr. Anoop Jose Chittilapilly  
Associate Professor  
Head of the Department



  
Dr. Jose P. Therattil  
Principal  
Jyothi Engineering College  
Cheruthuruthy - 679531

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## DEPARTMENT OF MECHATRONICS ENGINEERING



CREATING TECHNOLOGY  
LEADERS OF TOMORROW  
ESTD 2002

### CERTIFICATE

This is to certify that the report entitled "**BLACK PEPPER HARVESTER**" submitted by AMEEN K.S(JEC19MC009), ARUN SAJI(JEC19MC012), JOELJACOB THOMAS KALATHIL(JEC19MC027) to the APJ Abdul Kalam Technological University in partial fulfillment of the requirements for the award of the Degree in Bachelor of Technology in **MECHATRONICS ENGINEERING** is a bonafide record of the project work carried out by them under my/our guidance and supervision. This report in any form has not been submitted to any other University or Institute for any purpose.

**Dr. C KARTHIK**  
Associate Professor  
Internal Supervisor



**Dr. Anoop Jose Chittilappilly**  
Associate Professor  
Head of the Department



**Dr. JOSE P THERATTIL**  
Principal  
Jyothi Engineering College  
Cheruthuruthy - 679531

# Jyothi Engineering College

NAAC Accredited college with  Accredited programmes


## DEPARTMENT OF ARTIFICIAL INTELLIGENCE AND DATA SCIENCE




CREATING TECHNOLOGY  
LEADERS OF TOMORROW  
ESTD 2002

### CERTIFICATE


This is to certify that the report entitled " MALAYALAM HANDWRITTEN CHARACTER RECOGNITION " submitted by AKARSH K DAS(JEC20AD004), ANGEL MARY SHIBU(JEC20AD013), SREEHARI SREEJAY O P(JEC20AD047), VIVEK SANKAR P V(JEC20AD054) to the APJ Abdul Kalam Technological University in partial fulfillment of the requirements for the award of the Degree in Bachelor of Technology in **Artificial Intelligence and Data Science** is a bonafide record of the project work carried out by them under my/our guidance and supervision. This report in any form has not been submitted to any other University or Institute for any purpose.

  
**Mr. Jayakrishnan A**  
Assistant Professor  
Internal Supervisor




  
**Mr. Bineesh M**  
Assistant Professor  
Head of the Department



  
Dr. JOSE P. THEKKATTIL  
Principal  
Jyothi Engineering College  
Cheruthuruthy

# Jyothi Engineering College

NAAC Accredited college with  Accredited programmes

## DEPARTMENT OF ARTIFICIAL INTELLIGENCE & DATA SCIENCE



CREATING TECHNOLOGY  
LEADERS OF TOMORROW  
ESTD 2002

### CERTIFICATE

This is to certify that the report entitled “ **STOCK MARKET PREDICTION AND ANALYSIS USING AI** ” submitted by AGNAL MENACHERY(JEC20AD003), AKASH KOLLADIKKEL(JEC20AD005), SHREYAS P VIJAY(JEC20AD046), VINAYA A(JEC20AD053) to the APJ Abdul Kalam Technological University in partial fulfillment of the requirements for the award of the Degree in Bachelor of Technology in **Artificial Intelligence & Data Science** is a bonafide record of the project work carried out by them under our guidance and supervision. This report in any form has not been submitted to any other University or Institute for any purpose.

**Ms. Divya Konikkara**  
Assistant Professor  
Internal Supervisor



**Mr. Bineesh M**  
Assistant Professor  
Head of the Department



Dr. JOSE P THERATEL  
Principal  
Jyothi Engineering College  
Cheruthuruthy - 679531

# Jyothi Engineering College

NAAC Accredited college with 1433 Accredited programmes

## DEPARTMENT OF ARTIFICIAL INTELLIGENCE & DATA SCIENCE

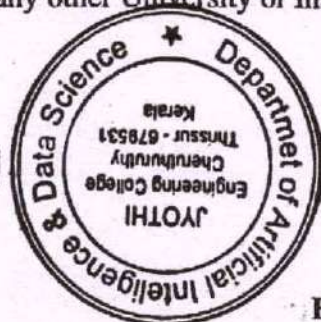


CREATING TECHNOLOGY  
LEADERS OF TOMORROW  
ESTD 2002

### CERTIFICATE

This is to certify that the report entitled " **AUTOMATED PLASTIC CLASSIFICATION USING CNN** " submitted by NIKHITHA JOY(JEC20AD036), NIVYA K.V(JEC20AD037), RINCE SABU E(JEC20AD043), JACOB JOHNSON(JEC20AD025) to the APJ Abdul Kalam Technological University in partial fulfillment of the requirements for the award of the Degree in Bachelor of Technology in **Artificial Intelligence & Data Science** is a bonafide record of the project work carried out by them under my/our guidance and supervision. This report in any form has not been submitted to any other University or Institute for any purpose.

**Mr. Jayakrishnan A**  
Assistant Professor  
Internal Supervisor




**Mr. Bineesh M**  
Assistant Professor  
Head of the Department

**Dr. JOSE P THERATTIL**  
Principal  
Jyothi Engineering College  
Thiruvananthapuram - 679531





# Jyothi Engineering College

NAAC Accredited college with  Accredited programmes

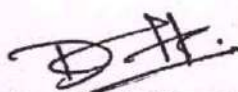
## DEPARTMENT OF ARTIFICIAL INTELEGENCE & DATA SCIENCE



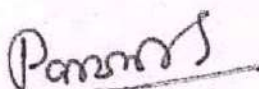
CREATING TECHNOLOGY  
LEADERS OF TOMORROW  
ESTD 2002

### CERTIFICATE

This is to certify that the report entitled “ **VEHICLE POLLUTION DETECTION**” submitted by BIMAL ROY(JEC20AD020), SRINESH N T(JEC20AD050), FEMI ROSH(JEC20AD024), ANJANA P(JEC20AD014) to the APJ Abdul Kalam Technological University in partial fulfillment of the requirements for the award of the Degree in Bachelor of Technology in **Artificial Inteligence & Data Science** is a bonafide record of the mini project work carried out by them under my/our guidance and supervision. This report in any form has not been submitted to any other University or Institute for any purpose.

For   
**Dr. Seenia Francis**  
Assistant Professor  
Internal Supervisor



For   
**Mr. Bineesh M**  
Assistant Professor  
Head of the Department



  
**Dr. JOSE P THERATTIL**  
Principal  
Jyothi Engineering College  
Cheruthuruthy - 678531

# Jyothi Engineering College

NAAC Accredited college with **B+** Accredited programmes


## DEPARTMENT OF ARTIFICIAL INTELLIGENCE & DATA SCIENCE



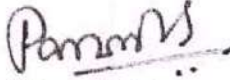
CREATING TECHNOLOGY  
LEADERS OF TOMORROW  
ESTD 2002

### CERTIFICATE

This is to certify that the report entitled " **DROWSINESS DETECTION SYSTEM USING COMPUTER VISION AND DEEP LEARNING** " submitted by ARUNIMA ANIL(JEC20AD016), MEGHA S(JEC20AD29), MISHAL HABEEB(JEC20AD31), SREEKRISHNAN K P(JEC20AD048) to the APJ Abdul Kalam Technological University in partial fulfillment of the requirements for the award of the Degree in Bachelor of Technology in **Artificial Intelligence & Data Science** is a bonafide record of the project work carried out by them under my/our guidance and supervision. This report in any form has not been submitted to any other University or Institute for any purpose.

  
**Mr. Shine P Xavier**  
Assistant Professor  
Internal Supervisor



  
**Mr. Bineesh M.**  
Assistant Professor  
Head of the Department

For



  
**Dr. JOSE THERATTIL**  
Principal  
Jyothi Engineering College  
Cheruthuruthy

# Jyothi Engineering College

NAAC Accredited college with ISO Accredited programmes

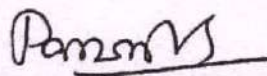
DEPARTMENT OF ARTIFICIAL INTELLIGENCE AND DATA SCIENCE



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LEADERS OF TOMORROW  
ESTD 2002

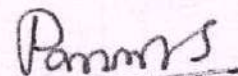
## CERTIFICATE

This is to certify that the report entitled "TRAFFIC SIGN RECOGNITION" submitted by ADITYAN M SUNIL(JEC20AD002), ANAND SANLO(JEC20AD012), ARDHRA M A(JEC20AD015), NANDA S(JEC20AD034) to the APJ Abdul Kalam Technological University in partial fulfillment of the requirements for the award of the Degree in Bachelor of Technology in Artificial Intelligence And Data Science is a bonafide record of the project work carried out by them under my/our guidance and supervision. This report in any form has not been submitted to any other University or Institute for any purpose.



Ms. Parvathy Jyothi  
Assistant Professor  
Internal Supervisor

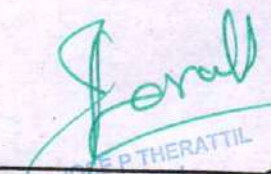




Mr. Bineesh M  
Assistant Professor  
Head of the Department

For



  
JERAL P THERATTIL  
Jyothi Engineering College  
Cheruthuruthy - 679531

# Jyothi Engineering College

NAAC Accredited college with MB Accredited programmes

## DEPARTMENT OF ARTIFICIAL INTELLIGENCE & DATA SCIENCE



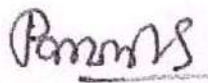
CREATING TECHNOLOGY  
LEADERS OF TOMORROW  
ESTD 2002

### CERTIFICATE

This is to certify that the report entitled " **AUTOMATED WILD ANIMAL DETECTION** " submitted by **ALEENA SANTHOSH(JEC20AD008)**, **DIVYA PILLAI(JEC20AD022)**, **JITHIN BABU(JEC20AD026)**, **MOHAMMED AJMAL P N(JEC20AD032)** to the APJ Abdul Kalam Technological University in partial fulfillment of the requirements for the award of the Degree in Bachelor of Technology in **ARTIFICIAL INTELLIGENCE & DATA SCIENCE** is a bonafide record of the project work carried out by them under my/our guidance and supervision. This report in any form has not been submitted to any other University or Institute for any purpose.

  
**Ms. Divya Konikkara**  
Assistant Professor  
Internal Supervisor



  
**Mr. Bineesh M**  
Assistant Professor  
Head of the Department



  
**Dr. J. S. PERATTIL**  
Principal  
Jyothi Engineering College  
Cheruthuruthy - 679531

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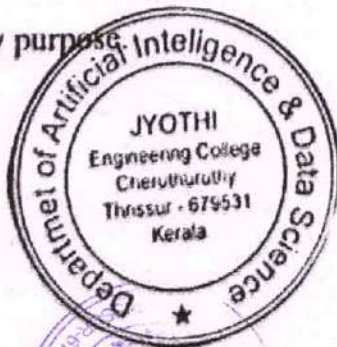


CREATING TECHNOLOGY  
LEADERS OF TOMORROW  
ESTD 2002

### CERTIFICATE

This is to certify that the report entitled “ **PNEUMONIA DETECTION FROM CHEST X-RAY IMAGES USING CONVOLUTIONAL NEURAL NETWORKS (CNN)**” submitted by **AMAL VARGHESE (JEC20AD011)**, **ASWATHI KRISHNA P T (JEC20AD017)**, **PRATHYUSH P (JEC20AD041)**, **SULEKHA P S (JEC20AD051)** to the **APJ Abdul Kalam Technological University** in partial fulfillment of the requirements for the award of the Degree in Bachelor of Technology in **Artificial Intelligence & Data Science** is a bonafide record of the project work carried out by them under my/our guidance and supervision. This report in any form has not been submitted to any other University or Institute for any purpose.

**Ms. Parvathy Jyothi**  
Assistant Professor  
Internal Supervisor



**Mr. Bineesh M**  
Assistant Professor  
Head of the Department



**Dr. JOSE P THERATTIL**  
Principal  
Jyothi Engineering College  
Cheruthuruthy, Thrissur - 679531

## DEPARTMENT OF ARTIFICIAL INTELLIGENCE & DATA SCIENCE

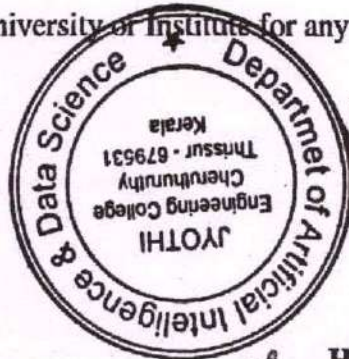


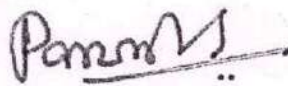
CREATING TECHNOLOGY  
LEADERS OF TOMORROW  
ESTD 2002

### CERTIFICATE


This is to certify that the report entitled " **GREEN-SORT: DEEP LEARNING ALGORITHM FOR WASTE CLASSIFICATION** " submitted by ALPHIN C J(JEC20AD010), AVANTHIKA P U(JEC20AD019), PRADUL O P(JEC20AD038), to the APJ Abdul Kalam Technological University in partial fulfillment of the requirements for the award of the Degree in Bachelor of Technology in **ARTIFICIAL INTELLIGENCE & DATA SCIENCE** is a bonafide record of the project work carried out by them under my/our guidance and supervision. This report in any form has not been submitted to any other University or Institute for any purpose.

  
For **Dr. Seenia Francis**  
Assistant Professor  
Internal Supervisor



  
For **Mr. Bineesh M**  
Assistant Professor  
Head of the Department



  
For **Dr. JOSE P. THERATTIL**  
Principal  
Jyothi Engineering College  
Cheruthuruthy - 679531

## DEPARTMENT OF ARTIFICIAL INTELLIGENCE AND DATA SCIENCE



CREATING TECHNOLOGY  
LEADERS OF TOMORROW  
ESTD 2002

### CERTIFICATE

This is to certify that the report entitled “ **WORK-OUT GUIDE AND CLASSIFIER** ” submitted by EBIN C ZEBY( JEC20AD023), MELVIN JAMES K( JEC20AD030), NIHARIKA JAYAKRISHNAN NAMBISSAN( JEC20AD035) to the APJ Abdul Kalam Technological University in partial fulfillment of the requirements for the award of the Degree in Bachelor of Technology in **Artificial Intelligence and Data Science** is a bonafide record of the project work carried out by them under my/our guidance and supervision. This report in any form has not been submitted to any other University or Institute for any purpose.

**Ms. Parvathy Jyothi**

**Assistant Professor  
Internal Supervisor**



**Mr. Bineesh M**

**Assistant Professor  
Head of the Department**



**Dr. JOSE P. THERATTIL**  
Principal  
Jyothi Engineering College  
Cheruthuruthy, Thiruvananthapuram - 679531

# Jyothi Engineering College

NAAC Accredited college with 2021 Accredited programmes

## DEPARTMENT OF ARTIFICIAL INTELLIGENCE & DATA SCIENCE ENGINEERING



CREATING TECHNOLOGY  
LEADERS OF TOMORROW  
ESTD 2002

### CERTIFICATE

This is to certify that the report entitled " **BROWN PLANTHOPPER DETECTION USING CNN** " submitted by JOSTEN S CHEERAN(JEC20AD027), RAHUL SREENIVASAN P(JEC20AD041), SREELAKSHMI SUDHEER(JEC20AD049), RANJINI K(JEC20AD042) to the APJ Abdul Kalam Technological University in partial fulfillment of the requirements for the award of the Degree in Bachelor of Technology in **Artificial Intelligence & Data Science Engineering** is a bonafide record of the project work carried out by them under my/our guidance and supervision. This report in any form has not been submitted to any other University or Institute for any purpose.

**Mr. Shine P Xavier**  
Assistant Professor  
Internal Supervisor



**Mr Bineesh M**  
Assistant Professor

Head of the Department

For

Dr. J. S. Cherattil  
Principal  
Jyothi Engineering College  
Cheruthuruthy - 679531





# Jyothi Engineering College

NAAC Accredited college with B++ Accredited programmes

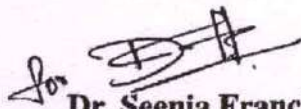
## DEPARTMENT OF ARTIFICIAL INTELLIGENCE AND DATA SCIENCE



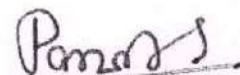
CREATING TECHNOLOGY  
LEADERS OF TOMORROW  
ESTD 2002

### CERTIFICATE

This is to certify that the report entitled “ **EXPRESSIVE SPEECH TRANSLATOR USING DEEP LEARNING** ” submitted by AKASH V A ( JEC20AD006), AKSHAY KRISHNA T D ( JEC20AD007), ALIYA SIRAJ MANAKKATTU ( JEC20AD009), VARSHA I K ( JEC20AD052) to the APJ Abdul Kalam Technological University in partial fulfillment of the requirements for the award of the Degree in Bachelor of Technology in **Artificial Intelligence & Data Science** is a bonafide record of the project work carried out by them under my/our guidance and supervision. This report in any form has not been submitted to any other University or Institute for any purpose.

  
**Dr. Seenia Francis**  
Assistant Professor  
Internal Supervisor



  
**Mr. Bineesh M**

for **Assistant Professor**  
**Head of the Department**

  
**Dr. JOSE P THERATTIL**  
Principal

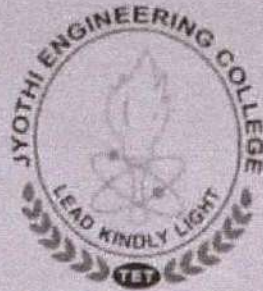
Jyothi Engineering College  
Cheruthuruthy - 679531



# Jyothi Engineering College

NAAC Accredited college with 100% Accredited programmes


## DEPARTMENT OF ROBOTICS AND AUTOMATION



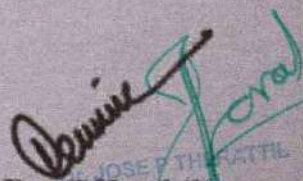
CREATING TECHNOLOGY  
LEADERS OF TOMORROW  
ESTD 2002

### CERTIFICATE


This is to certify that the report entitled " **AUTONOMOUS CHARGING STATION** " submitted by ANGELO RISON K(JEC20RA004), BITO K B(JEC20RA007), JOSHUA JOSE (JEC20RA011), YADU PRASAD N(JEC20RA016) to the APJ Abdul Kalam Technological University in partial fulfillment of the requirements for the award of the Degree in Bachelor of Technology in **Robotics and Automation** is a bonafide record of the mini project work carried out by them under our guidance and supervision. This report in any form has not been submitted to any other University or Institute for any purpose.

  
Ms. Athira P Preman  
Assistant Professor  
Internal Supervisor

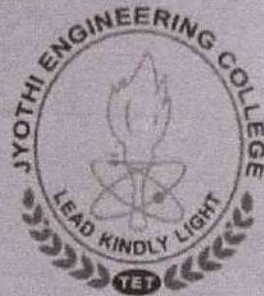


  
Dr. C Karthik  
Associate Professor  
Head of the Department

# Jyothi Engineering College

NAAC Accredited college with  Accredited programme


DEPARTMENT OF ROBOTICS AND AUTOMATION ENGINEERING



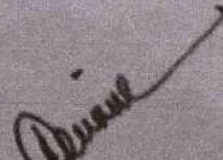
CREATING TECHNOLOGY  
LEADERS OF TOMORROW  
ESTD 2002


## CERTIFICATE

This is to certify that the report entitled "**WILD ANIMAL DETECTION SYSTEM**" submitted by AMEER ALI KHAN M S(JEC20RA003), Joel Johnson(JEC20RA010), Praveena M P(JEC20RA015), Aswin K D(JEC20RA005) to the APJ Abdul Kalam Technological University in partial fulfillment of the requirements for the award of the Degree in Bachelor of Technology in **Robotics And Automation Engineering** is a bonafide record of the mini project work carried out by them under my/our guidance and supervision. This report in any form has not been submitted to any other University or Institute for any purpose.

  
12/10/23  
**Dr. Jobin Varghese**  
Associate Professor  
Internal Supervisor



  
**Dr. C Karthik**  
Associate Professor  
Head of the Department

  
MOSEY THE PATIL  
Principal  
Jyothi Engineering College  
Warananasi - 619531

# Jyothi Engineering College

NAAC Accredited college with ISO Accredited programmes

DEPARTMENT OF ELECTRICAL & ELECTRONICS ENGINEERING



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LEADERS OF TOMORROW  
ESTD 2002

## CERTIFICATE

This is to certify that the project phase-2 report entitled “ **LAKE POOL CLEANING ROBOT** ” submitted by THUSHAR (JEC19EE016), KARTHIK M.A (JEC19EE010), ANFAS ALI (JEC19EE004), AMAL M (LJEC19EE020) to the APJ Abdul Kalam Technological University in partial fulfillment of the requirements for the award of the Degree in Bachelor of Technology in **Electrical & Electronics Engineering** is a bonafide record of the project phase-1 work carried out by them under my/our guidance and supervision. This report in any form has not been submitted to any other University or Institute for any purpose.

Mr. Jithin K. Jose

Assistant Professor  
Project Guide

Mr. Jenson Jose

Assistant Professor  
Head of the Department

# Jyothi Engineering College

NAAC Accredited college with NEA Accredited programmes

DEPARTMENT OF ELECTRICAL & ELECTRONICS ENGINEERING



CREATING TECHNOLOGY  
LEADERS OF TOMORROW  
ESTD 2002

## CERTIFICATE

This is to certify that the report entitled " **SMART LED DRIVE FOR TRAFFIC SIGNAL** " submitted by AVARNYA SABU(JEC19EE006), SUSHANTH MS(JEC19EE013), ALAN KF(LJEC19EE019). to the APJ Abdul Kalam Technological University in partial fulfillment of the requirements for the award of the Degree in Bachelor of Technology in **Electrical & Electronics Engineering** is a bonafide record of the project work carried out by them under my/our guidance and supervision. This report in any form has not been submitted to any other University or Institute for any purpose.

Dr. JARIN T.

Associate Professor  
Internal Supervisor

JENSON JOSE

Assistant Professor  
Head of the Department

Dr. JOSE P THERATTIL  
Principal  
Jyothi Engineering College  
Peruruthuruthy - 679531

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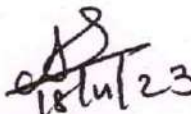
DEPARTMENT OF ELECTRICAL & ELECTRONICS ENGINEERING



CREATING TECHNOLOGY  
LEADERS OF TOMORROW  
ESTD 2002

## CERTIFICATE


This is to certify that the project phase-2 report entitled “ **ADVANCED SPECS FOR BLIND PEOPLE** ” submitted by ASWIN VM (JEC19EE005), VICTOR VARGHESE (JEC19EE017), SARATH A (LJEC19EE025) to the APJ Abdul Kalam Technological University in partial fulfillment of the requirements for the award of the Degree in Bachelor of Technology in **Electrical & Electronics Engineering** is a bonafide record of the project phase-2 work carried out by them under my/our guidance and supervision. This report in any form has not been submitted to any other University or Institute for any purpose.

  
Ms. Anu Sunny

Assistant Professor  
Project Guide

  
Mr. Jenson Jose

Assistant Professor  
Head of the Department

  
Dr. JOSE P THERATTIL  
Principal  
Jyothi Engineering College  
Cheruvu - 679531

# **Jyothi** Engineering College

N.A.A.C Accredited college with ISI Accredited programmes

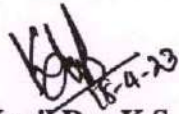
**DEPARTMENT OF ELECTRICAL & ELECTRONICS ENGINEERING**




**CREATING TECHNOLOGY  
LEADERS OF TOMORROW  
ESTD 2002**

## **CERTIFICATE**

This is to certify that the project report entitled “ **ENERGY AUDIT IN PAINT INDUSTRY AND THRISSUR DISTRICT HOSPITAL** ” submitted by ALBIN TOMY(JEC19EE003), LIVIYA VIJU (JEC19EE011), ARUN K.N(LJEC19EE021) to the APJ Abdul Kalam Technological University in partial fulfillment of the requirements for the award of the Degree in Bachelor of Technology in **Electrical & Electronics Engineering** is a bonafide record of the project work carried out by them under our guidance and supervision. This report in any form has not been submitted to any other University or Institute for any purpose.

  
**Mr. Kapil Das K.S**  
Assistant Professor  
Project Guide

  
**Dr. JOSE P THERATTIL**  
Principal  
Jyothi Engineering College  
Cheruthuruthy - 679531

  
**Mr. Jenson Jose**  
Head of the Department

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DEPARTMENT OF ELECTRONICS & COMMUNICATOIN  
ENGINEERING



CREATING TECHNOLOGY  
LEADERS OF TOMORROW  
ESTD 2002

## CERTIFICATE

This is to certify that the report entitled " AN ENHANCED CONVERTER WITH IMPROVED POWER QUALITY AND REDUCED SWITCHING STRESS FOR THE ONBOARD CHARGERS OF EV " submitted by AKSHAY K (JEC19EE002), FAWAZ FIROZ (JEC19EE007) and JOHN CJ (JEC19EE008) to the APJ Abdul Kalam Technological University in partial fulfillment of the requirements for the award of the Degree in Bachelor of Technology in **Electrical and Electronics Engineering** is a bonafide record of the project work carried out by them under my/our guidance and supervision. This report in any form has not been submitted to any other University or Institute for any purpose.

*Jose*

Dr. JOSE P THERATTIL  
Principal  
Jyothi Engineering College  
Cheruthuruthy - 679531

*Mr. Jenson Jose* 18/4/2023

Assistant Professor  
Project Guide

Project Coordinators

*Mr. Jenson Jose*

Assistant Professor  
Head of the Department



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NAAC Accredited college with 2B1 Accredited programmes

## DEPARTMENT OF ELECTRONICS & COMMUNICATION ENGINEERING



CREATING TECHNOLOGY  
LEADERS OF TOMORROW  
ESTD 2002

### CERTIFICATE

This is to certify that the report entitled " **SEWAGE CLOG SPOTTING AND WATER TREATMENT SERVICE SYSTEM USING IOT** " submitted by AGNA ABRAHAM (JEC19EC002), ANN MARIE RAJAN (JEC19EC008), JOSHWIN BABU (JEC19EC020), NAVEEN RAJESH (JEC19EC022) to the API Abdul Kalam Technological University in partial fulfillment of the requirements for the award of the Degree in Bachelor of Technology in **Electronics & Communication Engineering** is a bonafide record of the main project work carried out by them under my/our guidance and supervision. This report in any form has not been submitted to any other University or Institute for any purpose.

**Dr. Shiny M I**  
Assistant Professor  
Internal Supervisor



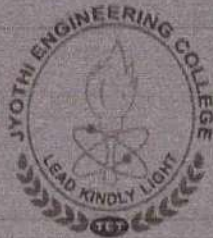
**Dr. Sindhu S**  
Associate professor  
Head of the Department

Dr. J. J. THERATTIL  
Principal  
Jyothi Engineering College  
Cheruthuruthy - 679531

# Jyothi Engineering College

NAAC Accredited college with PCI Accredited programmes

## DEPARTMENT OF ELECTRONICS & COMMUNICATION ENGINEERING

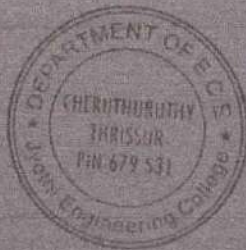


CREATING TECHNOLOGY  
LEADERS OF TOMORROW  
ESTD 2002

### CERTIFICATE

This is to certify that the report entitled " **REAL TIME MULTIPLE PATIENT MONITORING SYSTEM** " submitted by GOKUL P(JEC19EC017), HELNA JOY M(JEC19EC018), SAYANA S(JEC19EC026), SREEHARI V(LJEC19EC028) to the APJ Abdul Kalam Technological University in partial fulfillment of the requirements for the award of the Degree in Bachelor of Technology in **Electronics & Communication Engineering** is a bonafide record of the project work carried out by them under my/our guidance and supervision. This report in any form has not been submitted to any other University or Institute for any purpose.

**Ms. Ambily Francis**  
Assistant Professor  
Internal Supervisor



**Dr. Sindhu S**  
Associate Professor  
Head of the Department

**Dr. JOSE P THERATTIL**  
Principal  
Jyothi Engineering College  
Cheruthuruthy - 679531

# Jyothi Engineering College

U.L.A.C. Accredited College, AICTE 2007 Accredited (2013/2017/2022)

DEPARTMENT OF ELECTRONICS & COMMUNICATION  
ENGINEERING



CREATING TECHNOLOGY  
LEADERS OF TOMORROW  
ESTD 2007

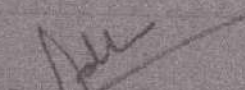
## CERTIFICATE

This is to certify that the report entitled " WEB BASED ENERGY CONSUMPTION, MONITORING AND CONTROL SYSTEM " submitted by ASHBAN SHYJAN (JEC19EC009), BHAVANA VIJAYAN (JEC19EC010), CHRIS NOYAL TS (JEC19EC012), SUMYUKTHA V K (JEC19EC027) to the APJ Abdul Kalam Technological University in partial fulfillment of the requirements for the award of the Degree in Bachelor of Technology in Electronics & Communication Engineering is a bonafide record of the project work carried out by them under my/our guidance and supervision. This report in any form has not been submitted to any other University or Institute for any purpose.



Ms. Saritha P  
Assistant Professor  
Internal Supervisor





Dr. Sindhu S  
Professor  
Head of the Department



MR. JOSE P THERATTIL  
Principal  
Jyothi Engineering College  
Cheruthuruthy - 679531

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## DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING



CREATING TECHNOLOGY  
LEADERS OF TOMORROW  
ESTD 2002

### CERTIFICATE

This is to certify that the report entitled " **READYGO CART** " submitted by Ms.ANAGHA M(JEC19EC005), Mr.JOSEPH JAISON(JEC19EC019), Ms.SANHA SALAM(JEC19EC024), Mr.SANURAJ K R(JEC19EC025) to the APJ Abdul Kalam Technological University in partial fulfillment of the requirements for the award of the Degree in Bachelor of Technology in **Electronics and Communication Engineering** is a bonafide record of the project work carried out by them under my/our guidance and supervision. This report in any form has not been submitted to any other University or Institute for any purpose.

**Dr. ANOOP V**  
Professor  
Internal Supervisor

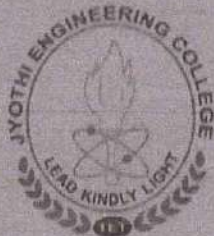


**Dr. Sindhu S**  
Associate Professor  
Head of the Department

**Mr. JOSE P THERATTIL**  
Principal  
Jyothi Engineering College  
Cheruthuruthy - 679531

# Jyothi Engineering College

DEPARTMENT OF ELECTRONICS & COMMUNICATION  
ENGINEERING



CREATING TECHNOLOGY  
LEADERS OF TOMORROW  
ESTD 2002

## CERTIFICATE

This is to certify that the report entitled " SMART SPROUTING GREENHOUSE WITH TEMPERATURE CONTROLLING MECHANISM " submitted by MS. ANJALI ARAVIND(JEC19EC006),MR. C AKSHAY RAJ(JEC19EC011),MR. CHRISWIN LINGSON(JEC19EC013) AND MS. DIVYA S NAIR(JEC19EC015) to the APJ Abdul Kalam Technological University in partial fulfillment of the requirements for the award of the Degree in Bachelor of Technology in **Electronics and Communication Engineering** is a bonafide record of the main project work carried out by them under my/our guidance and supervision. This report in any form has not been submitted to any other University or Institute for any purpose.

*Gaswin Kastro G*  
**Dr. Gaswin Kastro G**  
Associate Professor  
Internal Supervisor



*Sindhu S*  
**Dr. Sindhu S**  
Associate Professor  
Head of the Department

*Jyothi*  
**Dr. MOSE P THERATTIL**  
Principal  
Jyothi Engineering College  
Cheriyanur - 679531

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## DEPARTMENT OF ELECTRONICS & COMMUNICATION ENGINEERING



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LEADERS OF TOMORROW  
ESTD 2007

### CERTIFICATE

This is to certify that the report entitled " AQUATIC DEBRIS REMOVER:IOT  
BASED PH LEVEL SENSING TRASHBOT " submitted by ADITYA  
K JYOTHIRAJ(JEC19EC001), ALEN PAUL(JEC19EC004), M FATHIMA  
NAZRIN(JEC19EC021), SANA SAID(JEC19EC023) to the APJ Abdul Kalam  
Technological University in partial fulfillment of the requirements for the award of the  
Degree in Bachelor of Technology in **Electronics and Communication Engineering** is  
a bonafide record of the main project work carried out by them under my/our guidance  
and supervision. This report in any form has not been submitted to any other University  
or Institute for any purpose.

Ms. Neethu Rose Thomas

Assistant Professor  
Internal Supervisor



Dr. Sindhu S

Associate Professor  
Head of the Department

Dr. JOSE P THERATTIL  
Principal  
Jyothi Engineering College  
Cheruthuruthy - 679531

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## DEPARTMENT OF ELECTRONICS & COMMUNICATION ENGINEERING



CREATING TECHNOLOGY  
LEADERS OF TOMORROW  
ESTD 2007

### CERTIFICATE

This is to certify that the report entitled " AQUATIC DEBRIS REMOVER:IOT  
BASED PH LEVEL SENSING TRASHBOT " submitted by ADITYA  
K JYOTHIRAJ(JEC19EC001), ALEN PAUL(JEC19EC004), M FATHIMA  
NAZRIN(JEC19EC021), SANA SAID(JEC19EC023) to the APJ Abdul Kalam  
Technological University in partial fulfillment of the requirements for the award of the  
Degree in Bachelor of Technology in Electronics and Communication Engineering is  
a bonafide record of the main project work carried out by them under my/our guidance  
and supervision. This report in any form has not been submitted to any other University  
or Institute for any purpose.

Ms. Neethu Rose Thomas  
Assistant Professor  
Internal Supervisor



Dr. Sindhu S  
Associate Professor  
Head of the Department

DR. JOSE P THERATTIL  
Principal  
Jyothi Engineering College  
Cheruthuruthy - 679531

# Jyothi Engineering College

DEPARTMENT OF ELECTRONICS & COMMUNICATOIN  
ENGINEERING



CREATING TECHNOLOGY  
LEADERS OF TOMORROW  
ESTD 2002

## CERTIFICATE

This is to certify that the report entitled **WELL CLEANER'S EWS** submitted by **AAKASH MURALIDHARAN (JEC20EC001), ALAN ALAPPATT (JEC20EC006), UNNIMAYA SAJAYAN (JEC20EC040), ASHA S (LJEC20EC043)** to the APJ Abdul Kalam Technological University in partial fulfillment of the requirements for the award of the Degree in Bachelor of Technology in **Electronics & Communicatoin Engineering** is a bonafide record of the mini project work carried out by them under my/our guidance and supervision. This report in any form has not been submitted to any other University or Institute for any purpose.

**Sr. Jesna Catherine**  
Assistant Professor  
Internal Supervisor



**Dr. Sindhu S**  
Associate Professor  
Head of the Department

*Jesna*  
Dr. JOSE P THERATTIL  
Principal  
Jyothi Engineering College  
Kochi - 679531



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V.A.M. Accredited college with 100% Accredited programmes

## DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING



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LEADERS OF TOMORROW  
ESTD 2002

### CERTIFICATE

This is to certify that the report entitled " **SMART ELECTRONIC MENU SELECTOR FOR RESTAURANTS** " submitted by **MARIA VARGHESE( JEC20EC024), SACHIN MANOHARAN( JEC20EC033), NITHIN CT( LJEC20EC048), VIVEK NAIR ( LJEC20EC054)** to the APJ Abdul Kalam Technological University in partial fulfillment of the requirements for the award of the Degree in Bachelor of Technology in **ELECTRONICS AND COMMUNICATION ENGINEERING** is a bonafide record of the mini project work carried out by them under my/our guidance and supervision.

This report in any form has not been submitted to any other University or Institute for any purpose.

**Dr. SHINY MI**  
Assistant Professor  
Internal Supervisor



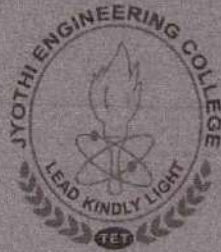
**Dr. SINDHU S**  
Associate professor  
Head of the Department

*Dr. JOSE P. THEVATTIL*  
Principal  
Jyothi Engineering College  
Chertur, Thrissur - 679531

# Jyothi Engineering College

NAAC Accredited college with IET Accredited programmes

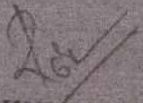
## DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING



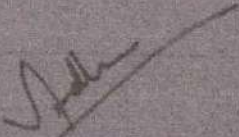
CREATING TECHNOLOGY  
LEADERS OF TOMORROW  
ESTD 2002


### CERTIFICATE

This is to certify that the report entitled “ **TEMPERATURE CONTROLLED FAN**” submitted by **AKHILA K P ( JEC20EC005), HENNA ROSE C S( JEC20EC018), JOSMAL MATHEW( LJEC20EC045), SILPA SOMAN( LJEC20EC049)** to the APJ Abdul Kalam Technological University in partial fulfillment of the requirements for the award of the Degree in Bachelor of Technology in **Electronics & Communication Engineering** is a bonafide record of the mini project work carried out by them under my/our guidance and supervision. This report in any form has not been submitted to any other University or Institute for any purpose.

  
**Ms. ROSHNI RAJAN K**  
Assistant Professor  
Internal Supervisor



  
**DR SINDHU S**  
Associate Professor  
Head of the Department

  
**Dr. JOSE P THERATTIL**  
Principal  
Jyothi Engineering College  
Cheruthuruthy - 679531

# Jyothi Engineering College

NAAC Accredited college with ISO Accredited programmes

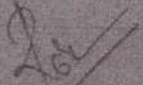
## DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING



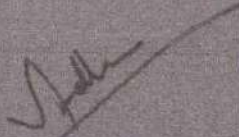
CREATING TECHNOLOGY  
LEADERS OF TOMORROW  
ESTD 2002

### CERTIFICATE

This is to certify that the report entitled “ **TEMPERATURE CONTROLLED FAN**” submitted by **AKHILA K P ( JEC20EC005), HENNA ROSE C S( JEC20EC018), IOSMAL MATHEW( LJEC20EC045), SILPA SOMAN( LJEC20EC049)** to the APJ Abdul Kalam Technological University in partial fulfillment of the requirements for the award of the Degree in Bachelor of Technology in **Electronics & Communication Engineering** is a bonafide record of the mini project work carried out by them under my/our guidance and supervision. This report in any form has not been submitted to any other University or Institute for any purpose.

  
**Ms.ROSHNI RAJAN K**  
Assistant Professor  
Internal Supervisor



  
**Dr. SINDHU S**  
Associate Professor  
Head of the Department

*Pranath*

**Dr. P. THERATTIL**  
Principal  
Jyothi Engineering College  
Kothuruthy - 679531

# Jyothi Engineering College

NAAC Accredited college with ISO Accredited programmes

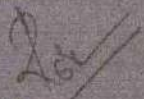
## DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING



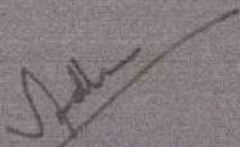
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Assistant Professor  
Internal Supervisor



  
Dr. SINDHU S  
Associate Professor  
Head of the Department



Dr. ROSE P THERATTIL  
Principal  
Jyothi Engineering College  
Kuthuruthy - 679531

# Jyothi Engineering College

N.A.A.C. Accredited college with 100% Accredited programmes

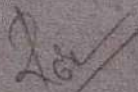
## DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING



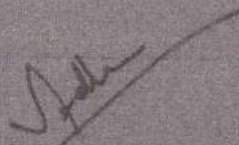
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**Ms.ROSHNI RAJAN K**  
Assistant Professor  
Internal Supervisor



  
**Dr. SINDHU S**  
Associate Professor  
Head of the Department

  
**Dr. JOSE P THERATTIL**  
Principal  
Jyothi Engineering College  
Peruthuruthy - 679531

# Jyothi Engineering College

U.P.A. Accredited college with 100% Accredited programmes

## DEPARTMENT OF ELECTRONICS & COMMUNICATION ENGINEERING



CREATING TECHNOLOGY  
LEADERS OF TOMORROW  
ESTD 2002

### CERTIFICATE

This is to certify that the report entitled " I SHEET:A REMOTE HEALTH MONITORING BEDSHEET FOR ISOLATED INDIVIDUALS " submitted by Alceena Paul( JEC20EC008), Anupama J( JEC20EC011), Noopura Mohan( JEC20EC029), Navakrishnan MR( LJEC20EC047) to the API Abdul Kalam Technological University in partial fulfillment of the requirements for the award of the Degree in Bachelor of Technology in **Electronics & Communication Engineering** is a bonafide record of the mini project work carried out by them under my/our guidance and supervision. This report in any form has not been submitted to any other University or Institute for any purpose.

Dr. PRAJOON P

ASSOCIATE PROFESSOR  
Internal Supervisor

Dr. SINDHU S

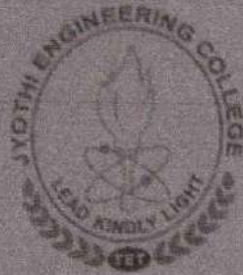
ASSOCIATE PROFESSOR  
Head of the Department

Dr. JOSE P THERATTIL  
Principal  
Jyothi Engineering College  
Theruthuruthy - 679531

# Jyothi Engineering College

U.A.C. Accredited College ISO 9001 Accredited Programme

## DEPARTMENT OF ELECTRONICS & COMMUNICATION ENGINEERING



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**Dr. PRAJOUN P**

ASSOCIATE PROFESSOR  
Internal Supervisor

**Dr. BINDHU S**

ASSOCIATE PROFESSOR  
Head of the Department

Dr. JOSE P. THERATTIL  
Principal  
Engineering College  
Kuthuruthy - 679531

# Jyothi Engineering College

NAAC Accredited college with 100% Accredited programs

## DEPARTMENT OF ELECTRONICS & COMMUNICATION ENGINEERING



CREATING TECHNOLOGY  
LEADERS OF TOMORROW  
ESTD 2002

### CERTIFICATE

This is to certify that the report entitled " **ONE-TOUCH IRRIGATION AUTOMATION SYSTEM** " submitted by Andriya Anto Emmatty( JEC20EC009), Aneena C Binu( JEC20EC010), Athira Francis ( JEC20EC014), Shiyas S( JEC20EC036) to the APJ Abdul Kalam Technological University in partial fulfillment of the requirements for the award of the Degree in Bachelor of Technology in **Electronics & Communication Engineering** is a bonafide record of the mini project work carried out by them under my/our guidance and supervision. This report in any form has not been submitted to any other University or Institute for any purpose.

*Sri Anand*  
Ms. Neethu Rose Thomas  
Assistant Professor  
Internal Supervisor

*Dr. Sindhu S*  
Dr. Sindhu S  
Associate Professor  
Head of the Department

*Jose P Theravil*  
Dr. JOSE P THERAVIL  
Principal  
Jyothi Engineering College  
Cheruthuruthy - 579531



# Jyothi Engineering College

NAAC Accredited college with 100% Accredited programmes


## DEPARTMENT OF ELECTRONICS & COMMUNICATION ENGINEERING

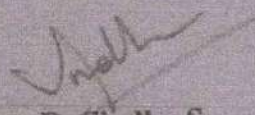


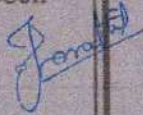
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Ms. Neethu Rose Thomas  
Assistant Professor  
Internal Supervisor

  
Dr. Sindhu S  
Associate Professor  
Head of the Department

  
Dr. Jose P. Therattil  
Principal  
Jyothi Engineering College  
Keruruthy - 679531

# Jyothi Engineering College

U.A. AIU Accredited college with ISO Accredited programmes


## DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING



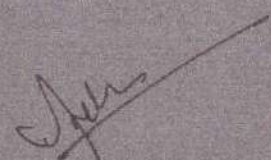
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ESTD 2002

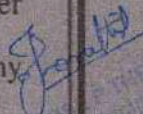
### CERTIFICATE

This is to certify that the report entitled " **ELECTRICITY GENERATION FROM WASTE** " submitted by ALAN TOMY( JEC20EC007), M P ASWIN( JEC20EC025), RESHMA HENDRY( JEC20EC031), MRIDULA J NAIR(LJEC20EC046) to the APJ Abdul Kalam Technological University in partial fulfillment of the requirements for the award of the Degree in Bachelor of Technology in **Electronics And Communication Engineering** is a bonafide record of the mini project work carried out by them under my/our guidance and supervision. This report in any form has not been submitted to any other University or Institute for any purpose.

  
Ms. Sindhu K Rajan  
Assistant Professor  
Internal Supervisor



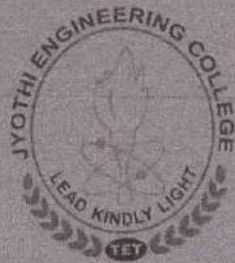
  
Dr. Sindhu S  
Associate Professor  
Head of the Department

  
Dr. Sindhu S  
Principal  
Jyothi Engineering College  
Changanassery  
679531

# Jyothi Engineering College

NAAC Accredited college with Accredited Programmes


## DEPARTMENT OF ELECTRONICS & COMMUNICATION ENGINEERING



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LEADERS OF TOMORROW  
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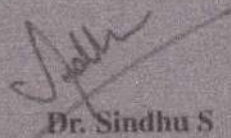
### CERTIFICATE

This is to certify that the report entitled " **SMART GARBAGE SORTING MACHINE**" submitted by Gopika U(JEC20EC017), Steev Varghese U Kollannur (JEC20EC038), Abhijith C S(LJEC20EC042), Sreejith V(LJEC20EC052) to the APJ Abdul Kalam Technological University in partial fulfillment of the requirements for the award of the Degree in Bachelor of Technology in **Electronics & Communication Engineering** is a bonafide record of the mini project work carried out by them under my/our guidance and supervision. This report in any form has not been submitted to any other University or Institute for any purpose.

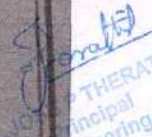
  
Ms. Drisya M K

Assistant Professor  
Internal Supervisor



  
Dr. Sindhu S

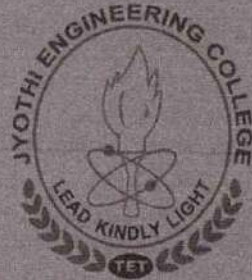
Associate Professor  
Head of the Department

  
Dr. Jyothi THERATTIL  
Principal  
Jyothi Engineering College  
Changanur - 679531

# Jyothi Engineering College

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## DEPARTMENT OF ELECTRONICS & COMMUNICATION ENGINEERING



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LEADERS OF TOMORROW  
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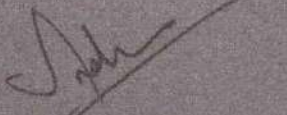
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This is to certify that the report entitled "**BUSTRACK360**" submitted by AJU ANTONY (JEC20EC004), GAYATHRI RV (JEC20EC016), JAYITHA HARIGOVIND (JEC20EC019), ATHUL PS (LJEC20EC044) to the APJ Abdul Kalam Technological University in partial fulfillment of the requirements for the award of the Degree in Bachelor of Technology in **Electronics & Communication Engineering** is a bonafide record of the mini project work carried out by them under my/our guidance and supervision. This report in any form has not been submitted to any other University or Institute for any purpose.

  
Ms. Saritha P

Assistant Professor  
Internal Supervisor



  
Dr. Sindhu S

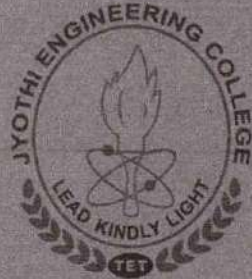
Associate Professor  
Head of the Department

Dr. J. S. ...  
Jyothi Engineering College  
Cherithuruthy - 674531

# Jyothi Engineering College

NAAC Accredited college with 3B+ Accredited programmes

## DEPARTMENT OF ELECTRONICS & COMMUNICATION ENGINEERING



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LEADERS OF TOMORROW  
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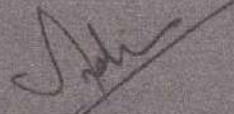
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Ms. Saritha P

Assistant Professor  
Internal Supervisor



  
Dr. Sindhu S

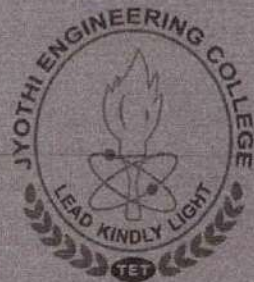
Associate Professor  
Head of the Department

*Handwritten text:* Jyothi Engineering College  
Cheruthuruthy

# Jyothi Engineering College

NAAC Accredited college with ISO Accredited programmes


## DEPARTMENT OF ELECTRONICS & COMMUNICATION ENGINEERING



CREATING TECHNOLOGY  
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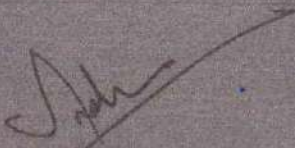
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Assistant Professor  
Internal Supervisor



  
Dr. Sindhu S

Associate Professor  
Head of the Department



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V.A.M. Autonomous college with 100% Accredited programs

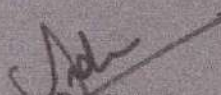
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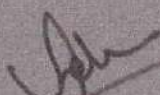
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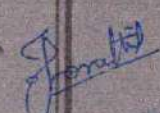
### CERTIFICATE

This is to certify that the report entitled " **AUTOMATED PET FEEDER USING INTERNET OF THINGS** " submitted by **ABHIJEET V.( JEC20EC002), JIBIN SEBI ( JEC20EC020), RESHMA ROY( JEC20EC032), SANIL JOSEPH( JEC20EC035)** to the APJ Abdul Kalam Technological University in partial fulfillment of the requirements for the award of the Degree in Bachelor of Technology in **Electronics and Communication Engineering** is a bonafide record of the mini project work carried out by them under my/our guidance and supervision. This report in any form has not been submitted to any other University or Institute for any purpose.

  
**Dr. Sindhu S.**  
Associate Professor  
Internal Supervisor



  
**Dr. Sindhu S.**  
Associate Professor  
Head of the Department

  
DR. JOSEPH  
Jyothi Engineering College  
Cheruthuruthy  
Thrissur  
PIN 679 531

# Jyothi Engineering College

NAAC Accredited college with ISO Accredited programmes

## DEPARTMENT OF ELECTRONICS & COMMUNICATOIN ENGINEERING



CREATING TECHNOLOGY  
LEADERS OF TOMORROW  
ESTD 2002

### CERTIFICATE

This is to certify that the report entitled " SMART BUFFER STOCK SOLUTION " submitted by ASHWIN K P (JEC20EC012), VISAKH N R (JEC20EC041) SREEDEV J (LJEC20EC051), VISHNU C, (LJEC20EC053), to the APJ Abdul Kalam Technological University in partial fulfillment of the requirements for the award of the Degree in Bachelor of Technology in **Electronics & Communicatoin Engineering** is a bonafiderecord of the mini project work carried out by them under my/our guidance and supervision. This report in any form has not been submitted to any other University or Institute for any purpose.

*[Handwritten Signature]*  
12/9/23

**Dr. ANOOP V**  
**PROFESSOR**  
Internal Supervisor



*[Handwritten Signature]*

**Dr. SINDHU S**  
**ASSOCIATE PROFESSOR**  
Head of the Department

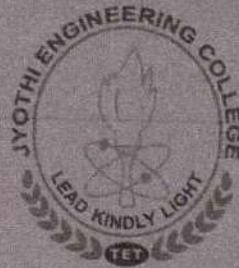
*[Handwritten Signature]*  
Dr. JOSE P. THIRAVIL  
Principal  
Jyothi Engineering College  
Thrissur, PIN-679 531



# Jyothi Engineering College

NAAC Accredited college with ISO Accredited programmes

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*Handwritten signature and date: 12/9/23*

**Dr. ANOOP V**  
**PROFESSOR**  
Internal Supervisor



*Handwritten signature*

**Dr. SINDHU S**  
**ASSOCIATE PROFESSOR**  
Head of the Department

*Handwritten signature*

Dr. JOSE P  
Jyothi Engineering College  
679531

# Jyothi Engineering College

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## DEPARTMENT OF ELECTRONICS AND COMMUNICATION



CREATING TECHNOLOGY  
LEADERS OF TOMORROW  
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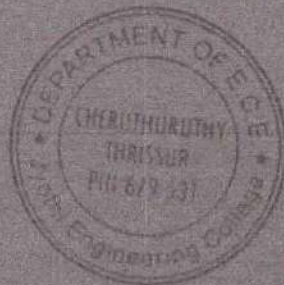
### CERTIFICATE

This is to certify that the report entitled " **RESIDENTIAL POWER MONITORING SYSTEM FOR INDIVIDUAL APPLIANCES** " submitted by AISWARYA PK( JEC20EC003), PARVATHY TR( JEC20EC030), TINIT THOMAS( JEC20EC039), SISIRA KM( LJEC20EC050) to the APJ Abdul Kalam Technological University in partial fulfillment of the requirements for the award of the Degree in Bachelor of Technology in **ELECTRONICS AND COMMUNICATION ENGINEERING** is a bonafide record of the mini project work carried out by them under my/our guidance and supervision. This report in any form has not been submitted to any other University or Institute for any purpose.

*Handwritten signature in blue ink.*

*Handwritten signature in black ink.*

**Ms. Ambily Francis**  
Assistant Professor  
Internal Supervisor



*Handwritten signature in black ink.*

**Dr. Sindhu S**  
Associate Professor  
Head of the Department

**DR. JOSE P. THEPATTA**  
Principal  
Jyothi Engineering College  
Cheruthuruthy, Thrissur

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## DEPARTMENT OF ELECTRONICS AND COMMUNICATION



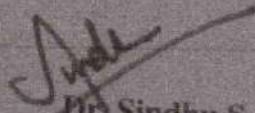
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Assistant Professor  
Internal Supervisor



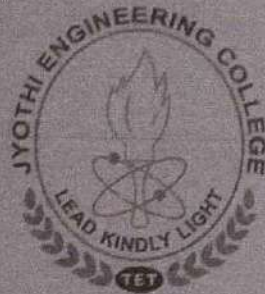
  
Dr. Sindhu S  
Associate Professor  
Head of the Department

  
Dr. JOSEPH THEKKUMKARA  
Principal  
Jyothi Engineering College  
Cheruthuruthy, Thrissur  
679531

# Jyothi Engineering College

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DEPARTMENT OF ELECTRONICS & COMMUNICATOIN  
ENGINEERING



CREATING TECHNOLOGY  
LEADERS OF TOMORROW  
ESTD 2002

## CERTIFICATE

This is to certify that the report entitled " **SELF-STABILIZING PARKINSON'S SPOON** " submitted by Jincy Susan John(JEC20EC021), Kavyasree A Nair(JEC20EC022), Muhammad Raseel(JEC20EC026), Sowmya M(JEC20EC037) to the APJ Abdul Kalam Technological University in partial fulfillment of the requirements for the award of the Degree in Bachelor of Technology in **Electronics & Communicatoin Engineering** is a bonafide record of the mini project work carried out by them under my/our guidance and supervision. This report in any form has not been submitted to any other University or Institute for any purpose.

*Jose P*  
Dr. JOSE P THERY  
Principal  
Jyothi Engineering College  
Cheruthuruthy 679551

*Ponmani Raja M*

Mr. Ponmani Raja M  
Assistant Professor  
Internal Supervisor



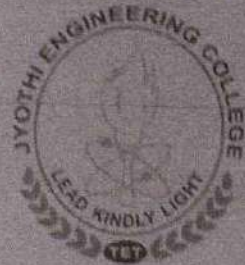
*Sindhu S*

Dr. Sindhu S  
Associate Professor  
Head of the Department

# Jyothi Engineering College

S.A.R.C. Accredited college with UGC/AICTE Approval

## DEPARTMENT OF ELECTRONICS & COMMUNICATOIN ENGINEERING



CREATING TECHNOLOGY  
LEADERS OF TOMORROW  
ESTD 2007

### CERTIFICATE

This is to certify that the report entitled " **BLUETOOTH BASED MAN OVERBOARD DETECTION SYSTEM** " submitted by BHAVANA NARAYANAN(JEC20EC015) ,KRISHNA K(JEC20EC023),NANDANA VINOD(JEC20EC027) , NAVIN T W (JEC20EC028) to the APJ Abdul Kalam Technological University in partial fulfillment of the requirements for the award of the Degree in Bachelor of Technology in **Electronics & Communicatoin Engineering** is a bonafide record of the mini project work carried out by them under my/our guidance and supervision. This report in any form has not been submitted to any other University or Institute for any purpose.

*Jose*

**Dr Gaswin Kastro G**  
Associate Professor  
Internal Supervisor



**Dr Sindhu S**  
Associate Professor  
Head of the Department

**Dr. JOSE P THEVATTIL**  
Principal  
Jyothi Engineering College  
Thiruvananthapuram 695521

# Jyothi Engineering College

AICTE Accredited College with ISO 9001 Accredited Programme

## DEPARTMENT OF ELECTRONICS & COMMUNICATOIN ENGINEERING



CREATING TECHNOLOGY  
LEADERS OF TOMORROW  
ESTD 2002

### CERTIFICATE

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*Jose*

**Dr Gaswin Kastro G**  
Associate Professor  
Internal Supervisor



**Dr Sindhu S**  
Associate Professor  
Head of the Department

Dr. JOSE PETERATTIL  
Principal  
Jyothi Engineering College  
Cheruthuruthy - 678533

# Jyothi Engineering College

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DEPARTMENT OF COMPUTER SCIENCE & ENGINEERING

CHERUTHURUTHY 679 531



CREATING TECHNOLOGY LEADERS OF TOMORROW

## CERTIFICATE

This is to certify that the report entitled Title **AGRI-BUSINESS** submitted by **Celia Babu P (JEC20CS039)**, **Diya Sunil (JEC20CS045)**, **Adarsh T V (JEC20CS006)** to the APJ Abdul Kalam Technological University in partial fulfillment of the requirements for the award of the Degree in Bachelor of Technology in **Computer Science & Engineering** is a bonafide record of the project work carried out by them under my/our guidance and supervision. This report in any form has not been submitted to any other University or Institute for any purpose.

Ms. Aswathy Wilson & *Aswathy*

Ms. Sobha Xavier P *Sobha*

Assistant Professor

PROJECT

COORDINATORS

*Ghosh*  
Ms. Jyothsna G K

Assistant Professor

PROJECT SUPERVISOR

*Saju*  
Dr. Saju P John

Professor

HEAD OF THE DEPT



*Jose*  
Dr. JOSE P THERATTIL  
Principal  
Jyothi Engineering College  
Cheruthuruthy - 679531

# JYOTHI ENGINEERING COLLEGE, CHERUTHURUTHY

## DEPARTMENT OF COMPUTER SCIENCE & ENGINEERING

THRISSUR 679 531



CREATING TECHNOLOGY  
LEADERS OF TOMORROW

### CERTIFICATE

This is to certify that the report entitled Title **ALUMNI MANAGEMENT SYSTEM** submitted by **ADARSH R B [JEC20CS004], AMAL SONY [JEC20CS020], DAWN BIJU [JEC20CS042], HARSHA K A [JEC20CS53]** to the APJ Abdul Kalam Technological University in partial fulfillment of the requirements for the award of the Degree in Bachelor of Technology in **Computer Science & Engineering** is a bonafide record of the project work carried out by them under our guidance and supervision. This report in any form has not been submitted to any other University or Institute for any purpose.

Ms. Aswathy Wilson &

Ms. Sobha Xavier

PROJECT

COORDINATORS

Ms. Sobha Xavier P

PROJECT SUPERVISOR



Dr. Saju P John

HEAD OF THE DEPT

Dr. JOSE P THERATTIL  
Principal  
Jyothi Engineering College  
Cheruthuruthy - 679531



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## DEPARTMENT OF COMPUTER SCIENCE & ENGINEERING





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LEADERS OF TOMORROW  
ESTD 2002

### CERTIFICATE

This is to certify that the report entitled **ANDROID DRIVING ASSISTANT** submitted by **S Hariharan, Sebattiny Jaison, Sneha S** to the APJ Abdul Kalam Technological University in partial fulfillment of the requirements for the award of the Degree in Bachelor of Technology in **Computer Science & Engineering** is a Bonafide record of the project work carried out by them under my/our guidance and supervision. This report in any form has not been submitted to any other University or Institute for any purpose.

  
**Ms. Sonia A Joseph**  
Project Guide  
Assistant Professor  
Dept. of CSE

  
**Ms. Jyothsna G**  
Project Coordinator  
Assistant Professor  
Dept. of CSE

  
**Dr. Saju P John**  
Head of Dept.  
Professor  
Dept. of CSE

  
**Dr. J. Joseph**  
Principal  
Jyothi Engineering College  
Cheruthuruthy - 679531

# Jyothi Engineering College

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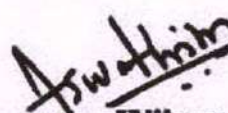
## DEPARTMENT OF COMPUTER SCIENCE & ENGINEERING

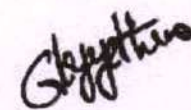



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LEADERS OF TOMORROW  
ESTD 2002

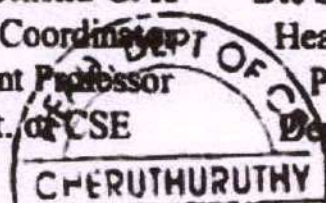
## CERTIFICATE


This is to certify that the report entitled **Autimo App** submitted by **MIJEWEL JOSE, NANTEZ S, ROSMIN JOHN, SREESHNA P M** to the APJ Abdul Kalam Technological University in partial fulfillment of the requirements for the award of the Degree in Bachelor of Technology in **Computer Science & Engineering** is a bonafide record of the project work carried out by them under my/our guidance and supervision. This report in any form has not been submitted to any other University or Institute for any purpose.

  
**Ms. Aswathy Wilson**  
Project Guide  
Associate Professor  
Dept. of CSE

  
**Ms. Jyothsna G. K**  
Project Coordinator  
Assistant Professor  
Dept. of CSE

  
**Dr. Sajid P John**  
Head of Dept.  
Professor  
Dept. of CSE



  
**Dr. JOSE P THERATTIL**  
Principal  
Jyothi Engineering College  
Cheruthuruthy - 679531

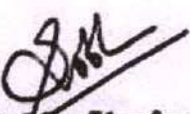
## DEPARTMENT OF COMPUTER SCIENCE & ENGINEERING




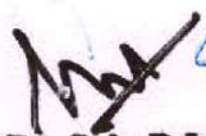
CREATING TECHNOLOGY  
LEADERS OF TOMORROW  
ESTD 2002

## CERTIFICATE

This is to certify that the report entitled **Bakery Chatbot Using Python** submitted by **Sherlyn Mary Siju, Rachel Biju, Maneesha D** the APJ Abdul Kalam Technological University in partial fulfillment of the requirements for the award of the Degree in Bachelor of Technology in **Computer Science & Engineering** is a bonafide record of the project work carried out by them under my/our guidance and supervision. This report in any form has not been submitted to any other University or Institute for any purpose.

  
**Ms. Sobha Xavier**  
Project Guide  
Assistant Professor  
Dept. of CSE

  
**Ms. Jyothsna G K**  
Project Coordinator  
Assistant Professor  
Dept. of CSE

  
**Dr. Saju P John**  
Head of Dept.  
Professor  
Dept. of CSE

  
**Dr. JOSE P THERATTIL**  
Principal  
Jyothi Engineering College  
Cheruthuruthy - 679551

# Jyothi Engineering College

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### CERTIFICATE

This is to certify that the report entitled "BLOODMATE" submitted by Monal Mohandas C (JEC20CS076), Rahul R (JEC20CS091), Shaijo George (JEC20CS111), Yelma Mary Shybu (JEC20CS126) to the APJ Abdul Kalam Technological University in partial fulfilment of the requirements for the award of the Degree in Bachelor of Technology in Computer Science & Engineering is a bonafide record of the project work carried out by them under my/our guidance and supervision. This report in any form has not been submitted to any other University or Institute for any purpose.

Project Coordinator  
Ms. Jyothsna G.K

Project Supervisor  
Ms. Ninny Francis

Head of Dept.  
Dr. Saju P John



Jyothi  
Jyothi Engineering College  
Kuthuruthy - 679531

## DEPARTMENT OF COMPUTER SCIENCE & ENGINEERING



### CERTIFICATE

This is to certify that the report entitled Title **Collaborize - Chatting and Drawing Application** submitted by **Muhammed Ajmal M, Lakshmi M Mohan, Nikhitha S, Nikhil Job Mathew** to the APJ Abdul Kalam Technological University in partial fulfillment of the requirements for the award of the Degree in Bachelor of Technology in **Computer Science & Engineering** is a bonafide record of the project work carried out by them under our guidance and supervision.. This report in any form has not been submitted to any other University or Institute for any purpose.

Mr. Vysagh M  
Project Guide  
Assistant Professor  
Dept. of CSE

Ms. Jyothisna G.K.  
Project Coordinator  
Assistant Professor  
Dept. of CSE



Dr. Sajid P John  
Head of Dept.  
Professor  
Dept. of CSE

JOSE P THERATTIL  
Principal  
Jyothi Engineering College  
Cheruthuruthy - 679531

**DEPARTMENT OF COMPUTER SCIENCE & ENGINEERING**


**JYOTHI ENGINEERING COLLEGE, CHERUTHURUTHY**


**THRISSUR 679 531**

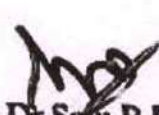


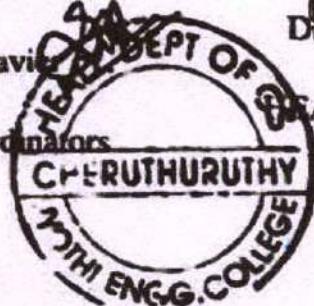
**CERTIFICATE**

This is to certify that the report entitled Title **Development of a Flash Card App for Learning Languages using Machine Translation** submitted by **Aadil Mohammed Sayad, Athul Jestin, Dhiya V B, Joel Jojo** to the APJ Abdul Kalam Technological University in partial fulfillment of the requirements for the award of the Degree in Bachelor of Technology in **Computer Science & Engineering** is a bonafide record of the project work carried out by them under my/our guidance and supervision.. This report in any form has not been submitted to any other University or Institute for any purpose.

  
Mr. Aneesh Chandran  
Project Supervisor

  
Ms. Aswathy Wilson &  
Ms. Sobha Xavier  
Project Coordinators

  
Dr. Saju P John  
HEAD OF THE DEPT



  
Dr. JOSE P THERATTIL  
Principal  
Jyothi Engineering College  
Cheruthuruthy - 679531

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TIRISSUR 679 531



## CERTIFICATE


This is to certify that the report entitled Title **E-LEARNING PLATFORM** submitted by **AUGUSTIN C BENNY [JEC20CS038], ELVIN VINCENT A [JEC20CS047], ASWIN JOSEPH [JEC20CS034], ANATHAKRISHNAN [JEC20CS022]** to the APJ Abdul Kalam Technological University in partial fulfillment of the requirements for the award of the Degree in Bachelor of Technology in **Computer Science & Engineering** is a bonafide record of the project work carried out by them under our guidance and supervision. This report in any form has not been submitted to any other University or Institute for any purpose.

**Ms. Aswathy Wilson &**

**Ms. Sobha Xavier**


PROJECT

COORDINATORS


  
**Dr. Swapna B Sasi**

PROJECT SUPERVISOR



  
**Dr. Saju P John**

HEAD OF THE DEPT

  
Dr. JOSE P THIERARA  
Principal  
Jyothi Engineering College  
Cheruthuruthy - 679531

## DEPARTMENT OF COMPUTER SCIENCE & ENGINEERING

THRISSUR 679 531



### CERTIFICATE

This is to certify that the report entitled Title **EVENT PLANNER** submitted by **ATHULYA KK [JEC20CS037], ABHIN MURALI V [JEC20CS003], KEN T SHINE [JEC20CS061], EMIL ERINJERY [JEC20CS048]** to the APJ Abdul Kalam Technological University in partial fulfillment of the requirements for the award of the Degree in Bachelor of Technology in **Computer Science & Engineering** is a bonafide record of the project work carried out by them under our guidance and supervision. This report in any form has not been submitted to any other University or Institute for any purpose.

Ms. Aswathy Wilson &

Ms. Sobha Xavier

PROJECT  
COORDINATORS

Mr. Arun K

PROJECT SUPERVISOR

Dr. Saju P John

HEAD OF THE DEPT.



Dr. JOSE P THIERAP  
Principal  
Jyothi Engineering College  
Cheruthuruthy - 679531



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THRISSUR 679 531



### CERTIFICATE

This is to certify that the report entitled Title **EXAM SEAT ARRANGEMENT** submitted by **AFREEN POLY [JEC20CS008], JISMY JOSE [JEC20CS056], ALFIN JOHNSON [JEC20CS016], ALAN R ALAPPAT [JEC20CS015]** to the APJ Abdul Kalam Technological University in partial fulfillment of the requirements for the award of the Degree in Bachelor of Technology in **Computer Science & Engineering** is a bonafide record of the project work carried out by them under our guidance and supervision. This report in any form has not been submitted to any other University or Institute for any purpose.

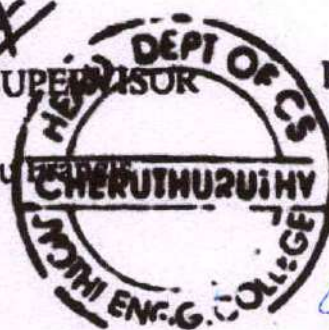
PROJECT  
COORDINATORS

Ms. Aswathy Wilson  
Ms. Sobha Xavier

*Aswathy Wilson*  
*Sobha Xavier*

~~Not~~ PROJECT SUPERVISOR

Ms. Ninu



HEAD OF THE DEPT

Dr. Saju P John

*Saju P John*  
Dr. JOSE P THEERATTIL  
Principal  
Jyothi Engineering College  
Cherturuthy - 679531


**DEPARTMENT OF COMPUTER SCIENCE & ENGINEERING**  
**JYOTHI ENGINEERING COLLEGE, CHERUTHURUTHY**


**THIRISSUR 679 531**

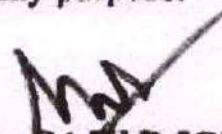


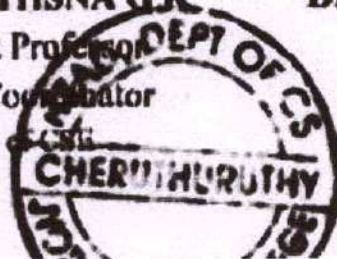
**CERTIFICATE**


This is to certify that the report entitled "**HOUSE PRICE PREDICTION**" submitted by **SRUTHI P A, SNEHA C SHAJI, SHARMMADA A, SAJIN P J** to the APJ Abdul Kalam Technological University in partial fulfillment of the requirements for the award of the Degree in Bachelor of Technology in Computer Science & Engineering is a bonafide record of the project work carried out by them under my/our guidance and supervision. This report in any form has not been submitted to any other University or Institute for any purpose.

  
**Dr. SWAPNA BSASI**  
Associate Professor  
Project Guide  
Dept. of CSE

  
**Mrs. JYOTHSNA G.K.**  
Assistant Professor  
Project Coordinator  
Dept. of CSE

  
**Dr. SAJU P JOHN**  
Professor  
Head of Dept  
Dept. of CSE



  
**Dr. JOSE P THERATTIL**  
Principal  
Jyothi Engineering College  
Cheruthuruthy - 679531

**DEPARTMENT OF COMPUTER SCIENCE & ENGINEERING**  
**JYOTHI ENGINEERING COLLEGE, CHERUTHURUTHY**

**THRISSUR 679 531**



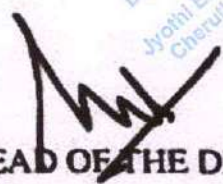
**CERTIFICATE**

This is to certify that the report entitled Title **KTU Activity Point Management App** submitted by **Abhinav Padmarajan (JEC20CS002), Alfin Lawrence (JEC20CS017), Aswath Dev D (JEC20CS033)** to the APJ Abdul Kalam Technological University in partial fulfillment of the requirements for the award of the Degree in Bachelor of Technology in **Computer Science & Engineering** is a bonafide record of the project work carried out by them under my/our guidance and supervision. This report in any form has not been submitted to any other University or Institute for any purpose.

  
Internal Supervisor(s)

  
External Supervisor



  
HEAD OF THE DEPT

  
D. JOSE P. THEERATTIL  
Principal  
Jyothi Engineering College  
Cheruthuruthy - 679531

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### CERTIFICATE

This is to certify that the report entitled Title **LICHT APP** submitted by **FIZA SOORAJ KHAN [JEC20CS050], JYOTHIKA RADHAKRISHNAN [JEC20CS060], KIRAN DEV S [JEC20CS062], JERALD TOM DAIKAZ [JEC20CS055]** to the APJ Abdul Kalam Technological University in partial fulfillment of the requirements for the award of the Degree in Bachelor of Technology in **Computer Science & Engineering** is a bonafide record of the project work carried out by them under our guidance and supervision. This report in any form has not been submitted to any other University or Institute for any purpose.

PROJECT  
COORDINATORS

Ms. Aswathy Wilson  
Ms. Sobha Xavier P

*Aswathy*

PROJECT SUPERVISOR

Ms. Aswathy Wilson



HEAD OF THE DEPT

*[Signature]*

Dr. Saju P John

*[Signature]*  
Dr. JOSE P THERATTIL  
Principal  
Jyothi Engineering College  
Cheruthuruthy - 679531

# DEPARTMENT OF COMPUTER SCIENCE & ENGINEERING

## JYOTHI ENGINEERING COLLEGE, CHERUTHURUTHY

THRISSUR 679 531



### CERTIFICATE

This is to certify that the report entitled Title **MEDROP: Medicine Delivery Web-site** submitted by **Cyrin Dady [JEC20CS041]**, **Fathima Rifa K [JEC20CS049]**, **Labeeb Mohiyadheen [JEC20CS063]**, **Adarsh T Issac [JEC20CS005]** to the API Abdul Kalam Technological University in partial fulfillment of the requirements for the award of the Degree in Bachelor of Technology in **Computer Science & Engineering** is a bonafide record of the project work carried out by them under my/our guidance and supervision.. This report in any form has not been submitted to any other University or Institute for any purpose.

Ms. Aswathy Wilson

Ms. Sobha Xavier

PROJECT

COORDINATORS

Mr. Thomas George

PROJECT SUPERVISOR



HEAD OF THE DEPT

Dr. Saju P John

Dr. JOSE P THERATTIL  
Principal  
Jyothi Engineering College  
Cheruthuruthy - 679531

# Jyothi Engineering College

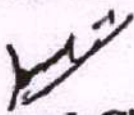
NAAC Accredited College with **BBB** Accredited Programmes\*

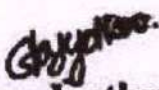
DEPARTMENT OF COMPUTER SCIENCE & ENGINEERING



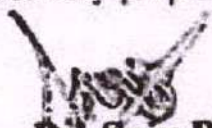
## CERTIFICATE

This is to certify that the report entitled "**MOVIE RECOMMENDER SYSTEM USING PYTHON**" submitted by **Riniya Mary Pradeep, Philipose Alexander, Praveen S, Rahul Renjith** to the APJ Abdul Kalam Technological University in partial fulfillment of the requirements for the award of the Degree in Bachelor of Technology in **Computer Science & Engineering** is a bonafide record of the project work carried out by them under my/our guidance and supervision. This report in any form has not been submitted to any other University or Institute for any purpose.

  
**Mr. Anesh Chandran**  
Project Guide Assistant  
Professor Dept. of CSE

  
**Mrs. Jyothsna G K**  
Project Coordinator  
Assistant Professor




  
**Dr. Saju P John**  
Head of Dept.  
Professor  
Dept. of CSE



Dr. JOSE P THERATTIL  
Principal  
Jyothi Engineering College  
Cheruthuruthy - 679531

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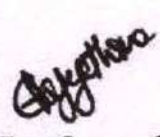


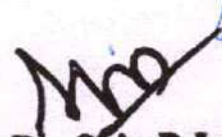
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LEADERS OF TOMORROW  
ESTD 2002

### CERTIFICATE

This is to certify that the report entitled **Music Recommendation System** submitted by **Nived Raj P, Reshab Parakkadan, Russell George, Samuel Davi** to the **APJ Abdul Kalam Technological University** in partial fulfillment of the requirements for the award of the Degree in Bachelor of Technology in **Computer Science & Engineering** is a bonafide record of the project work carried out by them under my/our guidance and supervision. This report in any form has not been submitted to any other University or Institute for any purpose.

  
**Ms. Sajitha I.**  
Project Guide  
Assistant Professor  
Dept. of CSE

  
**Ms. Jyothsna G.K.**  
Project Coordinator  
Assistant Professor  
Dept. of CSE

  
**Dr. Saju P John**  
Head of Dept.  
Professor  
Dept. of CSE

  
**Dr. JOSE P THIRATTIL**  
Principal  
Jyothi Engineering College  
Cheruthuruthy - 679534

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THRISSUR 679 531

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LEADERS OF TOMORROW

### CERTIFICATE

This is to certify that the report entitled Title **PASSWORD MANAGER** submitted by **ADITHYANARAYANAN S, AISAL IQBAL E, PALISHA R ALAPPAT, ANZAL AKBAR ALI** to the APJ Abdul Kalam Technological University in partial fulfillment of the requirements for the award of the Degree in Bachelor of Technology in **Computer Science & Engineering** is a bonafide record of the project work carried out by them under my/our guidance and supervision.. This report in any form has not been submitted to any other University or Institute for any purpose.

Ms. Aswathy Wilson

Ms. Shoba Xavier

Project Coordinators

Mr. SAJU JOSE

CHITILAPILLY

Project Supervisor



Dr. Saju P John

*Jyothi*

Dr. JOSE P THERATTIL  
Principal  
Jyothi Engineering College  
Thrissur - 679531

HEAD OF THE DEPT



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## DEPARTMENT OF COMPUTER SCIENCE & ENGINEERING

THRISSUR 679 531



### CERTIFICATE

This is to certify that the report entitled "**PLACEMENT MANAGEMENT WEB APP**" submitted by **EDWIN MONCY (JEC20CS046), ANUSHA JOSEPH (JEC20CS026), AKSHAY KS (JEC20CS013) & ANITH ELDHO VARGHESE (JEC20CS023)** to the APJ Abdul Kalam Technological University in partial fulfillment of the requirements for the award of the Degree in Bachelor of Technology in **Computer Science & Engineering** is a bonafide record of the project work carried out by them under my/our guidance and supervision. This report in any form has not been submitted to any other University or Institute for any purpose.

Ms. Aswathy Wilson &

Ms. Sobha Xavier

Mr. Anil Antony

PROJECT SUPERVISOR

Dr. Sajid John

Dr. JOSE P. THERATTIL  
Principal  
Jyothi Engineering College  
Cheruthuruthy - 679531



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LEADERS FOR TOMORROW  
ESTD 2002

## CERTIFICATE

This is to certify that the report entitled **A Quiz Web Application Using Django Web Framework**, submitted by **Ummu Habiba, Namitha Maria E V, Sishna Mohan K, Lrvin C P** to the APJ Abdul Kalam Technological University in partial fulfillment of the requirements for the award of the Degree in Bachelor of Technology in **Computer Science & Engineering** is a bonafide record of the project work carried out by them under my/our guidance and supervision. This report in any form has not been submitted to any other University or Institute for any purpose.

  
**Mr. Thomas George**  
Project Guide  
Assistant Professor  
Dept. of CSE

  
**Ms. Jyothsna G. K**  
Project Coordinator  
Assistant Professor  
Dept. of CSE

  
**Dr. Sain P. John**  
Head of Dept.  
Professor  
Dept. of CSE



  
**Dr. Jose P. Therattil**  
Principal  
Jyothi Engineering College  
Cheruthuruthy - 679531

# DEPARTMENT OF COMPUTER SCIENCE & ENGINEERING

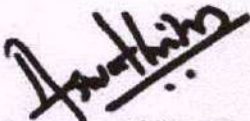
## JYOTHI ENGINEERING COLLEGE, CHERUTHURUTHY

THRISSUR 679 531




### CERTIFICATE

This is to certify that the report entitled Title **JUIZ: QUIZ WEB APPLICATION** submitted by **ASWIN K, AKHIN KEEAZHANGOTE, JOYEL P R and ASHVIN ANTO** to the APJ Abdul Kalam Technological University in partial fulfillment of the requirements for the award of the Degree in Bachelor of Technology in **Computer Science & Engineering** is a bonafide record of the project work carried out by them under our guidance and supervision.. This report in any form has not been submitted to any other University or Institute for any purpose.

  
Ms. Aswathy Wilson

Ms. Sobha Xavier

Project Coordinators

  
Ms. Sonia A Joseph

Project Supervisor

  
Dr. Saju P John  
Principal  
Jyothi Engineering College  
Cheruthuruthy - 679531

  
Dr. Saju P John

HEAD OF THE DEPT



# Jyothi Engineering College

SAAC Accredited college with Accredited programmes

THRISSUR 679 531

## DEPARTMENT OF COMPUTER SCIENCE & ENGINEERING



### CERTIFICATE

This is to certify that the report entitled Title **Reinforcement Learning: Super Mario Bros** submitted by **Harikrishna R Nair, Annrose Paul Menachery, Godwin Joja, Hisham Nissar** to the APJ Abdul Kalam Technological University in partial fulfillment of the requirements for the award of the Degree in Bachelor of Technology in **Computer Science & Engineering** is a bonafide record of the project work carried out by them under our guidance and supervision. This report in any form has not been submitted to any other University or Institute for any purpose.

Ms. Aswathy Wilson

Ms. Shoba Xavier P

Mr. Vysagh

Project Supervisor

Dr. Saju P John

Dr. JOSE P THERATTIL  
Principal  
Jyothi Engineering College  
Thiruvananthapuram - 676531



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## DEPARTMENT OF COMPUTER SCIENCE & ENGINEERING

THRISSUR 679 531



CREATING TECHNOLOGY  
LEADERS OF TOMORROW

### CERTIFICATE

This is to certify that the report entitled Title **REMOTE FILE MANAGEMENT SOFTWARE** submitted by **DHINOO [JEC20CS043], CHRISTY GEORGE JOSEPH [JEC20CS040], ALLAN GEO P [JEC20CS019]** to the APJ Abdul Kalam Technological University in partial fulfillment of the requirements for the award of the Degree in Bachelor of Technology in **Computer Science & Engineering** is a bonafide record of the project work carried out by them under our guidance and supervision. This report in any form has not been submitted to any other University or Institute for any purpose.

Ms. Aswathy Wilson &

Ms. Sobha Xavier

PROJECT

COORDINATORS

Mr. Shaiju

PROJECT SUPERVISOR

Dr. Sudeep John

HEAD OF THE DEPT



*Jyothi*  
JOSE P. THEERATTIL  
Principal  
Jyothi Engineering College  
Thiruvananthapuram - 679531

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DEPARTMENT OF COMPUTER SCIENCE & ENGINEERING



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LEADERS OF TOMORROW  
ESTD 2002

## CERTIFICATE

This is to certify that the report entitled "SALON BOOKING APP USING FLUTTER" submitted by MOHAMMED ANJAL, PRAVEEN KUMAR, SANJON RION, SARIN MADHAV to the APJ Abdul Kalam Technological University in partial fulfillment of the requirements for the award of the Degree in Bachelor of Technology in Computer Science & Engineering is a bonafide record of the mini project work carried out by him under my/our guidance and supervision. This report in any form has not been submitted to any other University or Institute for any purpose.

  
Mr. Shanju Paul

Internal Supervisor  
Assistant Professor  
Dept. of CSE

  
Ms. Jyothsna G K

Project Coordinator  
Assistant Professor  
Dept. of CSE

  
Dr. Saju P John

Head of the Department  
Professor  
Dept. of CSE



Dr. JOSE P THERATTIL  
Principal  
Jyothi Engineering College  
Chitturuthy - 679531

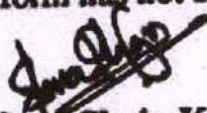
## DEPARTMENT OF COMPUTER SCIENCE & ENGINEERING

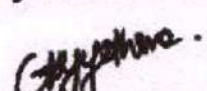


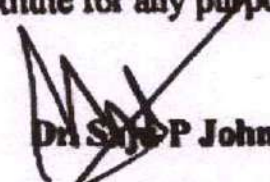
CREATING TECHNOLOGY  
LEADERS OF TOMORROW  
ESTD 2002

### CERTIFICATE

This is to certify that the report entitled Title **SPEECH TO TEXT CONVERTOR** submitted by **Sandra M A, Sneha Jiju, Sanah K** to the APJ Abdul Kalam Technological University in partial fulfillment of the requirements for the award of the Degree in Bachelor of Technology in Computer Science & Engineering is a bonafide record of the project work carried out by them under my/our guidance and supervision.. This report in any form has not been submitted to any other University or Institute for any purpose.

  
Ms. Sona Shaju K  
Project Guide  
Assistant Professor  
Dept. of CSE

  
Ms. Jyothsna G K  
Project Coordinator  
Assistant Professor  
Dept. of CSE

  
Dr. Sijo P John  
Head of Dept.  
Assistant Professor  
Dept. of CSE



  
Dr. JOSE P THERATTIL  
Principal  
Jyothi Engineering College  
Cheruthuruthy - 679551

**DEPARTMENT OF COMPUTER SCIENCE & ENGINEERING**

**JYOTHI ENGINEERING COLLEGE, CHERUTHURUTHY**

**THRISSUR 679 531**



**CERTIFICATE**

This is to certify that the report entitled Title **TRIPMUSE** submitted by **AJITH (JEC20CS010), AISHWARYA K T (JEC20CS009), ASWAJITH K (JEC20CS032)** to the APJ Abdul Kalam Technological University in partial fulfillment of the requirements for the award of the Degree in Bachelor of Technology in **Computer Science & Engineering** is a bonafide record of the project work carried out by them under my/our guidance and supervision.. This report in any form has not been submitted to any other University or Institute for any purpose.

Ms. Aswathy Wilson

Ms. Sobha Xavier P

Assistant Professors

Ms. Anumol S

Assistant Professor

Project Supervisor

Dr. Sajid P John

Professor

HEAD OF THE DEPT



*Jose P Therattil*  
JOSE P THERATTIL  
Principal  
Jyothi Engineering College  
Cheruthuruthy - 679531



# Jyothi Engineering College

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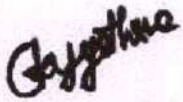
## DEPARTMENT OF COMPUTER SCIENCE & ENGINEERING

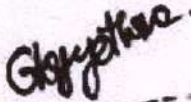


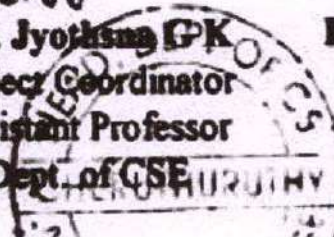
CREATING TECHNOLOGY  
LEADERS OF TOMORROW  
ESTD 2002


### CERTIFICATE


This is to certify that the report entitled **Type two diabetes prediction using machine learning model** submitted by **Nikhitha C, Manu Madhav S, Midhun P V, Lynn Joy** to the **APJ Abdul Kalam Technological University** in partial fulfillment of the requirements for the award of the Degree in Bachelor of Technology in Computer Science & Engineering is a bonafide record of the project work carried out by them under my/our guidance and supervision. This report in any form has not been submitted to any other University or Institute for any purpose.

  
**Ms. Jyothsna Gk**  
Project Guide  
Assistant Professor  
Dept. of CSE

  
**Ms. Jyothsna Gk**  
Project Coordinator  
Assistant Professor  
Dept. of CSE



  
**Dr. Safu P John**  
Head of Dept.  
Professor  
Dept. of CSE

  
Dr. JOSE P THERATTIL  
Principal  
Jyothi Engineering College  
Cheruthuruthy - 679531

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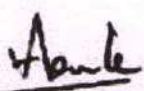
## DEPARTMENT OF COMPUTER SCIENCE & ENGINEERING




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LEADERS OF TOMORROW  
ESTD 2002

### CERTIFICATE

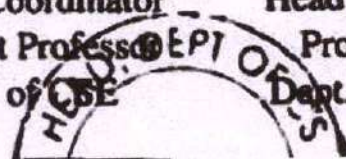
This is to certify that the report entitled **VEHICLE PASS MANAGEMENT SYSTEM** submitted by **Muhammed Imran M I , Navya T , Sam P Reji, Sreehari P** to the APJ Abdul Kalam Technological University in partial fulfillment of the requirements for the award of the Degree in Bachelor of Technology in **Computer Science & Engineering** is a bonafide record of the mini project work carried out by them under my/our guidance and supervision. This report in any form has not been submitted to any other University or Institute for any purpose.

  
**Mr. Arun K**  
Project Guide  
Assistant Professor  
Dept. of CSE

  
**Ms. Jyothisana G K**  
Project Coordinator  
Assistant Professor  
Dept. of CSE

  
**Dr. Saju P John**  
Head of Dept.  
Professor  
Dept. of CSE

  
**Dr. JOSE P THERATTIL**  
Principal  
Jyothi Engineering College  
Cheruthuruthy - 679531



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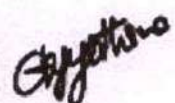


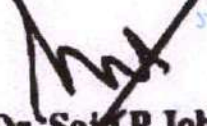
CREATING TECHNOLOGY  
LEADERS OF TOMORROW  
ESTD 2002

### CERTIFICATE

This is to certify that the report entitled **Virtual Voice Assistant Using Python** submitted by **Mariya Benny, Sanjo T S, Vishnudath P R, Malavika Baburaj** to the APJ Abdul Kalam Technological University in partial fulfillment of the requirements for the award of the Degree in Bachelor of Technology in **Computer Science & Engineering** is a bonafide record of the project work carried out by them under my/our guidance and supervision. This report in any form has not been submitted to any other University or Institute for any purpose.

  
**Mr. Anil Antony**  
Project Guide  
Assistant Professor  
Dept. of CSE

  
**Ms. Jyothsna G K**  
Project Coordinator  
Assistant Professor  
Dept. of CSE

  
**Dr. Sajid P John**  
Head of Dept.  
Professor  
Dept. of CSE

  
Dr. P. THERATTIL  
Principal  
Jyothi Engineering College  
Cheruthuruthy - 679531



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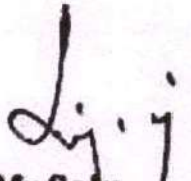
## DEPARTMENT OF COMPUTER SCIENCE & ENGINEERING

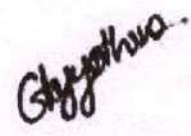


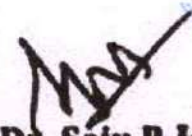
CREATING TECHNOLOGY  
LEADERS OF TOMORROW  
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### CERTIFICATE

This is to certify that the report entitled **VOICE BASED EMAIL FOR VISUALLY CHALLENGED PEOPLE** submitted by **Milan Tomy, Muhammed Ashif, Pranish V P, Roshna C P** to the APJ Abdul Kalam Technological University in partial fulfillment of the requirements for the award of the Degree in Bachelor of Technology in Computer Science & Engineering is a bonafide record of the project work carried out by them under my/our guidance and supervision. This report in any form has not been submitted to any other University or Institute for any purpose.

  
**Mr. Saju Chittilapilly**  
Project Guide  
Assistant Professor

  
**Ms. Jyothsna G.K.**  
Project Coordinator  
Assistant Professor

  
**Dr. Saju P John**  
Head of Dept.  
Professor

  
Dr. JOSE P THERATTIL  
Principal  
Jyothi Engineering College  
Cheruthuruthy - 679534

# Jyothi Engineering College

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LEADERS OF TOMORROW  
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### CERTIFICATE

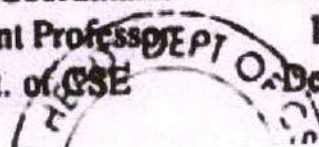
This is to certify that the report entitled **WEB APP FOR IMPROVISING WRITING** submitted by **RISHIKESH V K, SANDRA JOSEPH, SANJU SIBI, VISHNUPRASAD V S** to the APJ Abdul Kalam Technological University in partial fulfillment of the requirements for the award of the Degree in Bachelor of Technology in **Computer Science & Engineering** is a bonafide record of the mini project work carried out by them under my/our guidance and supervision. This report in any form has not been submitted to any other University or Institute for any purpose.

**Dr. Valanto Alappat**  
Project Guide  
Associate Professor  
Dept. of CSE

**Mrs. Jyothisna G K**  
Project Coordinator  
Assistant Professor  
Dept. of CSE

**Dr. Saju P John**  
Head of Dept.  
Professor  
Dept. of CSE

Dr. JOSE P THERATTIL  
Principal  
Jyothi Engineering College  
Cheruthuruthy - 679531



# DEPARTMENT OF COMPUTER SCIENCE & ENGINEERING

JYOTHI ENGINEERING COLLEGE, CHERUTHURUTHY

THRISSUR 679 531



## CERTIFICATE

This is to certify that the report entitled Title **WING WATCH** submitted by **ARJUN M S, ANN LIA JEEJO, AKSHAY S MENON, ASNA P T** to the APJ Abdul Kalam Technological University in partial fulfillment of the requirements for the award of the Degree in Bachelor of Technology in **Computer Science & Engineering** is a bonafide record of the project work carried out by them under my/our guidance and supervision. This report in any form has not been submitted to any other University or Institute for any purpose.

Ms. Aswathy Wilson

Ms. Sobha Xavier

Project Coordinators

Dr. Valanto Alappatt

Project Supervisor



Dr. Saju P John

HEAD OF THE DEPT

Dr. JOSE P THERATTIL  
Principal  
Jyothi Engineering College  
Cheruthuruthy - 679531

# Jyothi Engineering College

NAAC Accredited college with ISO Accredited programmes

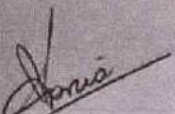
DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING




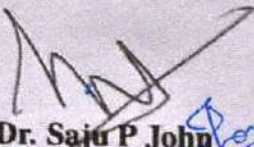
CREATING TECHNOLOGY  
LEADERS OF TOMORROW  
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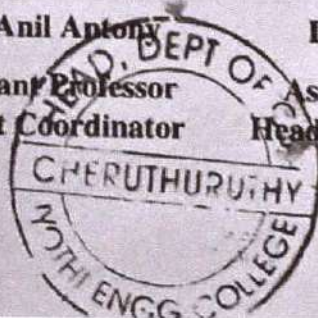
## CERTIFICATE

This is to certify that the report entitled " **AI BASED SERVICE HUB** " submitted by AASHISH JOSEPH GEORGE( JEC19CS001), AKSHARA C( JEC19CS013), ALEX MATHAI ( JEC19CS019), ANAIDA BABU M( JEC19CS024) to the APJ Abdul Kalam Technological University in partial fulfillment of the requirements for the award of the Degree in Bachelor of Technology in **Computer Science and Engineering** is a bonafide record of the project work carried out by them under my/our guidance and supervision. This report in any form has not been submitted to any other University or Institute for any purpose.

  
Ms. Sofia A Joseph  
Assistant Professor  
Project Guide

  
Mr. Anil Antony  
Assistant Professor  
Project Coordinator

  
Dr. Saju P John  
Associate Professor  
Head of the Department



Dr. JOSE P THEKATIL  
Dr. JOSE P THEKATIL  
Principal  
Jyothi Engineering College  
Cheruthuruthy  
79531

## DEPARTMENT OF COMPUTER SCIENCE ENGINEERING



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LEADERS OF TOMORROW

### CERTIFICATE

This is to certify that the report entitled **Automated cheating detection in exam using posture and emotion analysis** submitted by **ALEX C PRAKASH ( JEC19CS018 )**, **ANIRUDH VENUGOPAL ( JEC19CS027 )**, **ARJUN ARAVIND MENON ( JEC19CS033 )**, **CHETHAN KRISHNA K ( JEC19CS041 )** to the APJ Abdul Kalam Technological University in partial fulfillment of the requirements for the award of the Degree in Bachelor of Technology in **Computer Science & Engineering** is a bonafide record of the project work carried out by them under our guidance and supervision. This report in any form has not been submitted to any other University or Institute for any purpose.

*G. Jyothsna*  
**MS. JYOTHSNA G K**  
Project Guide  
Assistant Professor  
Dept. of CSE

*Anil*  
**Mr. Anil Antony**  
Project Coordinator  
Assistant Professor  
Dept. of CSE

*Saju P John*  
**Dr. Saju P John**  
Head of Dept.  
Professor  
Dept. of CSE





DEPARTMENT OF COMPUTER SCIENCE & ENGINEERING

JYOTHI ENGINEERING COLLEGE, CHERUTHURUTHY

THRISSUR 679 531



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JUNE 2023

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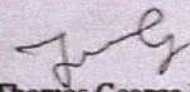
This is to certify that the report entitled Title **Bus Automation** submitted by **Hena Sunil, Rosiya Paulson and Sulaika V.S** to the APJ Abdul Kalam Technological University in partial fulfillment of the requirements for the award of the Degree in Bachelor of Technology in **Computer Science & Engineering** is a bonafide record of the project work carried out by them under my/our guidance and supervision. This report in any form has not been submitted to any other University or Institute for any purpose.

  
Dr. Saju P John

Project Guide

Assistant Professor

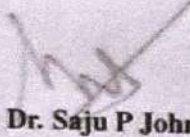
Dept. of CSE

  
Mr. Thomas George K

Project Coordinator

Assistant Professor

Dept. of CSE


  
Dr. Saju P John


Head of Dept

Professor

Dept. of CSE



  
Dr. JOSE P THERATTIL  
Principal  
Jyothi Engineering College  
Cheruthuruthy

  
Prof. Dr. S. S. S. S.  
Dept. of CSE

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LEADERS OF TOMORROW  
ESTD 2002

## CERTIFICATE

This is to certify that the report entitled " **CARDIOVASCULAR DISEASE PROGNOSIS USING DEEP LEARNING** " submitted by ABDU ROUF A(JEC19CS002), AISHWARYA PRASAD(JEC19CS008), AISWARYA K(JEC19CS009), AKHILA V S(JEC19CS011) to the APJ Abdul Kalam Technological University in partial fulfillment of the requirements for the award of the Degree in Bachelor of Technology in **Computer Science & Engineering** is a bonafide record of the project work carried out by them under my/our guidance and supervision. This report in any form has not been submitted to any other University or Institute for any purpose.

for *[Signature]*  
Mr Vysagh M  
Associate Professor  
Internal Supervisor



*[Signature]*  
Dr. Saju P John  
Professor  
Head of the Department

*[Blue Stamp]*  
Dr. Jose P Thier  
Principal  
Jyothi Engineering College

DEPARTMENT OF COMPUTER SCIENCE & ENGINEERING

JYOTHI ENGINEERING COLLEGE, CHERUTHURUTHY

THRISSUR 679 531



**CERTIFICATE**

This is to certify that the report entitled " **CHEATING DETECTION IN EXAMS USING POSTURE AND EMOTION ANALYSIS** " submitted by **ALEX C PRAKASH (JEC19CS018), ANIRUDH VENUGOPAL (JEC19CS027), ARJUN ARAVIND MENON (JEC19CS033), CHETHAN KRISHNA (JEC19CS041)** to the APJ Abdul Kalam Technological University in partial fulfillment of the requirements for the award of the Degree in **Computer Science and Engineering** is a bonafide record of the project work carried out by them under our guidance and supervision. This report in any form has not been submitted to any other University or Institute for any purpose.

*GK*  
Ms. Jyothsna G K  
Assistant Professor  
Internal Supervisor



*Saju P John*  
Dr. Saju P John  
Professor  
Head of the Department

*Jose P Therattil*  
Dr. JOSE P THERATTIL  
Principal  
Jyothi Engineering College  
Cheruthuruthy - 679531

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LEADERS OF TOMORROW  
ESTD 2002

## CERTIFICATE

This is to certify that the report entitled " **CURRENCY ANALYSER** " submitted by JEROMIYA JOY(JEC19CS056), MUHAMMAD ALISHIHAB V S(JEC19CS066), NIMISHA ANNA BINOY (JEC19CS075),ROHIT RAJ P(JEC19CS080) to the APJ Abdul Kalam Technological University in partial fulfillment of the requirements for the award of the Degree in Bachelor of Technology in **Computer Science & Engineering** is a bonafide record of the project work carried out by them under my/our guidance and supervision. This report in any form has not been submitted to any other University or Institute for any purpose.

*July*  
Mrs. Neeraja James

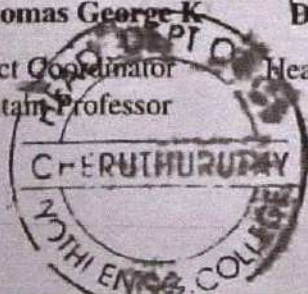
Project Guide  
Assistant Professor

*July*  
Mr. Thomas George K

Project Coordinator  
Assistant Professor

*July*  
Dr. Saju P John

Head Of Department  
Professor



*Dr. Jose P Therattil*  
Dr. JOSE P THERATTIL  
Principal  
Jyothi Engineering College  
Cheruthurupay

DEPARTMENT OF COMPUTER SCIENCE & ENGINEERING

JYOTHI ENGINEERING COLLEGE, CHERUTHURUTHY

THRISSUR 679 531

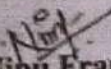


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LEADERS OF TOMORROW

JUNE 2023

**BONAFIDE CERTIFICATE**

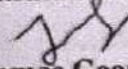
This is to certify that the report entitled Title **Customer Churn Forecasting** submitted by **KISHORE K: JEC19CS059, SANCHEZ JOSHY: JEC19CS084, SURANGA T M: JEC19CS097, VISHNUDAS P S: JEC19CS102** to the APJ Abdul Kalam Technological University in partial fulfillment of the requirements for the award of the Degree in Bachelor of Technology in **Computer Science & Engineering** is a bonafide record of the project work carried out by them under my/our guidance and supervision.. This report in any form has not been submitted to any other University or Institute for any purpose.

  
Ms. Ninu Francis

Project Guide

Assistant Professor

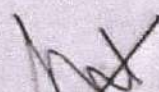
Dept. of CSE

  
Mr. Thomas George K

Project Coordinator

Assistant Professor

Dept. of CSE

  
Dr. Saju P John

Head of Dept

Professor

Dept. of CSE



  
Dr. JOSE P THERATTIL  
Principal  
Jyothi Engineering College  
Cheruthuruthy - 679531

# Jyothi Engineering College

NAAC Accredited college with ISO Accredited programmes

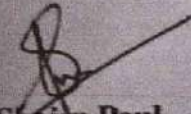
## DEPARTMENT OF COMPUTER SCIENCE & ENGINEERING

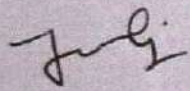


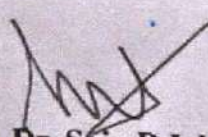
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LEADERS OF TOMORROW  
ESTD 2002


### CERTIFICATE

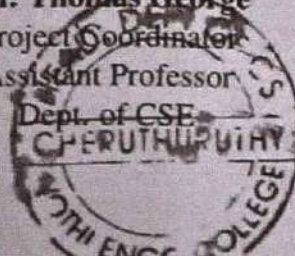
This is to certify that the report entitled **Decentralized Exchange** submitted by **Jernick K J , Kiran T Suresh , Sidharth P and Sidharth S Unnithan** to the APJ Abdul Kalam Technological University in partial fulfillment of the requirements for the award of the Degree in Bachelor of Technology in **Computer Science & Engineering** is a bonafide record of the project work carried out by them under my/our guidance and supervision. This report in any form has not been submitted to any other University or Institute for any purpose.

  
Mr. Shaiju Paul  
Project Guide  
Associate Professor  
Dept. of CSE

  
Mr. Thomas George  
Project Coordinator  
Assistant Professor  
Dept. of CSE

  
Dr. Saju P John  
Head of Dept.  
Professor  
Dept. of CSE

  
Dr. JOSE P THIER  
Principal  
Jyothi Engineering College  
Cheruthuruthy - 678531



# Jyothi Engineering College

SAAC Accredited college with ISO Accredited programmes

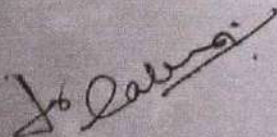
DEPARTMENT OF COMPUTER SCIENCE & ENGINEERING

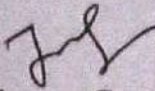


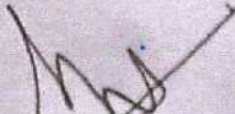
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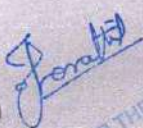
## CERTIFICATE

This is to certify that the report entitled **Decentralized E-Commerce Website** submitted by **M Arunkumar, Mohamed Zakim, Mohammed, Murshida Ibrahim** to the APJ Abdul Kalam Technological University in partial fulfillment of the requirements for the award of the Degree in Bachelor of Technology in **Computer Science & Engineering** is a bonafide record of the project work carried out by them under my/our guidance and supervision. This report in any form has not been submitted to any other University or Institute for any purpose.

  
Ms. Sona Shaju K  
Project Guide  
Associate Professor  
Dept. of CSE

  
Mr. Thomas George  
Project Coordinator  
Assistant Professor  
Dept. of CSE

  
Dr. Saju P John  
Head of Dept.  
Professor  
Dept. of CSE



Dr. JOSE P THIER  
Principal  
Jyothi Engineering College  
Cheruthuruthy  
679551



# Jyothi Engineering College

NAAC Accredited college with ISO Accredited programmes

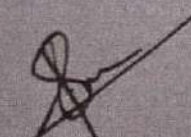
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## CERTIFICATE

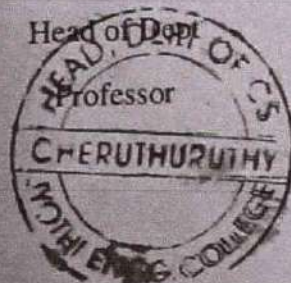
This is to certify that the report entitled " **DECENTRALISED RIDE SHARING SERVICE** " submitted by ABIN ANTO(JEC19CS005), ABRAHAM GEORGE(JEC19CS006), AMAL SHIBU(JEC19CS022), ANAND PRABHA BOSE(JEC19CS025) to the APJ Abdul Kalam Technological University in partial fulfillment of the requirements for the award of the Degree in Bachelor of Technology in **Computer Science & Engineering** is a bonafide record of the main project work carried out by them under my/our guidance and supervision. This report in any form has not been submitted to any other University or Institute for any purpose.

  
Mr. Shaiju Paul

Internal Supervisor  
Associate Professor

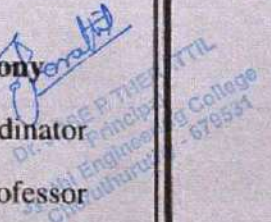
  
Dr. Saju P. John

Head of Dept  
Professor



  
Anil Antony

Project Coordinator  
Associate Professor

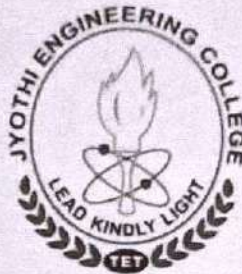
  
DR. S. S. P. THEJASWATHI  
Principal  
Jyothi Engineering College  
Chiruthuruthy  
679531



# Jyothi Engineering College

NAAC Accredited college with ISO Accredited programmes

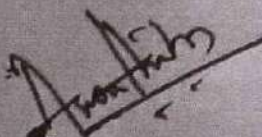
DEPARTMENT OF COMPUTER SCIENCE & ENGINEERING

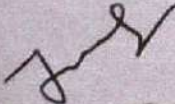


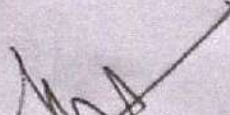
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LEADERS OF TOMORROW  
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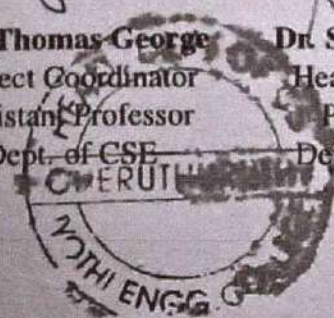
## CERTIFICATE


This is to certify that the report entitled **Detection and Classification of Autism Spectrum Disorder** submitted by **Irene Paulson, M Sudheer, Muhammed Faris K.A, Nitish T** to the APJ Abdul Kalam Technological University in partial fulfillment of the requirements for the award of the Degree in Bachelor of Technology in **Computer Science & Engineering** is a bonafide record of the project work carried out by them under my/our guidance and supervision. This report in any form has not been submitted to any other University or Institute for any purpose.

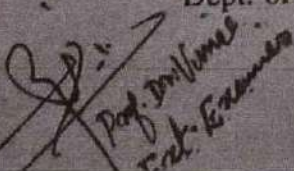
  
Ms. Aswathy Wilson  
Project Guide  
Associate Professor  
Dept. of CSE

  
Mr. Thomas George  
Project Coordinator  
Assistant Professor  
Dept. of CSE

  
Dr. Saji P John  
Head of Dept.  
Professor  
Dept. of CSE



  
Dr. JOSE P THERATTIL  
Principal  
Jyothi Engineering College  
Charuvathur - 676301

  
Prof. Dr. S. S. Srinivas  
Sect. Examinations

# Jyothi Engineering College

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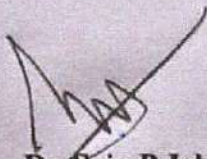
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LEADERS OF TOMORROW  
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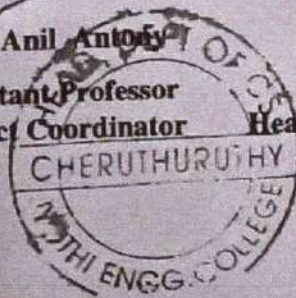
## CERTIFICATE


This is to certify that the report entitled " **EMOTION RECOGNITION THROUGH VOICE** " submitted by A KRISHNAPRASAD(JEC19CS012), ALFRED FRANCIS(JEC19CS021), ARJUN S(JEC19CS034), GANGA NAIR J U(JEC19CS048) to the APJ Abdul Kalam Technological University in partial fulfillment of the requirements for the award of the Degree in Bachelor of Technology in **Computer Science & Engineering** is a bonafide record of the project work carried out by them under my/our guidance and supervision. This report in any form has not been submitted to any other University or Institute for any purpose.

  
Dr. Swapna B Sasi  
Associate Professor  
Internal Supervisor

  
Mr. Anil Antony  
Assistant Professor  
Project Coordinator

  
Dr. Saju P John  
Professor  
Head of the Department



  
Dr. Jose P Therattil  
Principal  
Jyothi Engineering College  
Cheruthuruthy - 6861

# Jyothi Engineering College


DEPARTMENT OF COMPUTER SCIENCE & ENGINEERING





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LEADERS OF TOMORROW  
ESTD 2002

## CERTIFICATE


This is to certify that the report entitled **Eye mate** submitted by **Sai hari c, Sanjay Ajay V T, Sona rajan, Tara Martin** to the APJ Abdul Kalam Technological University in partial fulfillment of the requirements for the award of the Degree in Bachelor of Technology in **Computer Science & Engineering** is a bonafide record of the project work carried out by them under my/our guidance and supervision. This report in any form has not been submitted to any other University or Institute for any purpose.

  
Ms. Soniya A Joseph  
Project Guide  
Assistant Professor  
Dept. of CSE

  
Mr. Thomas George  
Project Coordinator  
Assistant Professor  
Dept. of CSE

  
Dr. Saju P John  
Head of Dept.  
Professor  
Dept. of CSE

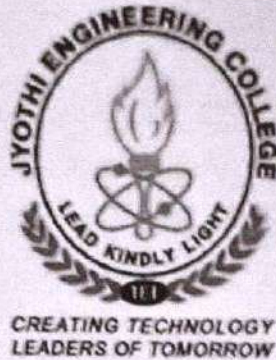


  
Dr. JOSE P THERATTIL  
Principal  
Jyothi Engineering College  
Cheruthuruthy - 68641

DEPARTMENT OF COMPUTER SCIENCE & ENGINEERING

JYOTHI ENGINEERING COLLEGE, CHERUTHURUTHY

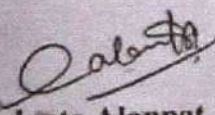
THRISSUR 679 531



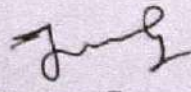
JUNE 2023

**BONAFIDE CERTIFICATE**

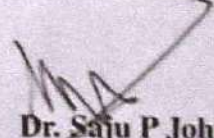
This is to certify that the report entitled Title **Fire Detection Using Deep Learning** submitted by **HARSHAL ABDULLA: JEC19CS051, NAKSHATHRA RAJ: JEC19CS069, NAZISH MOHAMMED NOUSHAD: JEC19CS072, SANJAY KRISHNAN P: JEC19CS086** to the APJ Abdul Kalam Technological University in partial fulfillment of the requirements for the award of the Degree in Bachelor of Technology in **Computer Science & Engineering** is a bonafide record of the project work carried out by them under my/our guidance and supervision. This report in any form has not been submitted to any other University or Institute for any purpose.

  
Dr. Valanto Alappat

Project Guide  
Assistant Professor  
Dept. of CSE

  
Mr. Thomas George K


Project Coordinator  
Assistant Professor  
Dept. of CSE

  
Dr. Saju P John

Head of Dept  
Professor  
Dept. of CSE

  
Dr. JOSE P THERATTIL  
Principal  
Jyothi Engineering College  
Cheruthuruthy - 679531

# Jyothi Engineering College

NAAC Accredited college with  Accredited programmes

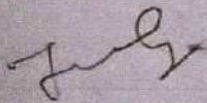
DEPARTMENT OF COMPUTER SCIENCE & ENGINEERING

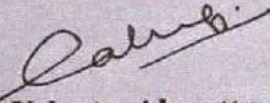


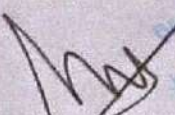
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LEADERS OF TOMORROW  
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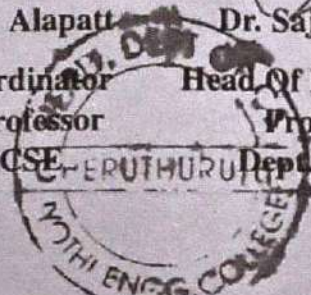
## CERTIFICATE

This is to certify that the report entitled “ **HANDWRITTEN CHARACTER AND TEXT RECOGNITION** ” submitted by SUJITH C P(LJEC19CS105), SEAN MANJALY(JEC19CS087), DEVIKA A D (LJEC19CS103), MERLI C V(LJEC19CS104) to the APJ Abdul Kalam Technological University in partial fulfillment of the requirements for the award of the Degree in Bachelor of Technology in **Computer Science & Engineering** is a bonafide record of the project work carried out by them under my/our guidance and supervision. This report in any form has not been submitted to any other University or Institute for any purpose.


  
Mr. Thomas George K  
Project Guide  
Associate Professor  
Dept. of CSE

  
Mr. Valento Alapatt  
Project Coordinator  
Assistant Professor  
Dept. of CSE

  
Dr. Saju P John  
Head of Department  
Professor  
Dept. of CSE



  
Dr. Saju P Therattil  
Principal  
Jyothi Engineering College  
Eruthuruthi - 675322

  
Dr. Saju P John  
Dept. of CSE

# Jyothi Engineering College

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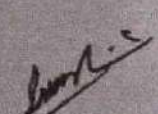
## DEPARTMENT OF COMPUTER SCIENCE & ENGINEERING

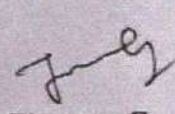


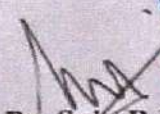
CREATING TECHNOLOGY  
LEADERS OF TOMORROW  
ESTD 2002

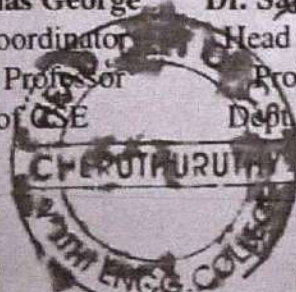
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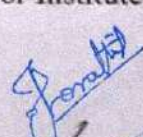
This is to certify that the report entitled **Mind Mate: Mental Health Chatbot** submitted by **Nehel Sunny (JEC19CS073), Rohith T(JEC19CS079), Siju Krishnan(JEC19CS092), Sweety Ronald(JEC19CS098)** to the APJ Abdul Kalam Technological University in partial fulfillment of the requirements for the award of the Degree in Bachelor of Technology in **Computer Science & Engineering** is a bonafide record of the project work carried out by them under my/our guidance and supervision. This report in any form has not been submitted to any other University or Institute for any purpose.

  
**Mr. Anceesh Chandran**  
Project Guide  
Associate Professor  
Dept. of CSE

  
**Mr. Thomas George**  
Project Coordinator  
Assistant Professor  
Dept. of CSE

  
**Dr. Saju P John**  
Head of Dept.  
Professor  
Dept. of CSE



  
Dr. JOSE P THERATTIL  
Principal  
Jyothi Engineering College  
Cheruthuruthy - 679301

# Jyothi Engineering College

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## DEPARTMENT OF COMPUTER SCIENCE & ENGINEERING



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LEADERS OF TOMORROW  
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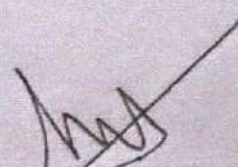
This is to certify that the report entitled " **MULTIPLE DISEASE PREDICTION SYSTEM** " submitted by ALEENA BABU(JEC19CS016), APARNA M(JEC19CS032), ARSHAD M(JEC19CS035) to the APJ Abdul Kalam Technological University in partial fulfillment of the requirements for the award of the Degree in Bachelor of Technology in **Computer Science & Engineering** is a bonafide record of the project work carried out by them under my/our guidance and supervision. This report in any form has not been submitted to any other University or Institute for any purpose.



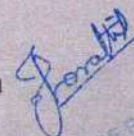
Ms. Parvathy Jyothi  
Assistant Professor  
Internal Supervisor



Mr. Anil Antony  
Assistant Professor  
Project Coordinator



Dr. Saju P John  
Professor  
Head of the Department



Mr. Jose P  
Assistant Professor

PERATTIL  
Jyothi Engineering College  
Cheruvu - 575601

# Jyothi Engineering College

USA AC Accredited college with UGC Accredited programmes

DEPARTMENT OF COMPUTER SCIENCE & ENGINEERING



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LEADERS OF TOMORROW  
ESTD 2002

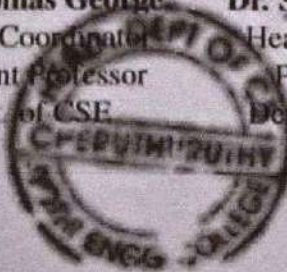
## CERTIFICATE

This is to certify that the report entitled **Prediction of Heart Disease, Diabetes and Cancer** submitted by **Shreya Johnson, Sradha Satheesh P, Sreelakshmi S Nair** to the APJ Abdul Kalam Technological University in partial fulfillment of the requirements for the award of the Degree in Bachelor of Technology in **Computer Science & Engineering** is a bonafide record of the project work carried out by them under my/our guidance and supervision. This report in any form has not been submitted to any other University or Institute for any purpose.

*[Signature]*  
Mr. Saju Chittappilly  
Project Guide  
Associate Professor  
Dept. of CSE

*[Signature]*  
Mr. Thomas George  
Project Coordinator  
Assistant Professor  
Dept. of CSE

*[Signature]*  
Dr. Saju P John  
Head of Dept.  
Professor  
Dept. of CSE



*[Signature]*  
Dr. JOSE P THERIAKUL  
Principal  
Jyothi Engineering College  
Cheruvu  
2015-16  
679524

*[Signature]*  
Prof. Dr. Vinod  
Ext. Examiner



# Jyothi Engineering College

U.A.C. Accredited college with ISO Accredited programmes

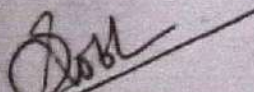
DEPARTMENT OF COMPUTER SCIENCE & ENGINEERING




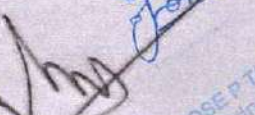
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LEADERS OF TOMORROW  
ESTD 2002

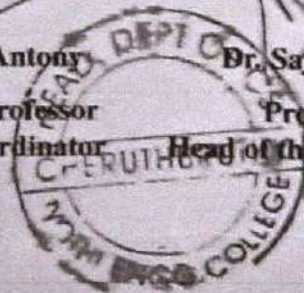
## CERTIFICATE

This is to certify that the report entitled " **REALTIME ACCIDENT DETECTION AND REPORTING SYSTEM** " submitted by ANURAG N NAIR(JEC19CS031), ALBERT FREDY(JEC19CS015), ADEL YAHYA ALI(JEC19CS007), ASHISH THOMAS ABRAHAM(JEC19CS037) to the APJ Abdul Kalam Technological University in partial fulfillment of the requirements for the award of the Degree in Bachelor of Technology in **Computer Science & Engineering** is a bonafide record of the project work carried out by them under my/our guidance and supervision. This report in any form has not been submitted to any other University or Institute for any purpose.

  
Ms Sobha Xavier  
Assistant Professor  
Project Guide

  
Mr. Anil Antony  
Assistant Professor  
Project Coordinator

  
Dr. Saju P John  
Professor  
Head of the Department



JOSE P THERATTIL  
Principal  
Jyothi Engineering College  
Cheruthuruthy - 678541

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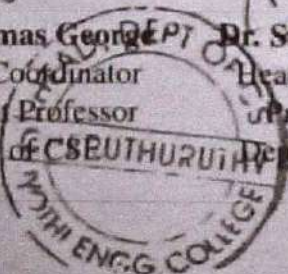
## CERTIFICATE

This is to certify that the report entitled **Restaurant Bot With Crowd Detection Using ML and Python** submitted by **Roopak R, Shelna George, T N Amruth Ghosh, Vaisakh V C** to the APJ Abdul Kalam Technological University in partial fulfillment of the requirements for the award of the Degree in Bachelor of Technology in **Computer Science & Engineering** is a bonafide record of the project work carried out by them under my/our guidance and supervision. This report in any form has not been submitted to any other University or Institute for any purpose.

*Ms. Jyothsna G K*  
Ms. Jyothsna G K  
Project Guide  
Assistant Professor  
Dept. of CSE

*Mr. Thomas George*  
Mr. Thomas George  
Project Coordinator  
Assistant Professor  
Dept. of CSE

*Dr. Suju P John*  
Dr. Suju P John  
Head of Dept.  
Professor  
Dept. of CSE

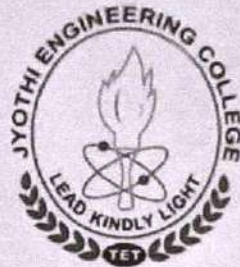


*Dr. JOSE P THERATTIL*  
Principal  
Jyothi Engineering College  
Cheruthuruthy - 570 301

# Jyothi Engineering College

NAAC Accredited college with ISO Accredited programmes

## DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING



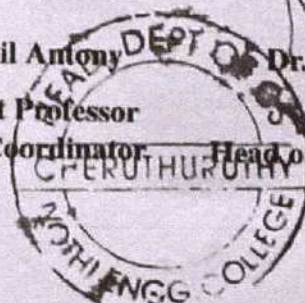
CREATING TECHNOLOGY  
LEADERS OF TOMORROW  
ESTD 2002

### CERTIFICATE

This is to certify that the report entitled " **SMART TRAVEL ASSISTANT WITH ITINERARY PLANNER** " submitted by ALEENA LORANCE(JEC19CS017), ANNMERIN VARGHESE(JEC19CS029), DILSHA SHIRIN(JEC19CS045) to the APJ Abdul Kalam Technological University in partial fulfillment of the requirements for the award of the Degree in Bachelor of Technology in **Computer Science And Engineering** is a bonafide record of the project work carried out by them under my/our guidance and supervision. This report in any form has not been submitted to any other University or Institute for any purpose.

Ms. Sajitha I  
Assistant Professor  
Project Guide

Mr. Anil Antony  
Assistant Professor  
Project Coordinator



Dr. Saju P John  
Professor  
Head of the Department

Dr. JOSE P THERATTIL  
Principal  
Jyothi Engineering College  
Cheruthuruthy - 952351

# Jyothi Engineering College

NAAC Accredited college with ISO Accredited programmes

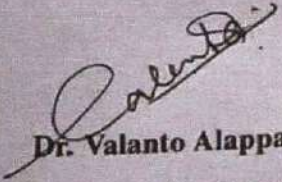
## DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING




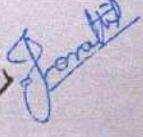
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LEADERS OF TOMORROW  
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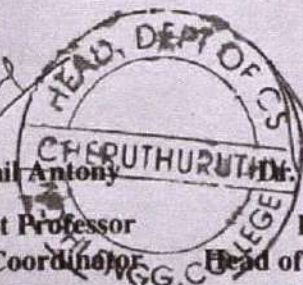
### CERTIFICATE

This is to certify that the report entitled " SMART RESTAURANT MANAGEMENT SYSTEM " submitted by ABHIRAM S(JEC19CS004) ATHULLYA JOSE(JEC19CS039) AUSNI ELIZEBATH C(JEC19CS040) CHITTATH NITHINRAJ DHARMARAJAN(JEC19CS042) to the APJ Abdul Kalam Technological University in partial fulfillment of the requirements for the award of the Degree in Bachelor of Technology in **Computer Science And Engineering** is a bonafide record of the project work carried out by them under my/our guidance and supervision. This report in any form has not been submitted to any other University or Institute for any purpose.

  
Dr. Valanto Alappat  
Associate Professor  
Project Guide

  
Mr. Anil Antony  
Assistant Professor  
Project Coordinator

  
Dr. Saju P John  
Professor  
Head of the Department

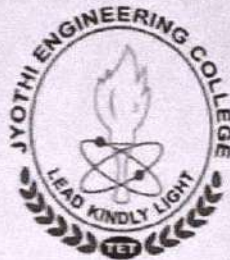


Dr. JOSE P THOMAS  
Principal  
Jyothi Engineering College  
Chiruthuruthy - 675501

# Jyothi Engineering College

NAAC Accredited college with NIRF Accredited programmes

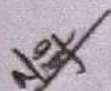
## DEPARTMENT OF COMPUTER SCIENCE & ENGINEERING



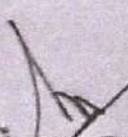
CREATING TECHNOLOGY  
LEADERS OF TOMORROW  
ESTD 2002

### CERTIFICATE

This is to certify that the report entitled " SMART TRAFFIC-LIGHT SYSTEM " submitted by ABHAY R(JEC19CS003),ALAN SHAJU(JEC19CS014),CHRISTEENA EDISON(JEC19CS043),FASNA P FAISAL(JEC19CS046) to the APJ Abdul Kalam Technological University in partial fulfillment of the requirements for the award of the Degree in Bachelor of Technology in **Computer Science & Engineering** is a bonafide record of the project work carried out by them under my/our guidance and supervision. This report in any form has not been submitted to any other University or Institute for any purpose.

  
Ms. Ninu Francis  
Assistant Professor  
Internal Supervisor

  
Mr. Anil Antony  
Assistant Professor  
Project Coordinator

  
Dr. Saju P John  
Professor  
Head of the Department



Dr. JOSE P THEJATHIL  
Principal  
Jyothi Engineering College  
Cheruthuruthy - 679534

# Jyothi Engineering College

U.A.C. Accredited college AICTE, ISO Accredited programme

DEPARTMENT OF COMPUTER SCIENCE & ENGINEERING



CREATING TECHNOLOGY  
LEADERS OF TOMORROW  
ESTD 2002

## CERTIFICATE

This is to certify that the report entitled "SMART VOTE : A BLOCKCHAIN-BASED ONLINE VOTING SYSTEM" submitted by AJEEB P A (JEC19CS010), ASHLYN JOSHY (JEC19CS038) FINCY SHAFI (JEC19CS047) to the APJ Abdul Kalam Technological University in partial fulfillment of the requirements for the award of the Degree in Bachelor of Technology in **Computer Science & Engineering** is a bonafide record of the project work carried out by them under my guidance and supervision. This report in any form has not been submitted to any other University or Institute for any purpose.

Mr. Thomas George K  
Assistant Professor  
Project Guide

Mr. Anil Antony  
Assistant Professor  
Project Coordinator

Dr. Saju P John  
Professor  
Head of the Department

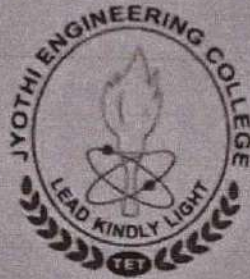


Dr. JOSE P THERATTIL  
Principal  
Jyothi Engineering College  
Cheruthuruthy

# Jyothi Engineering College

NAAC Accredited college with 3B1 Accredited program

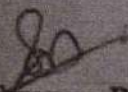
DEPARTMENT OF COMPUTER SCIENCE & ENGINEERING

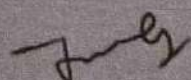


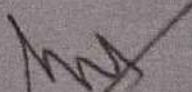
CREATING TECHNOLOGY  
LEADERS OF TOMORROW  
ESTD 2002

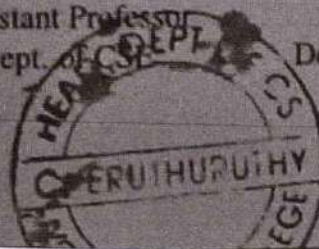
## CERTIFICATE

This is to certify that the report entitled **Video Chat Platform with Real Time Sign Language Translation** submitted by **Midhula KP, Namita Joseph, Nidhin Saji, Pranav K** to the APJ Abdul Kalam Technological University in partial fulfillment of the requirements for the award of the Degree in Bachelor of Technology in **Computer Science & Engineering** is a bonafide record of the project work carried out by them under my/our guidance and supervision. This report in any form has not been submitted to any other University or Institute for any purpose.

  
Dr. Swapna B Sasi  
Project Guide  
Associate Professor  
Dept. of CSE

  
Mr. Thomas George  
Project Coordinator  
Assistant Professor  
Dept. of CSE

  
Dr. Sajju P John  
Head of Dept.  
Professor  
Dept. of CSE



# Jyothi Engineering College

U.A.C. Accredited college with 100% Accredited programmes

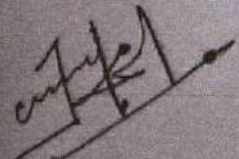
DEPARTMENT OF COMPUTER SCIENCE & ENGINEERING




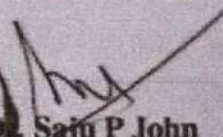
CREATING TECHNOLOGY  
LEADERS OF TOMORROW  
ESTD 2002

## CERTIFICATE

This is to certify that the report entitled " WASTE SEGREGATION AND MANAGEMENT SYSTEM USING INTERNET OF THINGS (IOT) " submitted by AMRUTHA K S (JEC19CS023), ANJANA P S(JEC19CS028), GOVIND RAJ R(JEC19CS049), GOWTHAM KRISHNA K(JEC19CS050) to the APJ Abdul Kalam Technological University in partial fulfillment of the requirements for the award of the Degree in Bachelor of Technology in **Computer Science & Engineering** is a bonafide record of the project work carried out by them under my/our guidance and supervision. This report in any form has not been submitted to any other University or Institute for any purpose.

  
Mr. Jayakrishnan  
Assistant Professor  
Project Guide

  
Mr. Anil Antony  
Assistant Professor  
Project Coordinator

  
Dr. Saju P John  
Associate Professor  
Head of the Department

  
Dr. JOSE P THOTTAPILLIL  
Principal  
Jyothi Engineering College  
Cheruvu - 685511



# Jyothi Engineering College

NAAC Accredited college with ISO: Accredited programmes

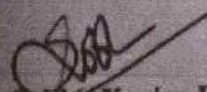
DEPARTMENT OF COMPUTER SCIENCE & ENGINEERING




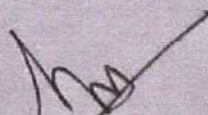
CREATING TECHNOLOGY  
LEADERS OF TOMORROW  
ESTD 2002

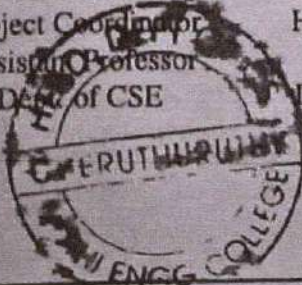
## CERTIFICATE

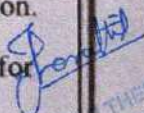
This is to certify that the report entitled "**Web Application for Enhancing Stray Dog Welfare: Rabies Detection And Identification**" submitted by **Jyotsna Joshy, Maria Rose Thayil, Nandalal M, Riya Xavier** to the APJ Abdul Kalam Technological University in partial fulfillment of the requirements for the award of the Degree in Bachelor of Technology in **Computer Science & Engineering** is a bonafide record of the project work carried out by them under my/our guidance and supervision. This report in any form has not been submitted to any other University or Institute for any purpose.

  
Ms Sobha Xavier P  
Project Guide  
Assistant Professor  
Dept. of CSE

  
Mr. Thomas George  
Project Coordinator  
Assistant Professor  
Dept. of CSE

  
Dr. Sajju P John  
Head of Dept.  
Professor  
Dept. of CSE



  
Dr. JOSE THERATTIL  
Principal  
Jyothi Engineering College  
Cheruvu - 679534

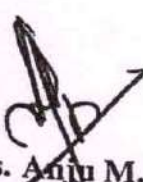
## DEPARTMENT OF CIVIL ENGINEERING




CREATING TECHNOLOGY  
LEADERS OF TOMORROW  
ESTD 2002

### CERTIFICATE

This is to certify that the report entitled " **STABILIZATION OF SOIL USING INDUSTRIAL WASTE PRODUCTS LIKE IRON ORE TAILINGS AND FLY ASH** " submitted by JEENA JOHNSON(JEC19CE011), MILSEN K. S(JEC19CE019), SWETHA SURESH T( JEC19CE024), PRAJEESH MON C J(LJEC19CE034) to the APJ Abdul Kalam Technological University in partial fulfillment of the requirements for the award of the Degree in Bachelor of Technology in **Civil Engineering** is a bonafide record of the project work carried out by them under my/our guidance and supervision. This report in any form has not been submitted to any other University or Institute for any purpose.

  
Ms. Anju M. J  
Assistant Professor  
Internal Supervisor



  
Ms. Vincy Verghese  
Associate Professor  
Head of the Department

  
Dr. JOSEPH THERATTIL  
Principal  
Jyothi Engineering College  
Cheruthuruthy - 675512

# Jyothi Engineering College

NAAC Accredited college with 3B Accredited programmes


## DEPARTMENT OF CIVIL ENGINEERING



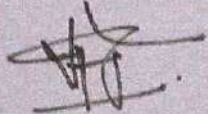
CREATING TECHNOLOGY  
LEADERS OF TOMORROW  
ESTD 2002

### CERTIFICATE

This is to certify that the report entitled "**GEOPOLYMER COMPOSITES MADE FROM IRON ORE TAILING AND FLY ASH AS A SUBGRADE MATERIAL IN ROAD CONSTRUCTION**" submitted by ANJALI SANTO(JEC19CE004), ANSHAD C A(JEC19CE005), DELVIN J CHIRAMAL(JEC19CE008), LIYA SAJI(JEC19CE017) to the APJ Abdul Kalam Technological University in partial fulfillment of the requirements for the award of the Degree in Bachelor of Technology in **Civil Engineering** is a bonafide record of the project work carried out by them under my/our guidance and supervision. This report in any form has not been submitted to any other University or Institute for any purpose.

  
Ms. Anju M J  
Assistant Professor  
Internal Supervisor



  
Prof. Vincy Varghese  
Professor  
Head of the Department

  
Dr. JOSE P. THIRATTIL  
Principal  
Jyothi Engineering College  
Chiruthuruthy 679331

# Jyothi Engineering College

NAAC Accredited college with NEP Accredited programmes

DEPARTMENT OF CIVIL ENGINEERING



CREATING TECHNOLOGY  
LEADERS OF TOMORROW  
ESTD 2002

## CERTIFICATE

This is to certify that the report entitled " LAND SURVEY ON JYOTHI ENGINEERING COLLEGE " submitted by JESBIN JOY(JEC19CE012), JOHN JOSEPH (JEC19CE013),JISNA J KALATHIPARAMBIL(LJEC19CE033), SHILJA K S (LJEC19CE035) to the APJ Abdul Kalam Technological University in partial fulfillment of the requirements for the award of the Degree in Bachelor of Technology in Civil Engineering is a bonafide record of the project work carried out by them under my/our guidance and supervision. This report in any form has not been submitted to any other University or Institute for any purpose.

Mr. Suhas Nair S  
Assistant Professor  
Internal Supervisor



Ms. Vincy Verghese  
Assistant Professor  
Head of the Department

Dr. JOSE P THERATTIL  
Principal  
Jyothi Engineering College  
Cheruvu - 679531

# Jyothi Engineering College

N.A.A.C Accredited college with NET Accredited programmes


## DEPARTMENT OF CIVIL ENGINEERING

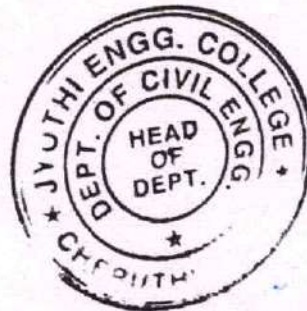



CREATING TECHNOLOGY  
LEADERS OF TOMORROW  
ESTD 2002


### CERTIFICATE

This is to certify that the report entitled " DURABILITY STUDIES OF GREEN CONCRETE BY GROUND GRANULATED BLAST FURNACE SLAG AND SUGARCANE BAGASSE ASH " submitted by KIRAN SVAM.M(JEC19CE015) , K.SANJAY KRISHNA(JEC19CE016), NAVYA SANTHOSH(JEC19CE020), ATHIRA VIJAYAN(LJEC19CE031) to the APJ Abdul Kalam Technological University in partial fulfillment of the requirements for the award of the Degree in Bachelor of Technology in **CIVIL ENGINEERING** is a bonafide record of the project work carried out by them under my/our guidance and supervision. This report in any form has not been submitted to any other University or Institute for any purpose.

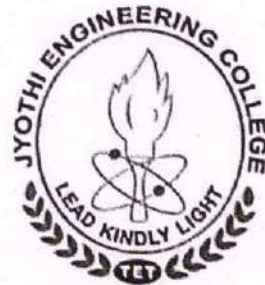
  
Ms. NEERAJA PG  
Assistant Professor  
Internal Supervisor



  
Ms. VINCY VERGHESE  
Assistant Professor  
Head of the Department

  
Dr. JOSE THERATTIL  
Principal  
Jyothi Engineering College  
Cheruthuruthy - 686531


## DEPARTMENT OF CIVIL ENGINEERING



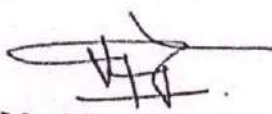
CREATING TECHNOLOGY  
LEADERS OF TOMORROW  
ESTD 2002

### CERTIFICATE

This is to certify that the report entitled " **DECENTRALIZED WASTEWATER TREATMENT PLAN FOR SHORNUR MUNICIPALITY** " submitted by **ALEESHA P MAXWELL( JEC19CE001), ANIRUDH KP( JEC19CE002), TEZ TREESA JOSEPH( JEC19CE025), TINTU FRANCIS( JEC19CE026)** to the APJ Abdul Kalam Technological University in partial fulfillment of the requirements for the award of the Degree in Bachelor of Technology in **Civil Engineering** is a bonafide record of the project work carried out by them under my/our guidance and supervision. This report in any form has not been submitted to any other University or Institute for any purpose.

  
**Ms. Anna Joseph**  
Assistant Professor  
Internal Supervisor



  
**Ms. Vincy Verghese**  
Associate Professor  
Head of the Department

  
Dr. JOSE P THERATTIL  
Principal  
Jyothi Engineering College  
Charathuruthy - 679531

# Jyothi Engineering College

NAAC Accredited college with B++ Accredited programmes

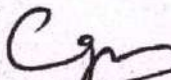
## DEPARTMENT OF CIVIL ENGINEERING




CREATING TECHNOLOGY  
LEADERS OF TOMORROW  
ESTD 2002


### CERTIFICATE

This is to certify that the report entitled " FORMULATION OF SOLID WASTE MANAGEMENT PLAN FOR SHORANUR MUNICIPALITY IN PALAKKAD DISTRICT " submitted by GIBIN THOMAS(JEC19CE010) , KEVIN SEBASTIAN(JEC19CE014)SNEHA SURESH(LJEC19CE036), SREYA DAVIS(LJEC19CE037) to the APJ Abdul Kalam Technological University in partial fulfillment of the requirements for the award of the Degree in Bachelor of Technology in **Civil Engineering** is a bonafide record of the project work carried out by them under my/our guidance and supervision. This report in any form has not been submitted to any other University or Institute for any purpose.

  
Prof. M G Cyriac  
Assistant Professor  
Internal Supervisor



  
Ms. Vincy Vargheese  
Associate Professor  
Head of the Department

  
JOSE P THERATTIL  
Principal  
Jyothi Engineering College  
Cheruvu, Kottayam - 679551

# Jyothi Engineering College

NAAC Accredited college with PCI Accredited programmes

## DEPARTMENT OF CIVIL ENGINEERING



CREATING TECHNOLOGY  
LEADERS OF TOMORROW  
ESTD 2002

### CERTIFICATE

This is to certify that the report entitled "REPLACEMENT OF CEMENT AND FINE AGGREGATE USING GROUND GRANULATED BLAST FURNACE SLAG AND SUGARCANE BAGASSE ASH TO DEVELOP GREEN CONCRETE" submitted by ANJAL CHACKO(JEC19CE003), ANU JOSHY(JEC19CE006), SANJAY S NATH(JEC19CE022), ASWATHY P H(LJEC19CE029) to the APJ Abdul Kalam Technological University in partial fulfillment of the requirements for the award of the Degree in Bachelor of Technology in **Civil Engineering** is a bonafide record of the project work carried out by them under my/our guidance and supervision. This report in any form has not been submitted to any other University or Institute for any purpose.

**Ms. Neeraja P.G**  
Assistant Professor  
Internal Supervisor



**Ms. Vincy Verghese**  
Associate Professor  
Head of the Department

*Jose P Therappil*  
Dr. JOSE P THERAPPIL  
Principal  
Jyothi Engineering College  
Cheruthur - 679531



# Jyothi Engineering College

NAAC Accredited college with IIR Accredited programmes

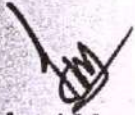
## DEPARTMENT OF CIVIL ENGINEERING




CREATING TECHNOLOGY  
LEADERS OF TOMORROW  
ESTD 2002

## CERTIFICATE

This is to certify that the report entitled "MODELLING DRIVER WORKLOAD ON HORIZONTAL CURVES WITH GRADIENT" submitted by ARCHITHA K.P. (JEC19CE007), GAYATHRY N.P. (JEC19CE009), SUBIN V (JEC19CE023), VAISHNAV C (JEC19CE027) to the APJ Abdul Kalam Technological University in partial fulfillment of the requirements for the award of the Degree in Bachelor of Technology in **Civil Engineering** is a bonafide record of the project work carried out by them under my/our guidance and supervision. This report in any form has not been submitted to any other University or Institute for any purpose.

  
Ms. Jisha Akkara  
Assistant Professor  
Internal Supervisor

  
Dr. JOSE P THERATIL  
Principal  
Jyothi Engineering College  
Charanthuruthy - 679531

  
Ms. Vincy Verghese  
Assistant Professor  
Head of the Department

# Jyothi Engineering College

NAAC Accredited college with NIR Accredited programmes

## DEPARTMENT OF CIVIL ENGINEERING



CREATING TECHNOLOGY  
LEADERS OF TOMORROW  
ESTD 2002

### CERTIFICATE

This is to certify that the report entitled " FLOOD VULNERABILITY ASSESSMENT OF THRISSUR DISTRICT, KERALA STATE, USING QGIS SOFTWARE " submitted by Harsha Narayanan( LJEC19CE035), Merina Ann Martin( JEC19CE018), Prince Francis( JEC19CE020), V. Shikhil Krishna( JEC19CE028) to the APJ Abdul Kalam Technological University in partial fulfillment of the requirements for the award of the Degree in Bachelor of Technology in **Civil Engineering** is a bonafide record of the project work carried out by them under my/our guidance and supervision. This report in any form has not been submitted to any other University or Institute for any purpose.

Ms. Soorya M Nair  
Assistant Professor  
Internal Supervisor



Mrs. Vincy Verghese  
Assistant Professor  
Head of the Department

Dr. JOSE P THERATTIL  
Principal  
Jyothi Engineering College  
Cheruvu - 679531

# Jyothi Engineering College

NAAC Accredited college with ISO Accredited programmes

DEPARTMENT OF ELECTRICAL & ELECTRONICS ENGINEERING



CREATING TECHNOLOGY  
LEADERS OF TOMORROW  
ESTD 2002

## CERTIFICATE

This is to certify that the project phase-2 report entitled “ **LAKE POOL CLEANING ROBOT** ” submitted by THUSHAR (JEC19EE016), KARTHIK M.A (JEC19EE010), ANFAS ALI (JEC19EE004), AMAL M (LJEC19EE020) to the APJ Abdul Kalam Technological University in partial fulfillment of the requirements for the award of the Degree in Bachelor of Technology in **Electrical & Electronics Engineering** is a bonafide record of the project phase-1 work carried out by them under my/our guidance and supervision. This report in any form has not been submitted to any other University or Institute for any purpose.

Mr. Jithin K. Jose

Assistant Professor  
Project Guide

Mr. Jenson Jose

Assistant Professor  
Head of the Department

# Jyothi Engineering College

NAAC Accredited college with NEP Accredited programmes

DEPARTMENT OF ELECTRICAL & ELECTRONICS ENGINEERING



CREATING TECHNOLOGY  
LEADERS OF TOMORROW  
ESTD 2002

## CERTIFICATE

This is to certify that the report entitled " **SMART LED DRIVE FOR TRAFFIC SIGNAL** " submitted by AVARNYA SABU(JEC19EE006), SUSHANTH MS(JEC19EE013), ALAN KF(LJEC19EE019). to the APJ Abdul Kalam Technological University in partial fulfillment of the requirements for the award of the Degree in Bachelor of Technology in **Electrical & Electronics Engineering** is a bonafide record of the project work carried out by them under my/our guidance and supervision. This report in any form has not been submitted to any other University or Institute for any purpose.

Dr. JARIN T.

Associate Professor  
Internal Supervisor

JENSON JOSE

Assistant Professor  
Head of the Department

Dr. JOSE P THERATTIL  
Principal  
Jyothi Engineering College  
Peruruthuruthy - 679531

# Jyothi Engineering College

NAAC Accredited college with NEP Accredited programmes

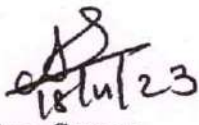
DEPARTMENT OF ELECTRICAL & ELECTRONICS ENGINEERING




CREATING TECHNOLOGY  
LEADERS OF TOMORROW  
ESTD 2002

## CERTIFICATE


This is to certify that the project phase-2 report entitled “ **ADVANCED SPECS FOR BLIND PEOPLE** ” submitted by ASWIN VM (JEC19EE005), VICTOR VARGHESE (JEC19EE017), SARATH A (LJEC19EE025) to the APJ Abdul Kalam Technological University in partial fulfillment of the requirements for the award of the Degree in Bachelor of Technology in **Electrical & Electronics Engineering** is a bonafide record of the project phase-2 work carried out by them under my/our guidance and supervision. This report in any form has not been submitted to any other University or Institute for any purpose.

  
Ms. Anu Sunny

Assistant Professor  
Project Guide

  
Mr. Jenson Jose

Assistant Professor  
Head of the Department

  
Dr. JOSE P THERATTIL  
Principal  
Jyothi Engineering College  
Cheruvu - 679531

# **Jyothi** Engineering College

N.A.A.C Accredited college with ISI Accredited programmes

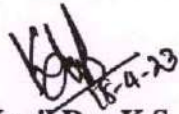
**DEPARTMENT OF ELECTRICAL & ELECTRONICS ENGINEERING**




**CREATING TECHNOLOGY  
LEADERS OF TOMORROW  
ESTD 2002**

## **CERTIFICATE**

This is to certify that the project report entitled “ **ENERGY AUDIT IN PAINT INDUSTRY AND THRISSUR DISTRICT HOSPITAL** ” submitted by **ALBIN TOMY(JEC19EE003)**, **LIVIYA VIJU (JEC19EE011)**, **ARUN K.N(LJEC19EE021)** to the APJ Abdul Kalam Technological University in partial fulfillment of the requirements for the award of the Degree in Bachelor of Technology in **Electrical & Electronics Engineering** is a bonafide record of the project work carried out by them under our guidance and supervision. This report in any form has not been submitted to any other University or Institute for any purpose.

  
**Mr. Kapil Das K.S**  
Assistant Professor  
Project Guide

  
**Dr. JOSE P THERATTIL**  
Principal  
Jyothi Engineering College  
Cheruthuruthy - 679531

  
**Mr. Jenson Jose**  
Head of the Department

# Jyothi Engineering College

NAAC Accredited college with NEP Accredited programmes

DEPARTMENT OF ELECTRONICS & COMMUNICATOIN  
ENGINEERING



CREATING TECHNOLOGY  
LEADERS OF TOMORROW  
ESTD 2002

## CERTIFICATE

This is to certify that the report entitled " AN ENHANCED CONVERTER WITH IMPROVED POWER QUALITY AND REDUCED SWITCHING STRESS FOR THE ONBOARD CHARGERS OF EV " submitted by AKSHAY K (JEC19EE002), FAWAZ FIROZ (JEC19EE007) and JOHN CJ (JEC19EE008) to the APJ Abdul Kalam Technological University in partial fulfillment of the requirements for the award of the Degree in Bachelor of Technology in **Electrical and Electronics Engineering** is a bonafide record of the project work carried out by them under my/our guidance and supervision. This report in any form has not been submitted to any other University or Institute for any purpose.

*Jose*

Dr. JOSE P THERATTIL  
Principal  
Jyothi Engineering College  
Cheruthuruthy - 679531

*Mr. Jenson Jose* 18/4/2023

Assistant Professor  
Project Guide

Project Coordinators

*Mr. Jenson Jose*

Assistant Professor  
Head of the Department

# Jyothi Engineering College

NAAC Accredited college with NBA Accredited programmes

## DEPARTMENT OF MECHANICAL ENGINEERING



CREATING TECHNOLOGY  
LEADERS OF TOMORROW  
ESTD 2002

### CERTIFICATE

This is to certify that the report entitled "**BIODEGRADABLE PACKING PAPERS FROM DRY LEAVES**" submitted by ALEN REJI (JEC19ME011), ANNA PIUS (JEC19ME018), MUHAMMED ANAS K A (JEC19ME041), AMAL GOVIND P U (JEC19ME067) to the APJ Abdul Kalam Technological University in partial fulfillment of the requirements for the award of the Degree in Bachelor of Technology in **Mechanical Engineering** is a bonafide record of the project work carried out by them under my/our guidance and supervision. This report in any form has not been submitted to any other University or Institute for any purpose.

Mr. NIKHIL N S  
Assistant Professor  
Internal Supervisor

External Examiner

Dr. Biju C V  
Professor  
Head of the Department

  
Jyothi Engineering College  
Cherythuruthy - 679531



# Jyothi Engineering College

NAAC Accredited college with MBQ Accredited programmes

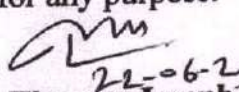
## DEPARTMENT OF MECHANICAL ENGINEERING




CREATING TECHNOLOGY  
LEADERS OF TOMORROW  
ESTD 2002


### CERTIFICATE

This is to certify that the report entitled "CHARACTERIZATION OF ALUMINIUM (6061) MATRIX HYBRID REINFORCED WITH GLAS PARTICULATE AND BORON CARBIDE" submitted by ARON SAJI (JEC19ME021), ARVIND A MENON (JEC19ME023), JOEL JOY (JEC19ME035), P PAVAN(JEC19ME046) to the APJ Abdul Kalam Technological University in partial fulfillment of the requirements for the award of the Degree in Bachelor of Technology in **Mechanical Engineering** is a bonafide record of the project work carried out by them under my/our guidance and supervision. This report in any form has not been submitted to any other University or Institute for any purpose.

  
22-06-23  
**Mr. Thomas Joseph**

**Assistant Professor  
Internal Supervisor**

  
02/06/2023  
**External Examiner**

  
22-06-23  
**Dr. Biju C**

**Professor  
Head of the Department**



  
Dr. Joseph  
Principal  
Jyothi Engineering College  
Cheruthuruthy - 679544

# Jyothi Engineering College

NAAC Accredited college with NBR Accredited programmes

## DEPARTMENT OF MECHANICAL ENGINEERING



CREATING TECHNOLOGY  
LEADERS OF TOMORROW  
ESTD 2002

### CERTIFICATE

This is to certify that the report entitled "DESIGN AND FABRICATION OF AUTOMATED BIO-CHECKUP MACHINE" submitted by K VISHNU (JEC19ME037), MOHAMMED RAYAN (JEC19ME040), MUHAMMED ANSHIF MM (JEC19ME042), VISHNU SIVAKUMAR P (JEC19ME063) to the APJ Abdul Kalam Technological University in partial fulfillment of the requirements for the award of the Degree in Bachelor of Technology in **Mechanical Engineering** is a bonafide record of the project work carried out by them under my guidance and supervision. This report in any form has not been submitted to any other University or Institute for any purpose.

Dr. Biju P. L.

Professor  
Internal Supervisor

  
22/06/2023  
External Examiner  
21-06-23  
Dr. Biju C. V.

Professor  
Head of the Department

  
Dr. JOSE P. THERATTIL  
Principal  
Jyothi Engineering College  
Cherruthuruthy - 679331

# Jyothi Engineering College

NAAC Accredited college with NIR Accredited programmes

## DEPARTMENT OF MECHANICAL ENGINEERING



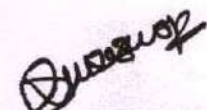
CREATING TECHNOLOGY  
LEADERS OF TOMORROW  
ESTD 2002

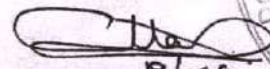
### CERTIFICATE


This is to certify that the report entitled "STUDY OF FRICTION STIR WELDING ON DISSIMILAR ALUMINIUM ALLOYS AA2024 AND AA6061 WITH VARIOUS TOOL PROFILES" submitted by ABIN C T (JEC19ME004), ANJAY SHAMEJ (JEC19ME017), EMINTO C B (JEC19ME028), and SUBEESH SEBASTIAN (JEC19ME061) to the APJ Abdul Kalam Technological University in partial fulfillment of the requirements for the award of the Degree in Bachelor of Technology in **Mechanical Engineering** is a bonafide record of the project work carried out by them under my/our guidance and supervision. This report in any form has not been submitted to any other University or Institute for any purpose.



Dr. JOSE THEVARIL  
Principal  
Jyothi Engineering College  
Thiruvananthapuram - 59531

  
Mr. SUKESH O P  
Assistant Professor  
Internal Supervisor

  
19/06/2023  
External Examiner

  
Dr. Biju C V  
Professor  
Head of the Department

# Jyothi Engineering College

NAAC Accredited college with NER Accredited programmes

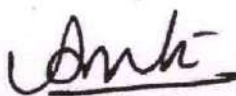
## DEPARTMENT OF MECHANICAL ENGINEERING

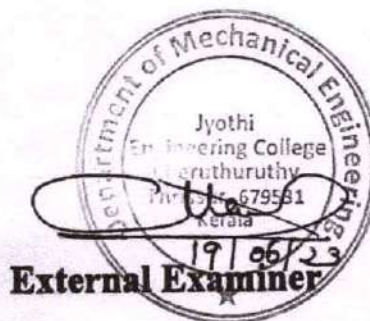


CREATING TECHNOLOGY  
LEADERS OF TOMORROW  
ESTD 2002

### CERTIFICATE

This is to certify that the report entitled "EXPERIMENTAL INVESTIGATION ON VACCINE COLD STORAGE USING NANO ENHANCED PCM" submitted by AKASH JAMES (JEC19ME008), RAHUL E R (JEC19ME048), SANJAY K V (JEC19ME053), YADHU KRISHNA (JEC19ME065) to the APJ Abdul Kalam Technological University in partial fulfillment of the requirements for the award of the Degree in Bachelor of Technology in Mechanical Engineering is a bonafide record of the project work carried out by them under my/our guidance and supervision. This report in any form has not been submitted to any other University or Institute for any purpose.


  
**Mr. Anto Zacharias**  
Assistant Professor  
Internal Supervisor



**External Examiner**



**Dr. Biju C V**  
Professor  
Head of the Department

  
Dr. JOSEPH THERATTIL  
Principal  
Jyothi Engineering College  
Cheruthuruthy - 6795531

# Jyothi Engineering College

NAAC Accredited college with NEQ Accredited programmes

## DEPARTMENT OF MECHANICAL ENGINEERING



CREATING TECHNOLOGY  
LEADERS OF TOMORROW  
ESTD 2002

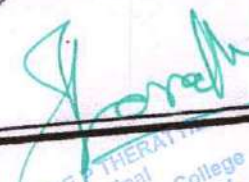
### CERTIFICATE

This is to certify that the report entitled "ENHANCEMENT OF VEHICLE STABILITY BY FEEDBACK-BASED CONTROL SYSTEMS FOR THE LATERAL AND LONGITUDINAL INCLINATIONS" submitted by Ms. ASMA R A (JEC19ME025), Mr. GIRIDHAR J(JEC19ME030), Mr. MOHAMMED IBRAHIM SHAHM A (JEC19ME038), Mr. MELWIN PAULY (LJEC19ME070) to the APJ Abdul Kalam Technological University in partial fulfilment of the requirements for the award of the Degree in Bachelor of Technology in **Mechanical Engineering** is a bonafide record of the project work carried out by them under my/our guidance and supervision. This report in any form has not been submitted to any other University or Institute for any purpose.

  
**Dr. Biju CV**  
Professor  
Internal Supervisor

  
22/06/2023  
External Examiner

  
**Dr. Biju CV**  
Professor  
Head of the Department

  
Dr. JOSE THERATH  
Principal  
Jyothi Engineering College  
Cheruthuruthy - 679531

# Jyothi Engineering College

NAAC Accredited college with NEET Accredited programmes

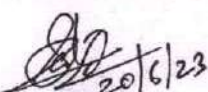
## DEPARTMENT OF MECHANICAL ENGINEERING





CREATING TECHNOLOGY  
LEADERS OF TOMORROW  
ESTD 2002

### CERTIFICATE

This is to certify that the report entitled "STUDIES ON MACHINABILITY CHARACTERISTICS OF SUPER DUPLEX STAINLESS STEEL 2507" submitted by ALAN S THATTIL (JEC19ME012), ANAS MOHAMMED (JEC19ME016), KIRAN JOY (JEC19ME036), and NIDHIN THOMAS (JEC19ME044) to the APJ Abdul Kalam Technological University in partial fulfillment of the requirements for the award of the Degree in Bachelor of Technology in Mechanical Engineering is a bonafide record of the project work carried out by them under my/our guidance and supervision. This report in any form has not been submitted to any other University or Institute for any purpose.

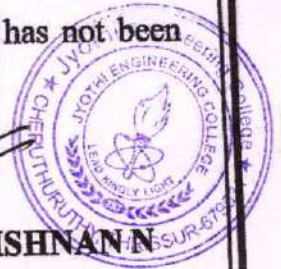
  
20/6/23  
**Mr. SATHYA DEV D**  
Assistant Professor  
Internal Supervisor

  
**Dr. ANAND KRISHNAN N**  
Assistant Professor  
Internal Supervisor

  
**Dr. BLJU CV**  
Professor  
Head of the Department



  
21/06/2023  
**External Examiner**



  
Principal  
Jyothi Engineering College  
Cheruthuruthy - 679531

# Jyothi Engineering College

NAAC Accredited college with NEP Accredited programmes

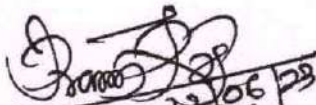
## DEPARTMENT OF MECHANICAL ENGINEERING

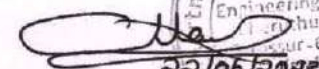


CREATING TECHNOLOGY  
LEADERS OF TOMORROW  
ESTD 2002

### CERTIFICATE

This is to certify that the report entitled "FABRICATION OF AA5052 METAL MATRIX NANO COMPOSITE USING STIR-CASTING METHOD" submitted by ABHIJITH R (JEC19ME002), HARIPRASAD M U (JEC19ME033), JOEL E J (JEC19ME034), ROSHAN L R (JEC19ME049) to the APJ Abdul Kalam Technological University in partial fulfillment of the requirements for the award of the Degree in Bachelor of Technology in **Mechanical Engineering** is a bonafide record of the project work carried out by them under my/our guidance and supervision. This report in any form has not been submitted to any other University or Institute for any purpose.

  
Mr. Praveen Raj  
Assistant Professor  
Internal Supervisor

  
22/06/2023  
External Examiner

  
Dr. Biju C  
Professor  
Head of the Department

  
Jyothi Engineering College  
Cheruthuruthy  
679531

# Jyothi Engineering College

NAAC Accredited college with NEB Accredited programmes


## DEPARTMENT OF MECHANICAL ENGINEERING

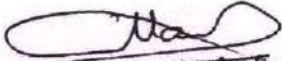


CREATING TECHNOLOGY  
LEADERS OF TOMORROW  
ESTD 2002

### CERTIFICATE

This is to certify that the report entitled "SUPPLY CHAIN MANAGEMENT OF SMALL AND MEDIUM SCALE INDUSTRIES" submitted by ADITHYA JYOTHIS (JEC19ME006), AKSHAY S (JEC19ME010}, ASHISH DANIEL (JEC19ME024), BOUDHIK S (JEC19ME027) to Kalam Technological University in partial fulfillment of the requirements for the award of the Degree in Bachelor of Technology in Mechanical Engineering is a bonafide record of the project work carried out by them under my/our guidance and supervision. This report in any form has not been submitted to any other University or Institute for any purpose.

  
Mr. Manojkumar V.K  
Assistant Professor  
Internal Supervisor

  
20/06/2023  
External Examiner



  
Dr. J. J. Principal  
Jyothi Engineering College  
Cherruthuruthy - 679531



# Jyothi Engineering College

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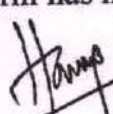
## DEPARTMENT OF MECHANICAL ENGINEERING



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LEADERS OF TOMORROW  
ESTD 2002

### CERTIFICATE

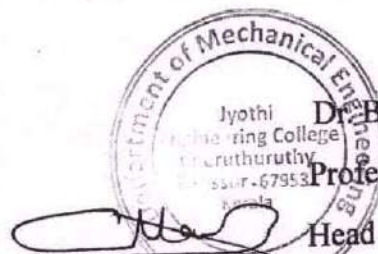
This is to certify that the report entitled "ENHANCING GRINDING PERFORMANCE: TAILORING ALUMINA AND SILICON CARBIDE COMPOSITION IN FABRICATED GRINDING" submitted by ANSHIF E A (JEC19ME019), PRAVEESH (JEC19ME047), VISHNU SHANKAR M U (JEC19ME062), CHRISTO PAUL P (LJEC19ME068) to the APJ Abdul Kalam Technological University in partial fulfillment of the requirements for the award of the Degree in Bachelor of Technology in Mechanical Engineering is a bonafide record of the project work carried out by them under my/our guidance and supervision. This report in any form has not been submitted to any other University or Institute for any purpose.


  
20/06/2023  
Mr. Hareesh N V

Internal Supervisor

Assistant Professor


Dept. of Mechanical Engineering



  
Dr. Biju C V

Professor

Head of Department

  
20/06/2023  
External Examiner Dept. of Mechanical Engineering

  
Dr. JOSEPH THERATTIL  
Principal  
Jyothi Engineering College  
Cheruthuruthy, Thrissur - 679531

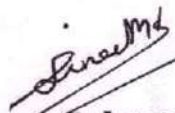
## DEPARTMENT OF MECHANICAL ENGINEERING

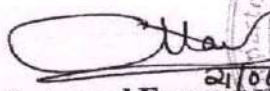



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LEADERS OF TOMORROW  
ESTD 2002


### CERTIFICATE

This is to certify that the report entitled "WEAR STUDIES ON STAINLESS STEEL USING LOW-COST SOLID LUBRICANT COATING" submitted by ANAND MILTON (JEC19ME015), P J BIJESH (JEC19ME045), SAAN SANTRO A J (JEC19ME050), SOORYA S (JEC19ME056) to the APJ Abdul Kalam Technological University in partial fulfillment of the requirements for the award of the Degree in Bachelor of Technology in **Mechanical Engineering** is a bonafide record of the project work carried out by them under my/our guidance and supervision. This report in any form has not been submitted to any other University or Institute for any purpose.

  
Mr. Suneeth Sukumaran  
Assistant Professor  
Internal Supervisor

  
External Examiner

  
Dr. Biju C V  
Professor  
Head of the Department

  
Dr. Biju C V  
Principal  
Jyothi Engineering College  
Cheruthuruthy - 675531

## DEPARTMENT OF MECHANICAL ENGINEERING



CREATING TECHNOLOGY  
LEADERS OF TOMORROW  
ESTD 2002

### CERTIFICATE

This is to certify that the report entitled "BIO GAS POWERED 4-STROKE GENERATOR" submitted by AKSHAY KRISHNA(JEC19ME009), FEBIN YESUDAS(JEC19ME029), SOORAJ S(JEC19ME055), SREERAM K G(JEC19ME060) to the APJ Abdul Kalam Technological University in partial fulfillment of the requirements for the award of the Degree in Bachelor of Technology in **Mechanical Engineering** is a bonafide record of the project work carried out by them under my/our guidance and supervision. This report in any form has not been submitted to any other University or Institute for any purpose.

Mr. Christy V Vazhappilly  
Assistant Professor  
Internal Supervisor

External Examiner



Dr. Biju CV  
Professor  
Head of the Department



Dr. Jose P. Theerathil  
Principal  
Jyothi Engineering College  
Cheruthuruthy - 679531

## DEPARTMENT OF MECHANICAL ENGINEERING



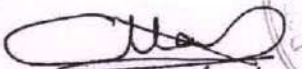
CREATING TECHNOLOGY  
LEADERS OF TOMORROW  
ESTD 2002

### CERTIFICATE

This is to certify that the report entitled "EXTRACTION OF BIODIESEL FROM ARTOCARPUS HETEROPHYLLUS (JACKFRUIT) SEED" submitted by ABDUL BASITH ABDUL ASEEZ (JEC19ME001), ABHINAV K KRISHNA (JEC19ME003), ADHARSH PRAKASH (JEC19ME005), HAMIL SUNNY (JEC19ME032) to the APJ Abdul Kalam Technological University in partial fulfillment of the requirements for the award of the Degree in Bachelor of Technology in **Mechanical Engineering** is a bonafide record of the project work carried out by them under my/our guidance and supervision. This report in any form has not been submitted to any other University or Institute for any purpose.

  
Dr. Cijil B John

Assistant Professor  
Internal Supervisor

  
20/06/2023  
External Examiner



  
Dr. Biju C X

Professor  
Head of the Department

  
Dr. Joseph Therattil  
Principal  
Jyothi Engineering College  
Cheruthuruthy - 679551

# Jyothi Engineering College

NAAC Accredited college with  Accredited programmes

## DEPARTMENT OF MECHANICAL ENGINEERING



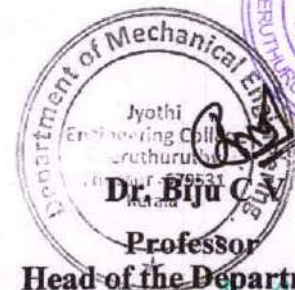
CREATING TECHNOLOGY  
LEADERS OF TOMORROW  
ESTD 2002

### CERTIFICATE

This is to certify that the report entitled "EFFECT OF SOLID LUBRICANTS ON THE MECHANICAL PROPERTIES OF ALUMINIUM ALLOY" submitted by ALWIN JOMON(JEC19ME013), ATHUL KRISHNA (JEC19ME027), SAIBIN BOSE (JEC19ME051), HARISH K M(LJEC19ME069) to the APJ Abdul Kalam Technological University in partial fulfillment of the requirements for the award of the Degree in Bachelor of Technology in **Mechanical Engineering** is a bonafide record of the project work carried out by them under my/our guidance and supervision. This report in any form has not been submitted to any other University or Institute for any purpose.

**Mr. Nice Menachery**  
Assistant Professor  
Internal Supervisor

20/06/2023  
External Examiner



**Dr. Biju C**  
Professor  
Head of the Department

**Dr. JOSEPH THERATTIL**  
Principal  
Jyothi Engineering College  
Cheruthuruthy - 679531

# Jyothi Engineering College

NAAC Accredited college with NEA Accredited programmes


## DEPARTMENT OF MECHANICAL ENGINEERING




CREATING TECHNOLOGY  
LEADERS OF TOMORROW  
ESTD 2002

### CERTIFICATE

This is to certify that the report entitled "DEVELOPMENT OF AN IOT-BASED FRUIT DRIER SYSTEM UTILIZING REFRIGERATION WASTE HEAT RECOVERY" submitted by ARUN GIRI (JEC19ME022), GIRISH KRISHNAN P K (JEC19ME031), SAI NIVED M S (JEC19ME052), SREERAJ K (JEC19ME057) to the APJ Abdul Kalam Technological University in partial fulfillment of the requirements for the award of the Degree in Bachelor of Technology in **Mechanical Engineering** is a bonafide record of the project work carried out by them under my/our guidance and supervision. This report in any form has not been submitted to any other University or Institute for any purpose.

  
**Dr. Anand Krishnan N**  
Assistant Professor  
Internal Supervisor

  
19/06/2023  
**External Examiner**

  
**Dr. Biju C V**  
Professor  
Head of the Department

  
Dr. JOSE  
Principal  
Jyothi Engineering College  
Cheruthuruthy - 679531



# Jyothi Engineering College

N.A.A.C Accredited college with ISO Accredited programmes

## DEPARTMENT OF MECHANICAL ENGINEERING



CREATING TECHNOLOGY  
LEADERS OF TOMORROW  
ESTD 2002

### CERTIFICATE

This is to certify that the report entitled "ZERO CLEARANCE FOOT PUMP" submitted by MOHAMMED JABIR ALI C (JEC19ME039), MUHAMMED BADSHA K P (JEC19ME043), SREERAM K (JEC19ME059), and ABHISHEK T R (LJEC19ME066) to the APJ Abdul Kalam Technological University in partial fulfillment of the requirements for the award of the Degree in Bachelor of Technology in **Mechanical Engineering** is a bonafide record of the project work carried out by them under my/our guidance and supervision. This report in any form has not been submitted to any other University or Institute for any purpose.

Mr. DAVID K J  
Associate Professor  
Internal Supervisor



External Examiner

Dr. BIJU C V  
Professor  
Head of the Department

Jyothi Engineering College  
Changanthiruthy - 679531  
Dr. P. P. Thirathal  
Principal