

# Jyothi Engineering College

NAAC Accredited College with ISO Accredited programmes

## DEPARTMENT OF ELECTRONICS & COMMUNICATION ENGINEERING



CREATING TECHNOLOGY  
LEADERS OF TOMORROW  
ESTD 2002

### CERTIFICATE

This is to certify that the report entitled " SMART MEDICARE " submitted by MUBASHIRA K.M.(JEC16EC056), OLIVIA NELSON(JEC16EC065), PRASOBH K.P.(JEC16EC070), SANDHRA S.(JEC16EC081) 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.

*Sunny*  
**Dr. SUNNY JOSEPH KALAYATHANKAL**  
M.Tech, MCA, M.Sc, M.Phil, B.Ed  
Ph.D (Computer Science), Ph.D (Maths)  
PRINCIPAL  
Jyothi Engineering College  
Cheruthuruthy P.O. 679 551

*[Signature]*  
**Mr. Anesh K.J.**

**Assistant Professor  
Internal Supervisor**

*[Signature]*  
**Dr. Jose P. Therattil**  
**Associate Professor  
Head of the Department**

# Jyothi Engineering College

NAAC Accredited college with NBA Accredited programmes


## DEPARTMENT OF ELECTRONICS & COMMUNICATION ENGINEERING



CREATING TECHNOLOGY  
LEADERS OF TOMORROW  
ESTD 2002


### CERTIFICATE

This is to certify that the report entitled " BORE WELL RESCUE ROBOTIC SYSTEM " submitted by SAJIN SHAJI(JEC16EC080), SHAHLA P MOHAMMED(JEC16EC086), SREERAG K M(JEC16EC092), SUCHITHRA T S(JEC16EC097) 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.

  
**M DIPIN KRISHNAN R**  
Assistant Professor  
Internal Supervisor

  
**Dr. SUNNY JOSEPH KALAYATHANKAL**  
M.Tech, MCA, M.Phil, Ph.D (Computer Science)



  
**Dr. JOSE P THERATTIL**  
Professor  
Head of the Department

## DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING



CREATING TECHNOLOGY  
LEADERS OF TOMORROW  
ESTD 2002

### CERTIFICATE

This is to certify that the report entitled " **LANDSLIDE DETECTION USING PIEZOELECTRIC EFFECT** " submitted by MANU JENSON (JEC16EC052), ROSHNI J NAIR (JEC16EC077), SRUTHISHA SASI (JEC16EC096), VISHNU V (JEC16EC101) 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.

*Roshni*  
*12/05/2021*  
Dr. SUNNY JOSEPH KALAIYANDANKAL  
M.Tech, MCA, M.Sc, M.Phil, B.Ed  
Ph.D (Computer Science), Ph.D (Maths)  
PRINCIPAL  
Jyothi Engineering College  
Kuthuvayal, Kollam-686031

*Roshni*  
Ms ROSHNI RAJAN  
Assistant Professor  
Internal Supervisor

*Jose P Therattil*  
Dr JOSE P THERATTIL  
Associate Professor  
Head of the Department



## DEPARTMENT OF ELECTRONICS & COMMUNICATION ENGINEERING



CREATING TECHNOLOGY  
LEADERS OF TOMORROW  
ESTD 2002

### CERTIFICATE

This is to certify that the report entitled " **INTELLIGENT SECURITY SYSTEM** " submitted by MUHAMMED ARSHAD(JEC16EC057), NANDANA K(JEC16EC058), SWETHA SARA GEORGE(JEC16EC098) 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.

*ASUNNY*  
Dr. SUNNY JOSEPH KALAYATHANKAL  
M.Tech, MCA, M.Sc, M.Phil, Ph.D  
Ph.D (Computer Science), Ph.D (Mechanics)  
PRINCIPAL

Jyothi Engineering College  
Chennai - 600 076

*Annie P. Joseph*  
Ms. Annie P. Joseph  
Associate Professor  
Internal Supervisor



*Jose P. Therattil*  
Dr. Jose P. Therattil  
Associate Professor  
Head of the Department

# Jyothi Engineering College

NAAC Accredited college with IIT Accredited programmes


## DEPARTMENT OF ELECTRONICS & COMMUNICATION ENGINEERING



CREATING TECHNOLOGY  
LEADERS OF TOMORROW  
ESTD 2002

### CERTIFICATE


This is to certify that the report entitled " **BABY CARE-INFANT CONDITION MONITORING AND ALERT SYSTEM** " submitted by SAFNA M(JEC16EC079), SARANYA M NAIR(JEC16EC083), SIBIN KRISHNA C(JEC16EC089), VISHNU K(JEC16EC099) 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. Sindhu S

Associate Professor  
In-charge Supervisor

  
Dr. SUNNY JOSEPH  
M.Tech. MCA  
Ph.D (Computer)



  
Dr. Jose P Therattil  
Professor

Head of the Department

# Jyothi Engineering College

NAAC Accredited college with NBA Accredited programmes

## DEPARTMENT OF ELECTRONICS & COMMUNICATION ENGINEERING



CREATING TECHNOLOGY  
LEADERS OF TOMORROW  
ESTD 2002

### CERTIFICATE

This is to certify that the report entitled " **AGNI-THE FIRE EXTINGUISHING ROBOT** " submitted by LANA KOLLATH(JEC16EC051) , MARY JEETHU A J(JEC16EC055) , and PRANAV P(JEC16EC069) 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.

*Pranav P*  
Dr. SUNNY JOSEPH KALAYATHANKAL  
M.Tech, MCA, M.Sc, M.Phil, B.Ed  
Ph.D (Computer Science), Ph.D (Medis)  
PRINCIPAL

Jyothi Engineering College  
Cheruvu P.O. - 679 503

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

*Joseph P*  
Dr. Jose P Therattil.  
Associate Professor  
Head of the Department



# Jyothi Engineering College

NAAC Accredited college with A++ Accredited programmes

## DEPARTMENT OF ELECTRONICS & COMMUNICATION ENGINEERING



CREATING TECHNOLOGY  
LEADERS OF TOMORROW  
ESTD 2002

### CERTIFICATE

This is to certify that the report entitled " WIRELESS DRONE NETWORK " submitted by MAREENA MARIYA ABRAHAM(JEC16EC053), MARIAN DAVIS KATTUKARAN(JEC16EC054), VISHNU PRAKASH(JEC16EC100), CHRISTEENA PAULSON(LJEC16EC102) 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 our guidance and supervision. This report in any form has not been submitted to any other University or Institute for any purpose.

*[Signature]*  
Dr. SUNNY JOSEPH KALAYATHILAKAL  
M.Tech, MCA, M.Sc  
Ph.D (Computer Science) (Kerala)

PRINCIPAL

Jyothi Engineering College  
Changanassery - 686031

*[Signature]*  
Mr. Ponmani Raja M  
Assistant Professor  
Internal Supervisor

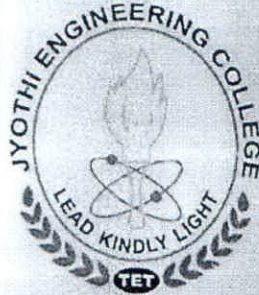
*[Signature]*  
Dr. Jose P Therattil  
Associate Professor  
Head of the Department



# Jyothi Engineering College

NAAC Accredited college with IET Accredited programmes

## DEPARTMENT OF ELECTRONICS & COMMUNICATION ENGINEERING



CREATING TECHNOLOGY  
LEADERS OF TOMORROW  
ESTD 2002

### CERTIFICATE

This is to certify that the report entitled " **VMD BASED SLEEP APNEA DETECTION USING PPG SIGNAL** " submitted by NIMISHA TONY(JEC16EC063), RADHIKA(JEC16EC073), SHAMSEENA T A(JEC16EC087), SREERAG V V(JEC16EC094) 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 her under my/our guidance and supervision. This report in any form has not been submitted to any other University or Institute for any purpose.

*Nimisha*  
DR. SUNNY JOSEPH KALAYATHONKAL  
M.Tech, MCA, M.Sc, M.Phil, Ph.D (Computer Science) (Anna)  
PRINCIPAL

For *Neetha*

Mr. Rijo P C

Assistant Professor  
Internal Supervisor

Jyothi Engineering College  
Cheruthuruthy P.O., Kottayam



*Jose P Therattil*  
Dr. Jose P Therattil

Associate Professor  
Head of the Department



# Jyothi Engineering College

VAAC Accredited college with 1491 Accredited programmes

## DEPARTMENT OF ELECTRONICS & COMMUNICATION ENGINEERING



CREATING TECHNOLOGY  
LEADERS OF TOMORROW  
ESTD 2002

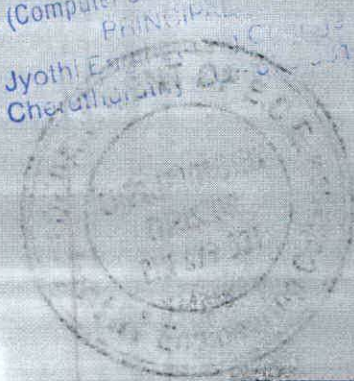
### CERTIFICATE

This is to certify that the report entitled " SECURE ON-CHIP COMPARISON " submitted by AMITH T V(JEC16EC011), ANJANA K G(JEC16EC013), CHITHRA A B(JEC16EC030), GREESHMA K(JEC16EC041) 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.

*Handwritten signature in green ink*  
Dr. SUNNY JOSEPH KALAYATHILAKAL  
M.Tech, MCA, M.Sc. in EEE  
Ph.D (Computer Science) Pr. Assistant  
Principal

*Handwritten signature in black ink*

Ms.Shiny M I  
Associate Professor  
Internal Supervisor



*Handwritten signature in black ink*

Dr. Jose P. Therattil  
Professor  
Head of the Department

# Jyothi Engineering College

NAAC Accredited college with ISO 9001 Accredited programmes

## DEPARTMENT OF ELECTRONICS & COMMUNICATION ENGINEERING




CREATING TECHNOLOGY  
LEADERS OF TOMORROW  
ESTD 2002

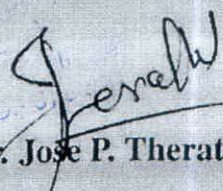
### CERTIFICATE

This is to certify that the report entitled " A COMMUNICATION AID FOR DEAF AND MUTE " submitted by NITHIN MOHAN( JEC16EC064), RINOSHA K R( JEC16EC074) and SREELAKSHMI R( JEC16EC091) 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 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

Associate Professor  
Internal Supervisor

  
Dr. SUNNY JOSEPH KALAYATHIRAL  
M.Tech, MCA (APJKTU)  
Ph.D (Computer Science)  
APJKTU

  
Dr. Jose P. Therattil  
Associate Professor  
Head of the Department



# Jyothi Engineering College

APJ Abdul Kalam Technological University, Thrissur

## DEPARTMENT OF ELECTRONICS & COMMUNICATION ENGINEERING



CREATING TECHNOLOGY  
LEADERS OF TOMORROW  
ESTD 2002

### CERTIFICATE

This is to certify that the report entitled " **MODELING AND ANALYSIS OF FINFET WITH GRADED FIN WIDTH** " submitted by AMARNATH K R(JEC16EC010), JISHNU V NAIR(JEC16EC044), JULIT THOMAS(JEC16EC047), LAKSHMI P(JEC16EC050) 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.

*Sunny Joseph*  
Dr. SUNNY JOSEPH KALAYATHIL  
M.Tech, MCA  
Ph.D (Computer)

*Mr. Riyo P C*  
MR RIJO P C

Assistant Professor  
In-charge Supervisor



*Dr. Jose P. Therattil*  
Dr. Jose P. Therattil  
Associate Professor  
Head of the Department

## DEPARTMENT OF ELECTRONICS & COMMUNICATION ENGINEERING



CREATING TECHNOLOGY  
LEADERS OF TOMORROW  
ESTD 2002

### CERTIFICATE

This is to certify that the report entitled " **BRAIN TUMOR DETECTION USING IMAGE FUSION** " submitted by AVIN K.V(JEC16EC022), BASIM MEHER(JEC16EC023), DEEPAK KRISHNAN (JEC16EC031), FATHIMATH NIHALA(JEC16EC037) 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. Sindhu S

Associate Professor  
Internal Supervisor



*Ashma*  
Dr. SUNNY JOSEPH  
M.Tech

Dr. Jose P. Therattil

Professor  
Head of the Department

# Jyothi Engineering College

NAAC Accredited college with NIR Accredited programmes

DEPARTMENT OF ELECTRONICS & COMMUNICATION  
ENGINEERING



CREATING TECHNOLOGY  
LEADERS OF TOMORROW  
ESTD 2007

## CERTIFICATE

This is to certify that the report entitled "SIGN TO SPEECH FOR INARTICULATE" submitted by AJAY T S(JEC16EC005), BINITHA P B(JEC16EC027), FEBIN RINSON KANNUKADAN(JEC16EC038), GILNA JOY(JEC16EC040) 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.

*Sunny*  
Dr. SUNNY JOSEPH KALAYATHIANKAL  
M.Tech, MCA, M.B.A., Ph.D (Ed)  
Ph.D (Computer Science)

*Dipinkrishnan R*  
Mr. Dipinkrishnan R  
Assistant Professor  
Internal Supervisor



*Jose P. Therattil*  
Dr. Jose P. Therattil  
Professor  
Head of the Department

## DEPARTMENT OF ELECTRONICS & COMMUNICATION ENGINEERING



CREATING TECHNOLOGY  
LEADERS OF TOMORROW  
ESTD 2002

### CERTIFICATE

This is to certify that the report entitled “ **BRILLE DISPLAY USING PUSH-PULL SOLENOID FOR GRAPHIC REPRESENTATION** ” submitted by AMAL PREM(JEC16EC008), ANU ANTO(JEC16EC014), ARCHANA CHANDRAPRAKASH(JEC16EC017), DIVIJ K SAJAN(JEC16EC034) 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.

*Amaly*  
Dr. SUNNY JOSEPH KALAYATHANKAL  
M.Tech, MCA, M.Sc, M.Phil, B.Ed  
Ph.D (Computer Science), Ph.D (Maths)  
PRINCIPAL  
Jyothi Engineering College  
Cheruthuruthy, P.O.

Ms. AMBILY FRANCIS

Assistant Professor  
Internal Supervisor



*Jose P. Therattil*  
DR. JOSE P. THERATTIL  
Associate Professor  
Head of the Department

## DEPARTMENT OF ELECTRONICS & COMMUNICATION ENGINEERING



CREATING TECHNOLOGY  
LEADERS OF TOMORROW  
ESTD 2002

### CERTIFICATE

This is to certify that the report entitled " DESIGN OF AN INTELLIGENT GUIDING ASSISTANCE FOR VISUALLY IMPAIRED" submitted by BESY T.B (JEC16EC025), CHINMAYI G PANICKER (JEC16EC029), DIVINE MATHEW (JEC16EC035), FREDRICH FRANCIS (JEC16EC039) 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.

*aman*  
Dr. **SUNNY JOSEPH KALAYATHANKAL**  
M.Tech, MCA, M.Sc, M.Phil, Ph.D (Computer Science, Physics) **PRINCIPAL**

Jyothi Engineering College  
Cheruthuruthy

**Ms. Annie P Joseph**  
Associate Professor  
Internal Supervisor

**Dr. Jose P Therattil**  
Associate Professor  
Head of the Department



# Jyothi Engineering College

U.P.U. Accredited college with AICTE Accredited programmes


DEPARTMENT OF ELECTRONICS & COMMUNICATION  
ENGINEERING




CREATING TECHNOLOGY  
LEADERS OF TOMORROW  
ESTD-2002

## CERTIFICATE

This is to certify that the report entitled " HIGHLY DIRECTIVE AUDIO SPEAKER USING ULTRASONIC TRANSDUCER PARAMETRIC ARRAY FOR HOME-THEATRE APPLICATION " submitted by AISWARYA K.N. (JEC16EC004), AMAL UNNIKRISHNAN (JEC16EC009), ASHILA MATHEWS (JEC16EC019), BHUVANESH S.S. (JEC16EC026) 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 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. SUNNY JOSEPH KALAMATHUMKAL  
M.Tech, MCA, M.Sc.  
Ph.D (Computer Science)  
PH.D.  
Jyothi Engineering  
Cheruthuruthy P.O. - 676551

  
Dr. Jose P Therattil  
Associate Professor  
Head of the Department

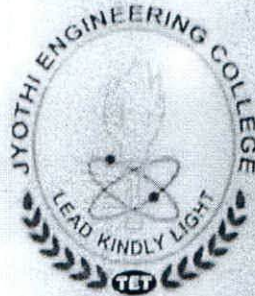




# Jyothi Engineering College

AAC Accredited college with ISO Accredited programmes

## DEPARTMENT OF ELECTRONICS & COMMUNICATION ENGINEERING



CREATING TECHNOLOGY  
LEADERS OF TOMORROW  
ESTD 2002

### CERTIFICATE

This is to certify that the report entitled " **ALGAN-GAN HEMT FOR HIGH POWER APPLICATIONS** " submitted by ADRIAN GEORGE(JEC16EC002), ANU MARIYA VINCENT(JEC16EC015), ATHIRA K(JEC16EC020), CATHERINE C JEJO(JEC16EC028) 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.

*Prajoon P*  
Dr. SUNNY JOSEPH KALATHANKAL  
M.Tech, MCA, M.Sc  
Ph.D. (Computer Science)  
FRANCIS  
Jyothi Engineering College  
Kuthuvayal

**Dr. Prajoon P**  
Assistant Professor  
Internal Supervisor



*Jose P*  
Dr. Jose P. Therattil  
Associate Professor  
Head of the Department

## DEPARTMENT OF ELECTRONICS & COMMUNICATION ENGINEERING



CREATING TECHNOLOGY  
LEADERS OF TOMORROW  
ESTD 2002

### CERTIFICATE

This is to certify that the report entitled “ **TOP GATED GRAPHENE FIELD EFFECT TRANSISTOR FOR HIGH FREQUENCY PERFORMANCE** ” submitted by PAVITHRA P(JEC16EC066), RIYA ALBERT(JEC16EC075), SHARAN SHASHINDRAN A(JEC16EC088) 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 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.**  
Assistant Professor  
Internal Supervisor

*Signature*  
Dr. SUNNY JOSEPH KALAYATHAN  
M.Tech, MCA, M.Sc, M.Phil, Ed  
Ph.D (Computer Science), Ph.D (Maths)



**Dr. Jose P. Therattil.**  
Associate Professor  
Head of the Department


## DEPARTMENT OF ELECTRONICS & COMMUNICATION ENGINEERING

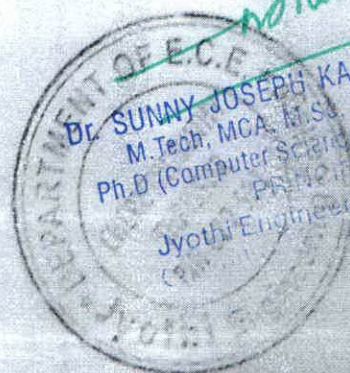


CREATING TECHNOLOGY  
LEADERS OF TOMORROW  
ESTD 2007


### CERTIFICATE

This is to certify that the report entitled " TWO WAY COMMUNICATION SYSTEM FOR BLIND USING MORSE CODE " submitted by POOJA P(JEC16EC068), PRIYA K(JEC16EC072), SARATH RAJ(JEC16EC084) 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 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



*Sunny*  
**Dr. SUNNY JOSEPH KALAYATHANKAL**  
M.Tech, MCA, M.Sc, M.Phil, B.Ed,  
Ph.D (Computer Science), Ph.D (Management)  
PRINCIPAL  
Jyothi Engineering College

  
**Dr. Jose P Therattil.**  
Associate Professor  
Head of the Department

## DEPARTMENT OF ELECTRONICS & COMMUNICATION ENGINEERING



CREATING TECHNOLOGY  
LEADERS OF TOMORROW  
ESTD 2002

### CERTIFICATE

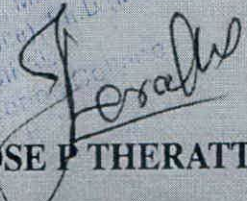
This is to certify that the report entitled " BORE WELL RESCUE ROBOTIC SYSTEM " submitted by SAJIN SHAJI(JEC16EC080), SHAHLA P MOHAMMED(JEC16EC086), SREERAG K M(JEC16EC092), SUCHITHRA T S(JEC16EC097) to the APJ Abdul Kalam Technological University in partial fulfillment of the requirements for the award 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.

  
**Mr. DIPIN KRISHNAN R**

Assistant Professor  
Internal Supervisor



*Sunny*  
**Dr. SUNNY JOSEPH KALAYATHANKAL**  
M.Tech, MCA, M.Sc, M.Phil, B.Ed  
Ph.D (Computer Science) (U.D. N. Mats)  
Principal, Jyothi Engineering College  
Chief Executive Officer

  
**Dr. JOSE P THERATTIL**  
Professor  
Head of the Department


**DEPARTMENT OF ELECTRONICS & COMMUNICATION  
ENGINEERING**



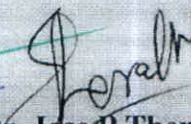
CREATING TECHNOLOGY  
LEADERS OF TOMORROW  
ESTD 2002

**CERTIFICATE**

This is to certify that the report entitled " **SECURE SCAN DESIGN USING SCRAMBLING TECHNIQUE** " submitted by P DHANYA RAJ(JEC16EC067), PRINCE BENNY(JEC16EC071), SANGAMITHRA(JEC16EC082), SHAHAN FATHIMA(JEC16EC085) 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 our guidance and supervision. This report in any form has not been submitted to any other University or Institute for any purpose.

  
Ms. Shiny M I  
Assistant Professor  
Internal Supervisor



  
Dr. Jose P Therattil  
Professor  
Head of the Department

## DEPARTMENT OF ELECTRONICS & COMMUNICATION ENGINEERING



CREATING TECHNOLOGY  
LEADERS OF TOMORROW  
ESTD 2002

## CERTIFICATE

This is to certify that the report entitled " **PLANT DISEASE DETECTION AND DIAGNOSIS USING DCNN** " submitted by AKHILA KRISHNAKUMAR(JEC16EC007), INDUJA(JEC16EC043), JOSEPH PB(JEC16EC046), KARTHIKA VIJAYAKUMAR(JEC16EC048) 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.

*Jinesh*  
**Mr. Jinesh K.J**  
Assistant Professor  
Internal Supervisor

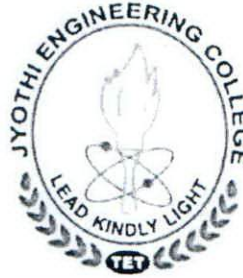
*DO NOT WRITE IN THESE SPACES*  
**SUNNY JOSEPH KALAYATHANKAL**  
M.Tech, MCA, Ph.D (Computer Science)  
Principal  
Jyothi Engineering College  
Cheruthuruthy, H.O. 686501

*Jose*  
**Dr. Jose Tharattil.**  
Associate Professor  
Head of the Department

# Jyothi Engineering College

NAAC Accredited college with BQP Accredited programmes

## DEPARTMENT OF ELECTRICAL & ELECTRONICS ENGINEERING



CREATING TECHNOLOGY  
LEADERS OF TOMORROW  
ESTD 2002

### CERTIFICATE

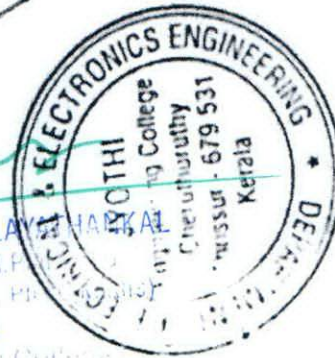
This is to certify that the report entitled " ASSISTIVE CHARGING METHOD OF ELECTRIC VEHICLE " submitted by GIYO GEORGE K(JEC16EE026), HAYMA RAHMATH(JEC16EE031), JISBI GEORGE P(JEC16EE034), JOSEPH P K(JEC16EE038) to the APJ Abdul Kalam Technological University in partial fulfillment of the requirements 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.

Mr. JITHIN K JOSE

Assistant Professor

Internal Supervisor

Dr. JITHIN K JOSE  
M.Tech, MCA, M.Sc, M.P  
Ph.D (Computer Science)  
PRINCIPAL  
Jyothi Engineering College  
Cheruthuruthy P.O.- 679 531



Dr. Jirin T.

Associate Professor

Head of the Department



# Jyothi Engineering College

U.A.C. Accredited college with 121 Accredited programmes

## DEPARTMENT OF ELECTRICAL & ELECTRONICS ENGINEERING



CREATING TECHNOLOGY  
LEADERS OF TOMORROW  
ESTD 2002

### CERTIFICATE

This is to certify that the report entitled " AUTOMATED WASTE SEGREGATOR " submitted by AKHIL JAMES K.(JEC16EE003), EDWIN JOSEPH C.(JEC16EE023), JERIN M.S.(JEC16EE032), RAHUL KRISHNA P.(LJEC16EE065) 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.



Mr. JITHIN K. JOSE

Assistant Professor

Internal Supervisor

Dr. SURESH JOSEPH KALAYAN  
M.Tech, MCA, M.Sc, M.Phil  
Ph.D (Computer Science), P.H.D  
PRINCIPAL

Jyothi Engineering College  
Cheruthuruthy P.O. - 679 531



Dr. Jatin T.

Associate Professor

Head of the Department

# Jyothi Engineering College

U.P. AL. FICERD0003 UTHRA PRA. EST. 1983

DEPARTMENT OF ELECTRICAL & ELECTRONICS ENGINEERING



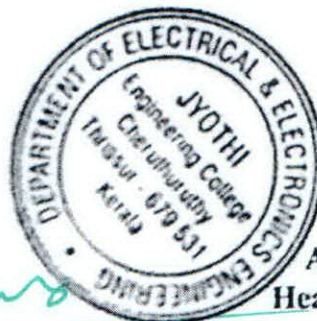
CREATING TECHNOLOGY  
LEADERS OF TOMORROW  
ESTD 2002

## CERTIFICATE

This is to certify that the report entitled " ESPERTO ENERGIA METER " submitted by AKHIL JOSE K O(JEC16EE004), ANOOPA ANAND(LJEC16EE064), ANOOP R(JEC16EE015), MINSHA K P(JEC16EE046) 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. Sunjith V

Associate Professor  
Internal Supervisor



Dr. Jarin T.

Associate Professor  
Head of the Department

Dr. SUNNY JOSEPH KALAYATHANKAL

M.Tech, MCA, M.Sc, M.Phil, B.L.D  
Ph.D (Computer Science), Ph.D (Statistics)

PRINCIPAL

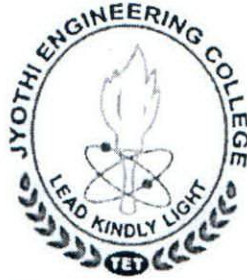
Jyothi Engineering College

Cherthala, Kerala

# 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 " HEALTH CARE MANAGEMENT THROUGH ROBOT " submitted by ANEENA C.S.(JEC16EE010), GOPIKA MADHUSUDHANAN NAIR(JEC16EE028), JIZON S. ARAKKAL(JEC16EE035), JUWIN JOSE MANJILA(JEC16EE041) 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.   
Dr. SUNNY JOSEPH KALAYATHANKAL

M.Tech, MCA, M.Sc, M.Phil, B.Ed

Ph.D  
Ph.D (Computer Science), Ph.D (M.Tech)

Principal

Jyothi Engineering College

Changanassery P.O.

Dr. Nisha P. V.

Assistant Professor  
Internal Supervisor



Dr.  Jatin I.

Associate Professor  
Head of the Department

# Jyothi Engineering College

NAAC accredited college with NEET Accredited Programmes

Approved by AICTE & affiliated to APJ Abdul Kalam Technological University

A CENTER OF EXCELLENCE IN SCIENCE & TECHNOLOGY BY THE NATIONAL ASSOCIATION OF TECHNICAL

JYOTHI HILLS VEEDATHUR P.O. CHEERURUTHY THIRUVARUR PIN 629531 PH. FAX 4884 259000 274473 FAX 0864 274777

NBA accredited B.Tech Programmes in Computer Science & Engineering, Electronics & Communication Engineering

Electrical & Electronics Engineering and Mechanical Engineering valid for the academic year 2016 to 2022

www.jecc.ac.in | Email: info@jecc.ac.in

## DEPARTMENT OF ELECTRICAL & ELECTRONICS ENGINEERING



CREATING TECHNOLOGY  
LEADERS OF TOMORROW  
ESTD 2002

### CERTIFICATE

This is to certify that the report entitled " HIGH EFFICIENCY SINGLE PHASE INVERTER DESIGN " submitted by SNIJA JOY , T.P.NIVED, VINAYAK M.P. ,VISMAYA PRADEEP 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 Interim 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.

Internal Supervisor

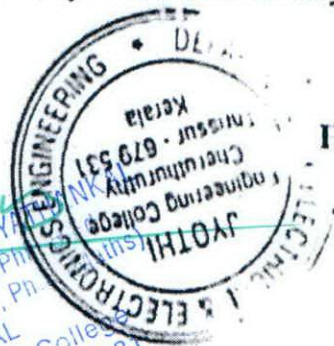
Mr. Kapildas K.S.

Asst. Professor

Dr. SONY JOSE  
M.Tech, MCA, M.Sc, M.Phil  
Ph.D (Computer Science), Ph.D  
PRINCIPAL  
Jyothi Engineering College  
Cheeruruthy P.O.-679 531

Head of the Department

Dr. Jeyaraj T.  
Assoc. Professor



# Jyothi Engineering College

DEPARTMENT OF ELECTRICAL & ELECTRONICS ENGINEERING



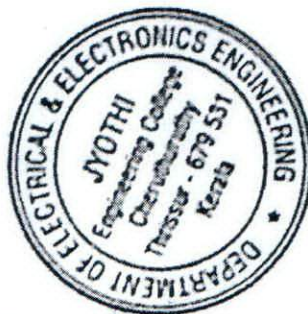
CREATING TECHNOLOGY  
LEADERS OF TOMORROW  
ESTD 2002

## CERTIFICATE

This is to certify that the report entitled " INTELLIGENT CIRCUIT ENHANCER " submitted by GOUTHAM C S(JEC16EE029), JEWEL MAXWELL(JEC16EE033), JOHN JOSE(JEC16EE036) 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.


  
Mr. Jerson Jose

Assistant Professor  
Internal Supervisor





Dr. Jarin T.  
Associate Professor  
Head of the Department

  
Dr. Sunny Joseph Kalayattal  
M.Tech, MCA, M.Sc. (Maths)  
Ph.D (Computer Science) (Maths)  
PRINCIPAL  
Jyothi Engineering College  
Cheruthuruthy Kerala 679 531

# Jyothi Engineering College

ESTD 2007


DEPARTMENT OF ELECTRICAL & ELECTRONICS ENGINEERING




CREATING TECHNOLOGY  
LEADERS OF TOMORROW  
ESTD 2007

## CERTIFICATE

This is to certify that the report entitled " INTERLINKING OF TYRE CURING PRESS AND POST CURE INFLATION THROUGH WIRELESS COMMUNICATION " submitted by ABIN ANTO(JEC16EE001), ALLAN THOMAS(JEC16EE008) and ARJUN KRISHNADAS(JEC16EE014), 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.

  
**Mr. Akhil A. Balakrishnan**  
Assistant Professor  
Internal Supervisor

  
**Dr. SUNNY JOSEPH KALAYATHANKAL**  
M.Tech, MCA, M.Sc, M.Phil, E Ed  
Ph.D (Computer Science), Ph.D (Maths)  
PRINCIPAL  
Jyothi Engineering College  
Cheruthuruthy P.O.- 679 531

  
**Dr. Irin T.**  
Associate Professor  
Head of the Department

# Jyothi Engineering College

DEPARTMENT OF ELECTRICAL & ELECTRONICS ENGINEERING




UNIVERSITY OF ANNA  
CHENNAI

## CERTIFICATE

It is hereby that the report entitled "PLC BASED HANDSAW AUTOMATION" submitted by ALWIN SATHISH (10A010001), ATHISA P ARJUN (10A010002), ANISH PATEL (10A010003), ANVITHY K (10A010004) in the API Aludai 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 in any other University or Institute for any purpose.

  
**Mr. ANU VINAY**  
 Associate Professor  
 Internal Super Advisor



  
**Mr. Jagan K.**  
 Associate Professor  
 Head of the Department

Dr. S. SIVANANDAN  
 Dr. SUNDARARAJAN  
 Ph.D. (Computer Science) (1988)  
 Ph.D. (Computer Science) (1988)  
 Jyothi Engineering College  
 Ch-Chercheruruthy P.O.-679 531  
 Chennai

# Jyothi Engineering College

U.A.C. 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 report entitled " SMART PLOUGH " submitted by ALFIN JOHN(JEC16EE007), EDWIN JOSEPH(JEC16EE022), SACHU K SURESH(JEC16EE052), SANJAY DEV(LJEC16EE067) 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



  
Dr. Jarin T

Associate Professor  
Head of the Department

  
Dr. SUNNY JOSEPH KALAYATHANKAL  
M.Tech, MCA, M.Sc, M.Phil, Ph.D  
Ph.D (Computer Science), Ph.D (Maths)



# Jyothi Engineering College

DEPARTMENT OF ELECTRICAL & ELECTRONICS ENGINEERING



GIVING TECHNOLOGY  
BASES TO A BETTER  
FUTURE


## CERTIFICATE

This is to certify that the report entitled "SMART SECURITY SYSTEM ON TRAINS" submitted by ATHIRA TP (JEC16EE117), JUBIN BAIJUN (JEC16EE119), JENNEL TR (JEC16EE140), LINA MARIA VINCENT (JEC16EE143) 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.

  
Mr. Kapil Das K.S.  
Assistant Professor  
Internal Supervisor

*Sunny*  
Dr. SUNNY JOSEPH KALAYATHANKAL  
M.Tech, MCA, M.Phil, B.Ed  
Ph.D (Computer Science), Ph.D (Maths)  
PRINCIPAL  
Jyothi Engineering College  
Cheruthuruthy, 679 541



  
Dr. Sunny E.  
Associate Professor  
Head of the Department

# Jyothi Engineering College

INSTITUTIONS ON BASIS OF THE & ELECTRONICS ENGINEERING



CREATING TECHNOLOGY  
ENRICHING FUTURE  
2009-2010

## CERTIFICATE

This is to certify that the report entitled "SPECIALLY DESIGNED E-MOBILES FOR PHYSICALLY CHALLENGED (E-MPC)" submitted by ALLEN KOYIYER (16EE005), ELDO JOSEPH (16EE004), SHINY N GOPIKESH, THEERTHA ASHOKAN (16EE005) in the API Akshai Kumar Technological University in partial fulfillment of the requirements for the award of the Degree in Bachelor of Technology in Electrical & Electronics Engineering is a genuine 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. Jatin T

Associate Professor  
Internal Supervisor



*Thomas*  
SUNNY JOSEPH KALAYATHANKAL  
M.Tech, MCA, M.Sc, M.Phil, B.Ed  
(Computer Science), Ph.D (Maths)  
PRINCIPAL  
Jyothi Engineering College  
Cherturuthy P.O. - 679 531

  
Dr. Jatin T

Associate Professor  
Head of the Department

# Jyothi Engineering College

CAAAC Accredited college with PCI Accredited programmes

DEPARTMENT OF ELECTRICAL & ELECTRONICS ENGINEERING



CREATING TECHNOLOGY  
LEADERS OF TOMORROW  
ESTD 2002

## CERTIFICATE

This is to certify that the report entitled " STANDALONE BLDC BASED SOLAR AIR COOLER " submitted by ARJUN S(JEC16EE015), BHARATH RAI N B(JEC16EE019), SAMSON A B(JEC16EE053), T MOHAMMAD ASHIK(JEC16EE059) 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.

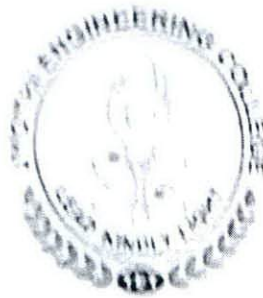
Ms. Della David  
Assistant Professor  
Internal Supervisor



*Handwritten signature: Anand*  
Dr. SUDHAKAR  
M. Tech (Electrical Engineering), M.Sc. (Physics), M.Phil., B.Ed  
Principal  
Jyothi Engineering College  
P.O. - 600 095

Dr. Jayin T.  
Associate Professor  
Head of the Department

**DEPARTMENT OF ELECTRICAL & ELECTRONICS ENGINEERING**



CREATING TECHNOLOGY  
LEADERS OF TOMORROW  
ESTD 1997

**CERTIFICATE**

This is to certify that the report entitled " REAL TIME IMPLEMENTATION OF ARTIFICIAL NEURAL NETWORKS-BASED CONTROLLER FOR BATTERY STORAGE SUPPORTED WIND ELECTRIC GENERATION " submitted by DHIBERAJ K J(JEC16EE021), FLAVIO VINCENT(JEC16EE025), SYED HITHISHAN N(JEC16EE054), VIVEK RAJ N J(JEC16EE063) 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 Shajoh V**  
Associate Professor  
Internal Supervisor



**JOSEPH KALAYATHANKAL**  
MCA, M.Sc, M.Phil, B.Ed  
Ph.D (Computer Science), Ph.D (Maths)  
PRINCIPAL  
Jyothi Engineering College  
Cheruthuruthy P.O - 686531

**Dr. Jatin T**  
Associate Professor  
Head of the Department

# Jyothi Engineering College

(A.C. Technical College for Women, Technological University)

DEPARTMENT OF ELECTRICAL & ELECTRONICS ENGINEERING



CREATING THE FUTURE  
LEARNING FOR TOMORROW  
1991/1992

## CERTIFICATE

This is to certify that the report entitled " ROBOTIC ARM KINEMATIC CONTROLLER WITHOUT TANGIBLE SENSORS " submitted by ANIL P (JEC16EE011), GOUTHAMKRISHNA P (JEC16EE030), MANUKRISHNA M A (JEC16EE044), PRISTLIN PAUL P (JEC16EE049) 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.

Mrs. Anu Sunny  
Assistant Professor  
Internal Supervisor



*Joseph Kalayathankal*  
Dr. SUNNY JOSEPH KALAYATHANKAL  
M.Tech, MCA, M.Sc, M.Phil, B.Ed  
Ph.D (Computer Science) Ph.D (Maths)  
PRINCIPAL  
Jyothi Engineering College  
Cheruthuruthy P.O - 686 011

Associate 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 " TRAFFIC ENFORCEMENT SYSTEM " submitted by JOSEMON C FRANCIS(JEC16EE037), LILY THERES(JEC16EE042), RENJITH K.K(JEC16EE050), RESHMA RAJEEV(JEC16EE051) 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.

  
Ms. ASWATHY RAJAN  
Assistant Professor  
Internal Supervisor



*Sunny*  
Dr. SUNNY JOSEPH KALAYATHANKAL  
M.Tech, MCA, M.Sc, M.Phil, B.Ed  
Water Science, Ph.D (Maths)  
PRINCIPAL  
Jyothi Engineering College  
Thrissur P.O.-679 531

  
Dr. Jarin T.  
Associate Professor  
Head of the Department

# Jyothi Engineering College


DEPARTMENT OF COMPUTER SCIENCE & ENGINEERING




CREATING TECHNOLOGY  
LEADERS OF TOMORROW  
ESTD 2002

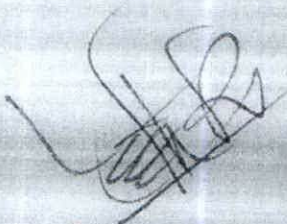
## CERTIFICATE

This is to certify that the project report entitled “ **PERFORMANCE ANALYSIS OF DIFFERENT CLASSIFIERS FOR EARTHQUAKE PREDICTION : PACE** ” submitted by ABIN VARGHESE(JEC16CS002), ARYA P MENON(JEC16CS034), JOEL P JOSEPH(JEC16CS063), JOFIYA SAJAN(JEC16CS064) 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. SUNNY JOSEPH KALAYATHANKAL  
M.Tech, MCA, M.Sc, M.Phil, B.Ed  
Ph.D (Computer Science), Ph.D (Maths)  
PRINCIPAL  
Jyothi Engineering College  
Cheruthuruthy P.O., Thrissur

  
Ms. Ninu Francis  
Assistant Professor  
Internal Supervisor



  
Dr. Vinith R  
Professor  
Head of the Department

## DEPARTMENT OF COMPUTER SCIENCE & ENGINEERING



CREATING TECHNOLOGY  
LEADERS OF TOMORROW  
ESTD 2002

### CERTIFICATE

This is to certify that the report entitled "**EXPENSE REIMBURSEMENT SYSTEM**" submitted by KOKUL JOSE(JEC16CS069) 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 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. Anil Antony

Assistant Professor  
Internal Supervisor

Dr. Vinith R

Professor  
Head of the Department



*Sunny*  
DR. SUNNY JOSEPH KALAYATHANKAL  
M.Tech, MCA, M.Sc, M.Phil, B.Ed  
Ph.D (Computer Science) Ph.D (Maths)  
PRINCIPAL  
Jyothi Engineering College  
Cheruthuruthy P.O. - 679 531



# Jyothi Engineering College

2020 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 " DIABETIC RETINOPATHY DETECTION USING NEURAL NETWORKING " submitted by N. RAHUL(JEC16CS089), ROY ELLUVATHINGAL(JEC16CS101), SANITH JAYAN K(JEC16CS104) 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  
Assistant Professor  
Internal Supervisor

*Sunny*  
Dr. SUNNY JOSEPH KALAYATHANKAL  
M.Tech, MCA, M.Sc, M.Phil, B.Ed  
Ph.D (Computer Science), Ph.D (Maths)  
PRINCIPAL  
Jyothi Engineering College  
Cherthala, NG. 672631

Dr. Vinith R  
Professor

Head of the Department



# Jyothi Engineering College

Accredited college with Accredited programmes

## DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING



CREATING TECHNOLOGY  
LEADERS OF TOMORROW  
ESTD 2002

### CERTIFICATE

This is to certify that the report entitled " "ILAAJ" A DISEASE DIAGNOSING AND MEDICAL CONSULTANCY RECOMMENDATION SYSTEM " submitted by MOHAMED SAAJID K M(JEC16CS080), MUHAMMAD ASHIQ MAQBOOL(JEC16CS084), TEENA DAVID(JEC16CS117), VIJU VALSAN A(JEC16CS122) 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.

*Sunny*  
Dr. SUNNY JOSEPH K. V. V. V.  
M.Tech, MCA, M.Sc  
Ph.D (Computer Science)

Mr. Unnikrishnan P  
Assistant Professor  
Internal Supervisor



Fr. Dr. A K George  
Head of the Dept.  
Head of the Department



CREATING TECHNOLOGY  
LEADERS OF TOMORROW  
ESTD 2002

### CERTIFICATE

This is to certify that the report entitled " **HOURLY BASED PASSENGER FLOW PREDICTION** " submitted by KAVYA K(JEC16CS067), NITHA HYRIN K(JEC16CS087), RAVEENA P(JEC16CS093) 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. Namitha T N  
Assistant Professor  
Internal Supervisor



*Dr. Vinith R*  
Dr. Vinith R  
Professor  
Head of the Department

Dr. SUNNY JOSEPH KALAYATHAN  
M.Tech, MCA, M.Sc, M.Phil, Ed.D  
Ph.D (Computer Science)

Jyothi Engineering College  
Cheruthuruthy, P.O. 678 31

# Jyothi Engineering College


DEPARTMENT OF COMPUTER SCIENCE & ENGINEERING




CREATING TECHNOLOGY  
LEADERS OF TOMORROW  
ESTD 2002

## CERTIFICATE

This is to certify that the report entitled " **SMARTUS: BUS MANAGEMENT SYSTEM** " submitted by LIYA C GEORGE (JEC16CS073), NEHA P (JEC16CS036), SANDRA MARIYA M ANIL (JEC16CS103), VARSHA BABU (JEC16CS119) 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.

  
**Dr. SUNNY JOSEPH KALAYATHANKAL**  
M.Tech, MCA, M.Sc, M.Phil, B.Ed  
(Computer Science), M.B.A (Marketing)  
PRINCIPAL  
Jyothi Engineering College  
Cheruthuru

  
**Ms. Reshma K.P.N.D**  
Assistant Professor  
Internal Supervisor

  
**Dr. Vinith R**  
Associate Professor  
Head of the Department

# Jyothi Engineering College


## DEPARTMENT OF COMPUTER SCIENCE & ENGINEERING



CREATING TECHNOLOGY  
LEADERS OF TOMORROW  
ESTD 2002

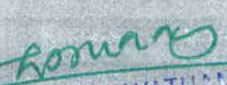
### CERTIFICATE

This is to certify that the report entitled " **PRODUCT REVIEW ANALYSIS AND RECOMMENDATION SYSTEM** " submitted by MARIA ANN TOMS(JEC16CS075), MANU P S(JEC16CS074) and MOHAMMED ASHIQUE(JEC16CS081) 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

Assistant Professor  
Internal Supervisor



Dr. SUNNY JOSEPH KALAYATHANKAL  
M.Tech, MCA, M.Sc, M.Phil  
Ph.D (Computer Science) (IIT Madras)  
Ph.D (Computer Science) (Anna University)  
Jyothi Engineering College  
Cheruthuruthy P.O. - 686501



Dr. Vinith R

Professor  
Head of the Department

# Jyothi Engineering College

DEPARTMENT OF COMPUTER SCIENCE & ENGINEERING



CREATING TECHNOLOGY  
LEADERS OF TOMORROW  
ESTD 2007

## CERTIFICATE

This is to certify that the report entitled "DIGITAL COURT" submitted by NEENU SIVARAMAN(JEC16CS085), ROOFAQK JOSEPH(JEC16CS099), SNEHA MARIA JACKSON(JEC16CS111), ALVIN JOY(JEC16CS127) 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]*

Dr. P. P. P. P. P.  
Assistant Professor  
Internal Supervisor

*[Signature]*

Dr. SUNNY JOSEPH K. MATHAIKAL  
M.Tech, MCA, B.E., B.Tech, B.L.S.  
Ph.D (Computer Science), Ph.D (Maths)  
PRINCIPAL  
Jyothi Engineering College  
0471-2711531



*[Signature]*

Dr. Vinith R  
Professor  
Head of the Department

# Jyothi Engineering College

NSAC 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 " **HOSPITAL MANAGEMENT SOFTWARE WITH ARTHRITIS PREDICTION IN AYURVEDA** " submitted by KENAS JOSE(JEC16CS068), RINSY R(JEC16CS096), VRINDHA VINOJ(JEC16CS125) 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. Vinith R

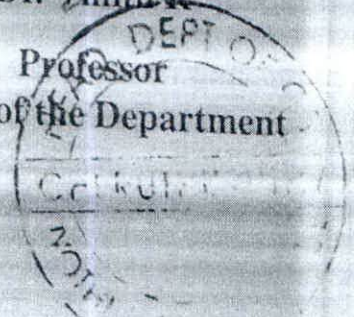
Professor  
Internal Supervisor

  
Dr. SUNNY JOSEPH KALAYATHANKAL  
M.Tech, MCA, M.Sc, M.Phil, B.Ed  
Ph.D (Computer Science), Ph.D (Maths)

Jyothi Engineering College  
Cheruvu, PO. Cheruvu

  
Dr. Vinith R

Professor  
Head of the Department



# Jyothi Engineering College

DEPARTMENT OF COMPUTER SCIENCE & ENGINEERING



CREATING TECHNOLOGY  
LEADERS OF TOMORROW

## CERTIFICATE

This is to certify that the report entitled " CYBER BULLYING DETECTION SYSTEM " submitted by ROHINI K R (JEC16CS097), SREEHARI T ANIL (JEC16CS113), SREEJITH P M (JEC16CS114), YEDUMOHAN P M (JEC16CS126) 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.

*Amend*  
Dr. SUNNY JOSEPH KALAYTHANKAL  
M.Tech, MCA  
Ph.D (Computer Science)  
PRINCIPAL  
Jyothi Engineering  
Cheruthuruthy PC.  
Dr. Vinith R

Professor

Internal Supervisor and Head of the Department





# Jyothi Engineering College

RAAC Accredited college with WVI Accredited Programmes

## DEPARTMENT OF COMPUTER SCIENCE ENGINEERING



CREATING TECHNOLOGY  
LEADERS OF TOMORROW  
ESTD 2002

### CERTIFICATE

This is to certify that the report entitled "**HOTELSQUAD - A PROPERTY MANAGEMENT SYSTEM**" submitted by SHEENA K SASI(JEC16CS108), SHERIN SHAJU(JEC16CS109), SHIJITH M S(JEC16CS110), ANJANA PAUL(LJEC16CS128) 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  
Assistant Professor  
Project Supervisor

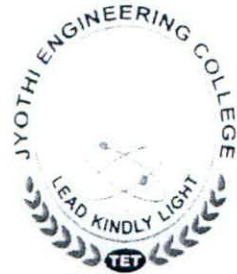
*Dr. Vinith.R*  
Dr. SUNNY JOSEPH KALAYATHANKAL  
M.Tech, MCA, M.Sc, M.Phil, B.Ed  
Ph.D (Computer Science) (Maths)  
Jyothi Engineering College  
Cheruthuruthy, P.O.-679 531



*Dr. Vinith.R*  
Dr Vinith.R  
Professor  
Head of the Department

# Jyothi Engineering College


DEPARTMENT OF COMPUTER SCIENCE & ENGINEERING





CREATING TECHNOLOGY  
LEADERS OF TOMORROW  
ESTD 2002

## CERTIFICATE

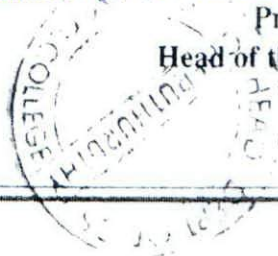
This is to certify that the project report entitled " **PERFORMANCE ANALYSIS OF DIFFERENT CLASSIFIERS FOR EARTHQUAKE PREDICTION : PACE** " submitted by ABIN VARGHESE(JEC16CS002), ARYA P MENON(JEC16CS034), JOEL P JOSEPH(JEC16CS063), JOFIYA SAJAN(JEC16CS064) to the APJ Abdul Kalam Technological University 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

  
**Dr. SUNNY JOSEPH KALAYATHAMPAL**  
M.Tech, MCA, M.Sc, M.Phil, D.Tech  
Ph.D (Computer Science), Ph.D (Mechanics)  
PRINCIPAL

  
**Dr. Vmith R**  
Jyothi Engineering College  
Cheruthuruthy P.O. - 679 531

**Professor**  
**Head of the Department**



# Jyothi Engineering College

DEPARTMENT OF COMPUTER SCIENCE & ENGINEERING



CREATING TECHNOLOGY  
LEADERS OF TOMORROW  
ESTD 2002

## CERTIFICATE

This is to certify that the report entitled " **ALUMNER-SOCIAL NETWORK FOR ALUMNI** " submitted by ADWAITH K V(JEC16CS003), AKSHAY M V(JEC16CS008), ELDHO REJI PHILIP(JEC16CS045), JERIN JOSE(JEC16CS057) 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 Mr. Francis*  
**Mr. Fepslin Athish Mon S**

**Assistant Professor  
Internal Supervisor**

*mm*  
**Dr. SUNNY JOSEPH KALAYATHANKAL**  
M.Tech, MCA, M.Sc, M.Phil, B.Ed  
Ph.D.(Computer Science), Ph.D (Maths)

**PRINCIPAL**  
Jyothi Engineering College  
Cheruthuruthy, P.O.-379 501

*[Signature]*  
**Dr. Vinith R**  
**Professor  
Head of the Department**



# Jyothi Engineering College

NAAC Accredited college with 4B Accredited programmes

## DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING



CREATING TECHNOLOGY  
LEADERS OF TOMORROW  
ESTD 2002

### CERTIFICATE

This is to certify that the report entitled " **AGROTES** " submitted by ANJU MOLE(JEC16CS025) 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.

**Mrs. Aswathy Wilson**  
Assistant Professor  
Internal Supervisor

**Dr. Vinith R**  
Professor  
Head of the Department



**Dr. SUNNY JOSEPH KALAYATHANKAL**  
M.Tech, MCA, M.Sc, Ph.D  
Ph.D (Computer Science) Ph.D (Maths)

Jyothi Engineering College  
Cheruthuruthy, No. 679 531

**DEPARTMENT OF COMPUTER SCIENCE & ENGINEERING**



CREATING TECHNOLOGY  
LEADERS OF TOMORROW  
ESTD 2002

**CERTIFICATE**

This is to certify that the report entitled " **ALUMNER-SOCIAL NETWORK FOR ALUMNI** " submitted by ADWAITH K V(JEC16CS003), AKSHAY M V(JEC16CS008), ELDHO REJI PHILIP(JEC16CS045), JERIN JOSE(JEC16CS057) 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* *Alith*  
*Alith Francis*  
**Mr. Fepslin Athish Mon S**  
Assistant Professor  
Internal Supervisor

*[Signature]*  
**Dr. SUNNY JOSEPH KALAYATHANKAL**  
M.Tech, MCA, M.Sc, M.Phil, B.Ed  
Ph.D (Computer Science) Ph.D (MCA)  
PRINCIPAL  
Jyothi Engineering College  
Cheruvu, P.O-679

*[Signature]*  
**Dr. Vinith R**  
Professor  
Head of the Department



## DEPARTMENT OF COMPUTER SCIENCE & ENGINEERING



CREATING TECHNOLOGY  
LEADERS OF TOMORROW  
ESTD 2002

### CERTIFICATE

This is to certify that the project report entitled " **PERFORMANCE ANALYSIS OF DIFFERENT CLASSIFIERS FOR EARTHQUAKE PREDICTION : PACE** " submitted by ABIN VARGHESE(JEC16CS002), ARYA P MENON(JEC16CS034), JOEL JOSEPH(JEC16CS063), JOFIYA SAJAN(JEC16CS064) 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

**Dr. SUNNY JOSEPH KALAYATHANKAL**  
M.Tech, MCA, M. Sc, M. Phil, B. Ed  
Ph.D (Computer Science), Ph.D (M. Ed)  
PRINCIPAL  
Jyothi Engineering College  
Cheruvuoorthy P.O. 679 501

**Dr. Vinith R**  
Professor  
Head of the Department



DEPARTMENT OF COMPUTER SCIENCE & ENGINEERING




CREATING TECHNOLOGY  
LEADERS OF TOMORROW  
ESTD 2002


**CERTIFICATE**

This is to certify that the report entitled " **DECEPTIVE ARTICLE DETECTION**" submitted by ALEENA THANKACHEN (JEC16CS010), JASIR FAYAS P B (JEC16CS054), JEENA VARGHESE (JEC16CS055), JOE JOSE (JEC16CS062) 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**  
Assistant Professor  
Internal Supervisor

  
**Dr. Vinith R**  
Professor  
Head of the Department

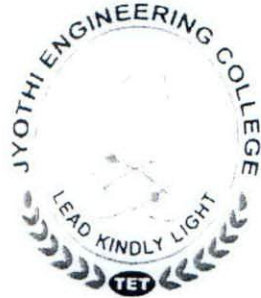


  
**Dr. SUNNY JOSEPH KALAYATHANKAL**  
M.Tech, MCA, M.Sc, M.Phil, B.E  
Ph.D (Computer Science), Ph.D (Maths)

# Jyothi Engineering College

Accredited by AICTE, ISO 9001:2015 Certified Organization

## DEPARTMENT OF COMPUTER SCIENCE & ENGINEERING



CREATING TECHNOLOGY  
LEADERS OF TOMORROW  
ESTD 2002

### CERTIFICATE

This is to certify that the project report entitled "**PERFORMANCE ANALYSIS OF DIFFERENT CLASSIFIERS FOR EARTHQUAKE PREDICTION : PACE**" submitted by ABIN VARGHESE(JEC16CS002), ARYA P MENON(JEC16CS034), JOEL P JOSEPH(JEC16CS063), JOFIYA SAJAN(JEC16CS064) 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



*monu*  
Dr. SUNNY JOSEPH KALAYATHANKAL  
M.Tech, MCA, M.Sc. M.Phil, B.Ed  
(Computer Science), Ph.D (M.Tech)  
PRINCIPAL  
Jyothi Engineering College  
Cherthala, Kerala - 688012

Dr. Vinith R

Professor  
Head of the Department